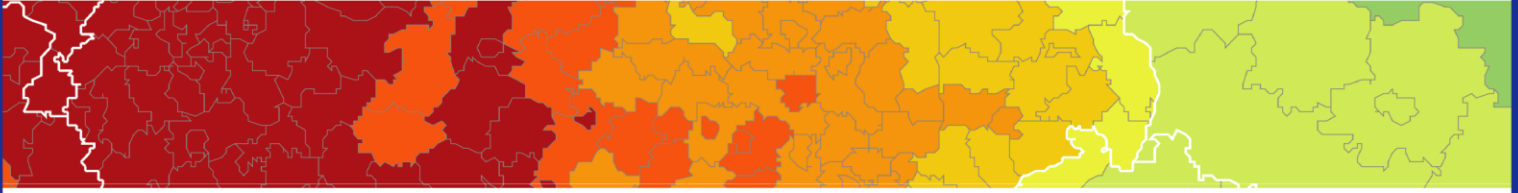


Inspire policy making by territorial evidence



Territorial Impact Assessment for Cross-Border Cooperation

Targeted Analysis

Scientific Annex

19/08/2019

This targeted analysis is conducted within the framework of the ESPON 2020 Cooperation Programme, partly financed by the European Regional Development Fund.

The ESPON EGTC is the Single Beneficiary of the ESPON 2020 Cooperation Programme. The Single Operation within the programme is implemented by the ESPON EGTC and co-financed by the European Regional Development Fund, the EU Member States and the Partner States, Iceland, Liechtenstein, Norway and Switzerland.

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Authors

Erich Dallhammer, Bernd Schuh, Roland Gaugitsch, Martyna Derszniak-Noirjean, ÖIR GmbH (Austria)

Martin Unfried, Maastricht University (The Netherlands)

Thomas Fischer, University of Liverpool (United Kingdom)

Dorothea Palenberg, blue! (Germany)

Advisory Group

Julia Wengert, Barbara Lugthart and Peter Paul Knol, Joint Secretariat INTERREG Germany-Netherlands; Erik Hagen and Bjorn Terje Andersen, Joint Secretariat INTERREG Sweden-Norway; Declan McGarrigle, Managing Authority INTERREG UK – Ireland Special EU Programmes Body; Graça Fonseca and Borja Navarro, Galicia-North Portugal European Grouping of Territorial Cooperation; Marcela Glodeanu and Simona Vasile, Managing Authority INTERREG Romania-Bulgaria; Marius Mladenov and Asia Hristova, National Authority INTERREG Romania-Bulgaria; Ilka Meisel and Ingo von Wirth, Managing Authority INTERREG Germany-Netherlands; Doede Sijtsma, Province Gelderland, The Netherlands; Peter Moorman, Province Overijssel, The Netherlands; Hans de Jong, Ministry of Economic Affairs and Climate, The Netherlands

ESPON EGTC: Zintis Hermansons (Project Expert) and Akos Szabo (Financial Expert)

Acknowledgements to case study authors

Martin Unfried, Vera Hark, Maastricht University (The Netherlands), Anita Schmidleitner, blue! advancing european projects (Germany), case study Germany – The Netherlands

John Moodie, Viktor Salenius, Julien Grunfelder, Oskar Penje, Nordregio (Sweden), case study Sweden – Norway

Christine Hamza, M&E Factory (Austria, Bulgaria), Eugeniy Ivanov (Bulgaria), Alexandru Toniuc (Romania), case study Romania – Bulgaria

Marili Parissaki, Red2Red CONSULTORES S.L. (Spain), case study Spain – Portugal

Thomas Fischer, Tara Muthoora, Olivier Sykes, University of Liverpool (United Kingdom), Ainhoa Gonzalez Del Campo, University College Dublin (Ireland), case study United Kingdom – Ireland

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Contact: info@espon.eu

ISBN: 978-99959-55-96-0

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Abbreviations

AIR	Annual Implementation Report
AT	Austria
BG	Bulgaria
CAWT	Cooperation and Working Together
CBC	Cross Border Cooperation
DE	Deutschland/Germany
DUP	Democratic Unionist Party
EAFRD	European Agricultural Fund for Rural Development
EC	European Commission
EGTC	European Grouping of Territorial Cooperation
ERDF	European Regional Development Fund
ES	Spain
ESIF	European Structural and Investment Funds
ESPON	European Territorial Observatory Network
ETC	European Territorial Cooperation
EU	European Union
EUR	Euro
Eurostat	European Statistical Office
GDP	Gross Domestic Product
GNP	Galicia – Norte de Portugal
GNP	Gross National Product
GP	General Practitioner
GVA	Gross Value Added
HSCT	Health Service Care Trust
HSE	Health Service Executive
IAM	Impact Assessment Matrix
ICBAN	Irish Central Border Area Network
ICT	Information Communication Technology
IE	Ireland
INTERACT	INTERACT Interreg C programme
IP	Investment Priority
IT	Italy
ITC	Information and Communications technology
ITEM	Institute for Transnational and Euregional cross-border cooperation and Mobility
JRC	Joint Research Centre
JS	Joint Secretariat
JTS	Joint Technical Secretariat
LGD	Local Government Districts
MA	Managing Authority
MAPP	Method for Impact Assessment of Programmes and Projects
MRDPA	Ministry of Regional Development and Public Administration of Romania
NGO	Non-government organisation
NI	Northern Ireland
NISRA	Northern Ireland Statistical Research Agency
NL	The Netherlands
NO	Norway
NRW	North-Rhine Westphalia
NUTS	Nomenclature of Territorial Units for Statistics
OP	Operational Programme
PA	Priority Axis
POCTEP	Programa Operativo de Cooperación Transfronteriza España Portugal (Operational Programme for Cross-border Cooperation Spain Portugal)
PT	Portugal
R&D	Research and Development
R+D+I	Research, Development, Innovation
RB	River Basin
RCI	Regional Competitiveness Index

RO	Romania
ROI	Republic of Ireland
SE	Sweden
SEA	Strategic Environmental Assessment
SME	Small and Medium Sized Enterprises
SO	Specific Objective
SOA	Super Output Area
STeMA	Sustainable Territorial environmental/economic Management Approach
TEN-T	Transeuropean Networks – Transport
<i>TEQUILA</i>	Territorial Efficiency Quality Identity Layered Assessment
<i>TIA</i>	Territorial Impact Assessment
TO	Thematic Objective
UK	United Kingdom
WFD	Water Framework Directive

1 Case study Germany – The Netherlands

1.1 Introduction

This document acts as a scientific report for the ex-post Territorial Impact Assessment procedure for the CBC Programme Germany-Netherlands within the ESPON TIA CBC project. As this TIA was conducted as a pilot testing a previously developed methodology, the purpose of the report is threefold:

- Brief politicians and policymakers about the results of the Territorial Impact Assessment
- Give extensive evidence for the Territorial Impact of the Programme
- Comment on the methodology applied and its upscalability to other programmes

For policymakers, an executive summary (section 1.2) is included in the report, giving an overview of the results in around 4 pages and informing about the main conclusions derived from the TIA. All this information is backed in detail by the technical summary of the TIA process (section 1.4) and by the comprehensive description of the territorial impact assessment (section 1.5).

This report is produced for a pilot case study within the ESPON TIA CBC project, therefore the methodology applied will be subject to changes based on the experiences gathered within the case study. Section 1.6 acts as the commentary part, where experiences and suggestions for the further methodological development are recorded. Furthermore, the project shall serve as an input to future CBC programmes regarding the indicators used and gathered to conduct a territorial impact assessment.

Disclaimer: as the methodology applied to produce evidence of the territorial impact of the Germany-Netherlands CBC programme includes expert workshops and bases various steps on expert knowledge and opinions. Several measures are undertaken to ensure sound and well justified results, however an element of subjectivity based on the participating experts is inherent to the process. The results are meant to be used for decision support only.

1.2 Executive summary

Title of the programme:	Germany-Netherlands
Version:	Interreg V-A
First year:	2014
Last year:	2023

The results are based on the methodology of the ESPON TIA CBC project, which combines both quantitative data and qualitative expert assessments to produce evidence of the territorial distribution of impacts. In the course of the TIA, two expert workshops have been held on the 9th and 27th of November 2018 in Kleve. The input gathered from expert discussions held in these workshops have been translated into the present report by the authors from Maastricht University and blue! Advancing European Projects/Munich.

Despite the heterogeneous nature of the programming area, there were some general socio-economic developments between 2013 and 2017 in the programme area:

- an improved labour market,
- increased economic growth,
- an increase in the employment of persons with higher education, scientists and engineers
- more overnight stays.

According to the debate on appropriate socio-economic quantitative indicators in Workshop 1 of the case study, the experts agreed that for them it was not possible to assess the net impact of the programme on these general socio-economic developments. The tested indicators were on employment, employment of persons with higher education, employment of scientist and engineers, economic growth, population, overnight stays and the performance of regions in the framework of the Regional Competitiveness Index.

There are some reasons why this has been explicitly difficult for the “Netherlands-Germany” programme. In the first place, the programme area is exceptional big with respect to population (more than 12 Million) and economic activities. The investment of the INTERREG programme is in this respect rather marginal. Experts questioned in general that the investments are significant enough to create impacts that can be shown with respect to employment, GDP, general competitiveness or innovation. The second reason is the lack of specific data (on the NUTS 3 level) related to the two priority axis “innovation” and “socio-cultural and territorial cohesion of the programme area”. Even the more elaborate set of indicators that are behind the EU Regional Innovation Scoreboard has been not appropriate to make an assessment in how far the programme has an effect on the – in this case – partly negative data. For the second priority axis (reduction of the barrier effect of the border of the for citizens and institutions”) of the programme, socio-economic indicators are not helpful since they do not refer to a impacts on the quality of cross-border cooperation or the broader effects on barrier effects of the border for citizens and companies..

Against this background, the following results have been mainly based on qualitative data (produced by expert judgements) and on expert judgments on the specific impact of the programme per indicator (the scores range from “no impact” 0, to : high impact: 2). Due to the compilation of the expert group, a full-fledge sub-regional assessments was not feasible. There were cautious sub-regional assessments made for instance in the field of languages, distinguishing between the German and the Dutch part of the programme area.

Main findings related to effects on the socio-economic dimension:

- The impact of the programme on the sensitization of companies with respect to product and process innovation was assessed as high (with a score of 1.67). With respect to CO₂ technologies a bit lower with 1.33.
- The impact on shared cross-border research is regarded as average (score 1),
- On patent application is also described as above average (1.33)

The impact on energy/CO₂ related infrastructure projects is also stated as above average (1.33).

The main findings with respect to the cross-border cohesion were the following:

- The experts noted an impact or high impact of the programme with respect to the cooperation of municipalities, employment services and cultural organisations (1.33-1.67) and an impact on educational organisations (1-1.33)
- the impact of the programme was stated but with lower scores in relation to tax authorities (0.67-1), police forces (1) and disaster management (1). There was “no impact” experienced of the programme on the cooperation of transport organisation which was explained by experts with the fact that transport has been not a focus of the programme. The experts assessed the impact of the programme on the cross-border governance situation with a score of 1.33 (above average). The influence on the functioning of the Euregions was assessed with the same score 1.33.

Main findings with respect to aspects of European Integration:

- The experts expressed difficulties to assess the impact of the programme on existing bureaucratic cross-border obstacles of citizens and companies,
- Concerning obstacles with respect to taxes and social security, the impact is regarded as low (below 1), or not possible to be assessed since the developments were driven by national agendas and not by developments in the border region.
- The score of the impact on cross-border mobility of citizens and companies (accessibility rail, road, air) was also lower than in other fields (0.33). However, experts stated that the impact of the programme in this field is very divers in the sub-regions.
- There are divers scores with respect to the impact on the mind-set of citizens and companies (attitudes towards cross-border institutions, the neighbouring regions, the EU and INTERREG).
- The experts gave a slightly higher score for the influence on citizens than on companies with respect to cross-border institutions and EU programmes. The impact on the mindset vis-à-vis the EU and the neighbouring region has been assessed the same for citizens and companies. The score for the impact on different aspects of cross-border education (especially the neighbouring langue) is higher for the situation in NL than in DE.

The INTERREG Germany-Netherlands programme excellently meets its own performance objectives according to internal figures. The above described qualitative expert assessment has been divers but overall positive with respect to the impact on specific developments in the programme area. However, there is a difficulty with respect to the assessment of quantitative result indicators and data

1.3 Initial programme assessment findings

1.3.1 Context and programme area description

As shown in the maps below, the programme area covers more than half of the territory of the Netherlands (hereinafter “NL”) and parts of western Germany (“DE”).

Map 1.1: The Programme Area



Source: <https://www.deutschland-nederland.eu/>

These are regions of the Dutch provinces Friesland, Groningen, Drenthe, Flevoland, Overijssel, Gelderland, Noord-Brabant and Limburg. In Germany, parts of the two Bundesländer Niedersachsen and Nordrhein-Westfalen (NRW) are covered, namely the regions Weser-Ems (Niedersachsen), Düsseldorf and Münster (Regierungsbezirke in NRW). The programme area stretches from the coast of the North Sea down to the area of the Niederrhein (Lower Rhine). It covers around 460 km along the border line with a population of more than 12 million people. The programme allows for the involvement of stakeholders from outside the programme area. The programme area consists of the following NUTS 3 regions:

Table 1.1: The NUTS 3 regions of the Programme Area

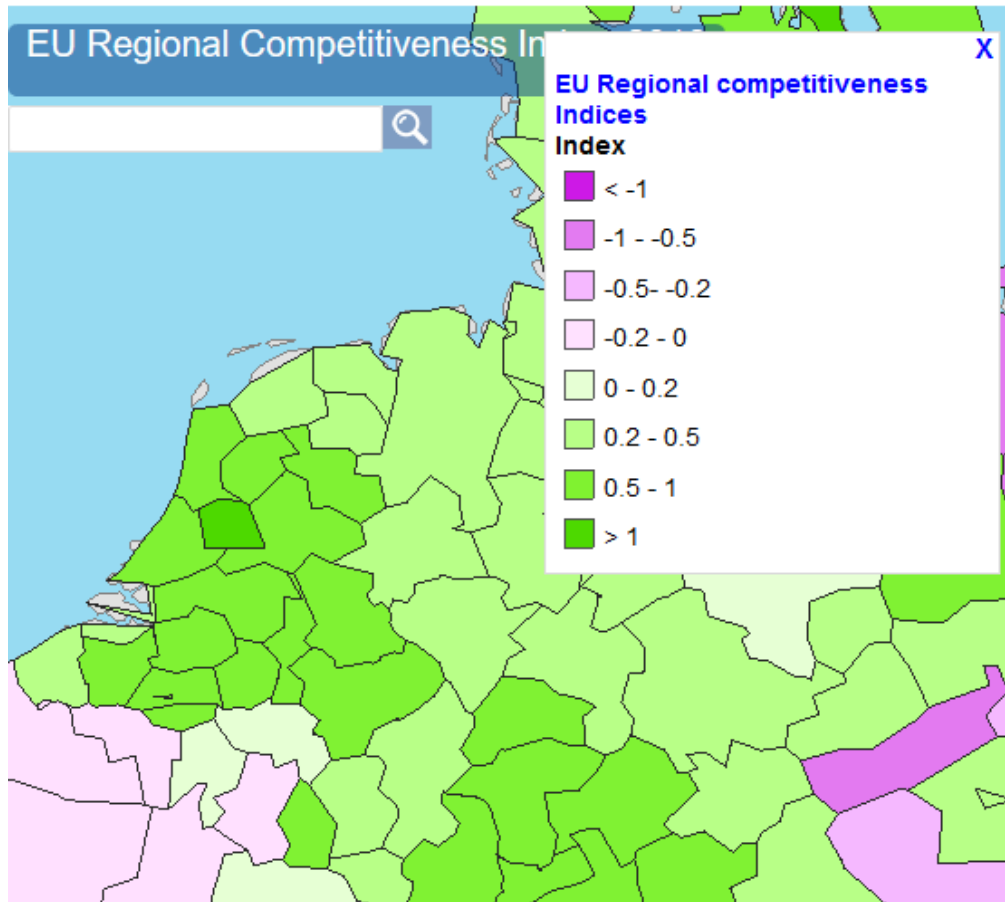
Germany	The Netherlands
DE941 Stadt Delmenhorst	NL111 Oost-Groningen
DE942 Emden, Kreisfreie Stadt	NL112 Delfzijl en omgeving
DE943 Stadt Oldenburg	NL113 Overig Groningen
DE944 Osnabrück, Kreisfreie Stadt	NL121 Noord-Friesland
DE945 Stadt Wilhelmshaven	NL122 Zuidwest-Friesland
DE946 Ammerland	NL123 Zuidoost-Friesland
DE947 Aurich, DE948 Cloppenburg	NL131 Noord-Drenthe
DE949 Emsland, DE94A Friesland (D)	NL132 Zuidoost-Drenthe
DE94B Grafschaft Bentheim,	NL133 Zuidwest-Drenthe
DE94C Leer, DE94D Landkreis Oldenburg	NL211 Noord-Overijssel
DE94E Osnabrück, Landkreis	NL212 Zuidwest-Overijssel
DE94F Landkreis Vechta, DE94G Landkreis Wesermarsch	NL213 Twente
DE94H Wittmund, DEA11 Stadt Düsseldorf	NL221 Veluwe
DEA12 Duisburg, Kreisfreie Stadt	NL224 Zuidwest-Gelderland
DEA14 Krefeld, Kreisfreie Stadt	NL225 Achterhoek
DEA15 Mönchengladbach, Kreisfr. Stadt	NL226 Arnhem/Nijmegen
DEA1B Kleve	NL230 Flevoland
DEA1D Rhein-Kreis Neuss	NL413 Noordoost-Noord-Brabant
DEA1E Viersen	NL414 Zuidoost Noord-Brabant
DEA1F Wesel	NL421 Noord-Limburg
DEA33 Münster, Kreisfreie Stadt	NL422 Midden-Limburg
DEA34 Borken, DEA35 Coesfeld	
DEA37 Steinfurt, DEA38 Warendorf	

Own compilation

The programme area is heterogeneous in geographical sense, comprising rural areas in the coastal regions in Germany and the Netherlands as well as urban areas at e.g. the rivers Waal (Nijmegen, Arnhem) and Rhine (Duisburg, Düsseldorf). As shown in the following chapter on specific indicators, there are significant differences in the development of the population density. There are regions with growing and declining population within the last couple of years. Compared to other EU territories, the economic situation of the NUTS 2 regions of the programme area is however relatively homogeneous. Economic growth is higher, unemployment is lower, investments in research and development are higher than the EU average. The individual positions of the regions in the framework of the regional competitiveness index are an indication of the rather positive economic situation of the territory. According to the European Commission, regional competitiveness is the ability of a region to offer an attractive and sustainable environment for firms and residents to live and work. Launched in 2010 and published every three years, the Regional Competitiveness Index (RCI) allows regions to monitor and assess their development over time and in comparison with other regions. The following map refers to the 2016 edition.¹

¹ The index has been published on the homepage of the European Commission, https://ec.europa.eu/regional_policy/en/information/maps/regional_competitiveness/#3

Map 1.2: The Programme Area in the context of the EU Regional Competitiveness Index



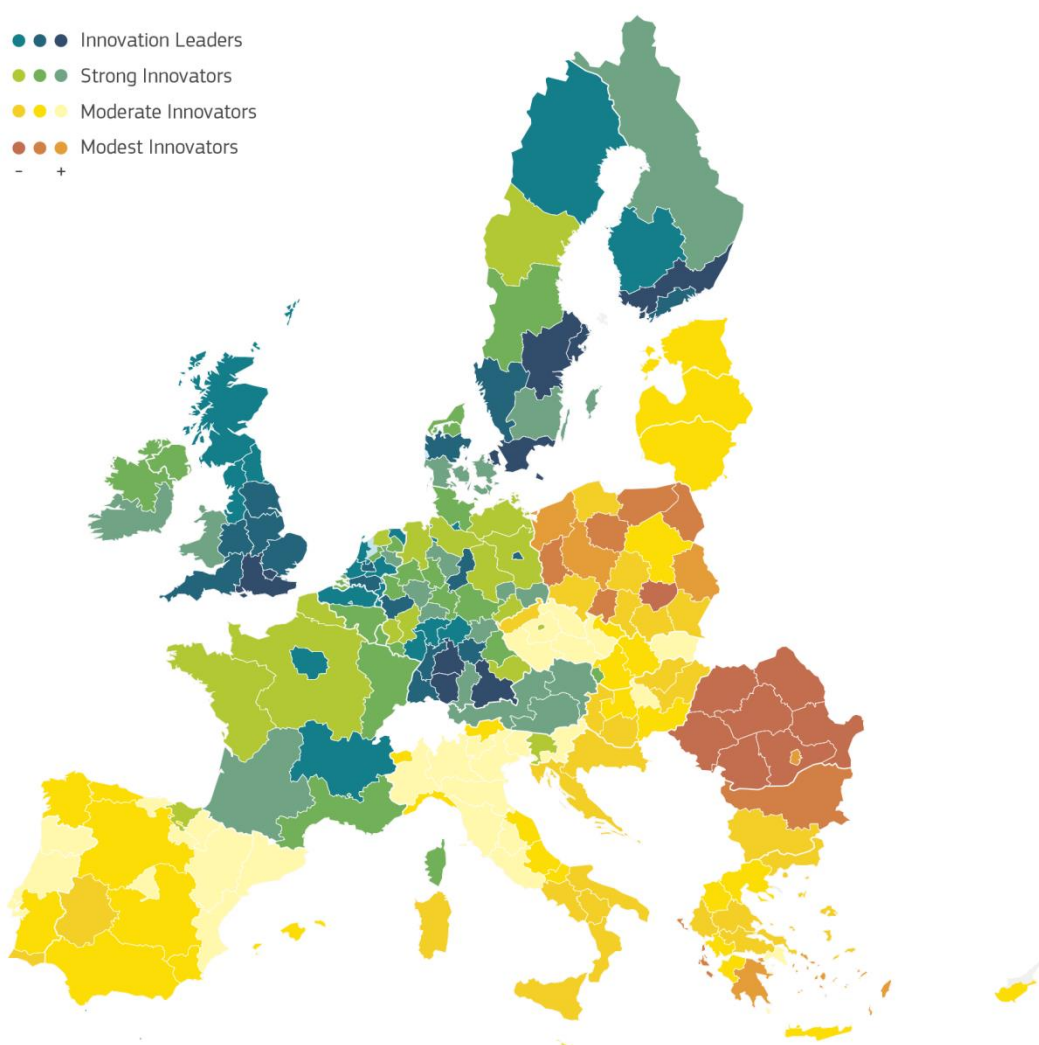
The NUTS 2 regions in the programme area are all scoring above the EU average. In other terms, the programme area is characterized by regions offering a more attractive and sustainable environment for firms and residents to live and work than the average EU region.

One of the two priority axes of the German-Dutch programme is business innovation. The “Innovation scoreboard” of the European Commission gives an indication of the position of the Dutch-German regions in the programme area. The Regional Innovation Scoreboard (RIS) is a regional extension of the European Innovation Scoreboard, assessing the innovation performance of European regions on a limited number of indicators.

Given the data from the 2017 Regional Innovation Scoreboard, some NUTS 2 regions of the programme area feature among innovation leaders, while others belong to the category of strong innovators.

Map 1.3: The 2017 Regional Innovation Scoreboard²

2017 REGIONAL INNOVATION SCOREBOARD



This indicates that according to the indicators and definitions of the Innovation Scoreboard the regions in the programme area³ are (except two) above EU average when it comes to innovation. Whereas the relative performance of all regions has been improving from 2011 to 2013, the picture in the period 2013-2017 is very different. However, this refers to the situation at the start of the programme since most of the data is from 2014. In this sense, it is not possible with respect to the available data to make qualified judgements on the development with re-

² See homepage of the European Commission, <https://ec.europa.eu/growth/sites/growth/files/infographic-regional-innovation-scoreboard-2017-full-size.png>

³ If referring to NUTS 2 regions of the Programme area, it has to be said that parts of Noord-Brabant and Limburg do not belong to the programme area. The same is true for the German districts of Münster and Düsseldorf. However, many data are only available at NUTS 2 and the geographical mismatch is rather limited, therefore we consider NUTS 2 data as meaningful.

spect to the years 2014-2018. To some extent is the title Regional Innovation Scoreboard 2017 misleading and leads to wrong expectations.

Table 1.2: NUTS 2 Regions and Innovation

Regional Innovation Scoreboard 2017 – Relative performance to EU in “2011”						
<i>Corrected version of 21 September 2018.</i>		RII2009	RII2011	RII2013	RII2015	RII2017
EU28	EU28	97,3	100,0	101,5	101,9	102,6
DE94	Weser-Ems	99,1	99,5	102,7	94,3	95,6
DEA1	Düsseldorf	111,0	117,7	121,8	114,2	110,4
DEA3	Münster	106,9	112,3	117,3	117,8	111,1
NL11	Groningen	109,8	115,7	126,9	121,9	128,3
NL12	Friesland	92,3	90,8	106,7	103,0	97,5
NL13	Drenthe	86,9	89,3	104,0	107,6	109,0
NL21	Overijssel	105,8	110,2	122,9	122,6	121,1
NL22	Gelderland	114,3	116,4	130,7	128,9	129,4
NL23	Flevoland	107,9	105,6	117,4	116,5	112,5
NL41	Noord-Brabant	126,0	126,7	137,0	137,2	133,7
NL42	Limburg	115,4	117,0	130,1	126,2	127,3

Overlapping areas: overlapping INTERREG eligibility

In the Netherlands, the programme is only one out of three INTERREG Programmes. The INTERREG Programme Meuse-Rhine is located at the very south-east of the country with parts of the Dutch Province of Limburg. The programme Flanders-The Netherlands covers Dutch and Flemish regions at the border of Belgium and the Netherlands including the provinces Noord-Brabant and Limburg. This means that some Dutch regions are part of different programmes at the same time, namely certain parts of Limburg and Noord-Brabant. In this sense, one should be careful when assessing potential impacts of INTERREG funded activities, as it is tricky to measure the effects of one programme separately from the effects of other programmes. Another difficulty is the possibility to involve project partners from outside the programme area. In this respect money is also spent outside the regions under scrutiny. On the other hand, private or public bodies can also benefit from other INTERREG programmes. This could be other INTERREG A, B or C programmes. For instance, the INTERREG B Programme North-West Europe has also a focus on low carbon economy and CO₂ emission reduction. This is as well a focus of the Germany-Netherlands Programme V A, with parts of the Netherlands and North Rhine Westphalia regions being eligible for this programme. The same applies to the INTERREG B North Sea Region, where territories of Niedersachsen and the North of the Netherlands are eligible and overlapping with the programme are under scrutiny.

There is no overlap of INTERREG Programmes with German participation due to the separation of eligible Regierungsbezirke at the border with the Dutch Province of Limburg. Only parts of the territory of the Regierungsbezirk Köln belong to the Programme Meuse-Rhine, the Regierungsbezirk Düsseldorf and Münster to the Programme Germany-Netherlands.

Map 1.4: Other INTERREG Programmes at the German Border



Source: *interreg.de*

Other EU and national funds

The budget of INTERREG V A under the Germany-Netherlands programme is distributed by the European Regional Development Fund (ERDF). Besides, there are various other funding programmes in Germany and the Netherlands which are also financed by the ERDF. For instance, the Netherlands is divided into four geographical areas with their own ERDF programmes. Especially the geographical areas east and north are very much overlapping with the German-Dutch programme area.⁴ Funding priorities for instance of the OP North Netherlands are research and innovation intensity in SMEs and the development and testing of innovative low-carbon technology prototypes.⁵ The same is true for the Operational Programme East Netherlands.⁶ The ERDF Operational Programme of the Land NRW has formulated similar priorities: Strengthening of research, technological development and innovation, enhancing the competitiveness of SMEs, support for the efforts for a reduction of CO₂ emissions.⁷ Also the priorities of the ERDF/ESF Operational Programme of the Land Niedersachsen are

⁴ The four Operational Programmes are described in detail on the homepage of DG Regio. https://ec.europa.eu/regional_policy/nl/atlas/programmes?search=1&keywords=erdf&periodId=3&countryCode=NL®ionId=ALL&objectiveId=ALL&tObjectiveId=ALL

⁵ See the description of the Programme under: https://ec.europa.eu/regional_policy/en/atlas/programmes/2014-2020/netherlands/2014nl16fop001.

⁶ See: https://ec.europa.eu/regional_policy/en/atlas/programmes/2014-2020/netherlands/2014nl16fop004.

⁷ See: https://ec.europa.eu/regional_policy/en/atlas/programmes/2014-2020/germany/2014de16fop009.

very similar. The first three priorities are: promotion of innovation, promote the competitiveness of SMEs, reduction of CO2 emissions.⁸

Governance and cooperation structures

Some CBC programme areas are related to the geographical map of one specific cross-border entity (Euregion, Euro District, etc.). Other CBC programmes (e.g. the Germany-Netherlands Programme) cover the territory of a number of cross-border entities. This is a very important characteristic of the German-Dutch INTERREG programme. There are four comparatively old Euregional entities called Euregios (Euregions). The four Euregions are separately established as a German –Dutch Zweckverband, according to the Treaty of Anholt. The Euregios of the programme territory are

- The Ems-Dollart Region
- The Euregio (Gronau)
- The Euregio Rhine Waal
- The Euregio Rhine-Meuse-North

In an ITEM study⁹ on the management differences of the Interreg Programmes with Dutch participation in 2016, the following description was formulated for the Germany-Netherlands Programme. “Since the start of INTERREG III A in 2000, the three German- Dutch programme regions, the EUREGIO, the Rhine-Waal Euregio and the Rhine-Meuse-North Euregio, have been working together in a common programme region. Under INTERREG IV A (2007-13), this region was extended even further as the Ems-Dollart Euregio was added (...). Under INTERREG V A, these four Euregios still cooperate in the joint German-Dutch INTERREG V A programme, with a common INTERREG Secretariat that supports a joint Monitoring Committee regarding programme approvals and progress.” The rather stable organisational history of the programme management is an essential feature of the programme with regional steering committees that take decisions on programme funding on behalf of the Monitoring Committee. For some types of projects, there are regional indicative budgets per steering committee. Moreover, this allocation of tasks is embedded into a well-established cross-border governance structure. This is a unique feature with respect to the history, capacity and experience of cross-border cooperation. The Euregio (Gronau) was for instance one of the first Euregional organisations of the EU. At the end of 2018, the Euregion celebrated its 60th anniversary. The other Euregions were established around 40 years ago. The Euregions are characterised by a strong ownership of municipal stakeholders. There are different institutional settings and working groups coordinating policies also beyond INTERREG.

⁸ See: https://ec.europa.eu/regional_policy/en/atlas/programmes/2014-2020/germany/2014de16m2op001.

⁹ Van der Giessen, Mariska, 2016, ITEM Cross-border impact assessment 2016 – Dossier 3: Cross-border cooperation: A study of INTERREG programmes in the Dutch border regions.

Still, the Euregions are very visible in the Programme reports since they are themselves lead partners or partners in INTERREG projects.¹⁰ This is a second interesting characteristic of the programme. Cross-border entities with significant experience in managing cross-border projects play a key role both in the support of the project management and as partners to single projects.

1.3.2 Programme framework characterisation

Programme Intervention Logic

During the past few decades, the INTERREG Deutschland-Nederland programme has gained long standing experiences with cross-border cooperation. The area itself has evolved to a comparatively wealthy region within the EU according to general indicators as GDP per capita and unemployment rates. Against this background, the programme seeks to activate and broaden existing cross-border networks and to advance successful projects.

Official Description of the focus of the Programme:

“The program focuses on two priorities: firstly, on the strengthening of the region’s competitiveness through smart growth, in particular supporting the transition to a low-carbon economy; and secondly, on further strengthening the socio-cultural and territorial cohesion of the border region by facilitating cooperation between citizens, companies and institutions.

The central targets of the programme are to increase the rate of SME-innovation by 2%-points by supporting some 4,000 enterprises, to intensify the cross-border links and interactions, and to further improve the positive attitudes towards the neighbour country and to help citizens of the region to see the border as an opportunity instead of an obstacle.”

Source: European Commission¹¹

More specifically, the following *needs* have been identified by the programme¹²:

- the cross-border SME economy needs to be strengthened
- weak relationship between educational/research institutions and companies
- few cross-border cooperations/activities between SME (restrained internationalisation)
- restrained competences within SME, lack of specialised workforce

- innovation in low-carbon technologies needs to be promoted
- finding solutions in view of climate change and energy transition
- improvement of the air quality, especially concerning fine dust and NO₂

- the socio-cultural and territorial cohesion of the programme area needs to be reinforced
- the Dutch-German border is still an obstacle with regard to the aims of the programme

¹⁰ Van der Giessen, Mariska : Cross-border cooperation: A study of INTERREG programmes in the Dutch border regions, Dossier 3 of the ITEM Cross-Border Impact Assessment 2016. https://www.maastrichtuniversity.nl/sites/default/files/dossier3_en_cross_border_cooperation_a_study_of_interreg_programmes_in_the_dutch_border_regions.pdf

¹¹ https://ec.europa.eu/regional_policy/EN/atlas/programmes/2014-2020/europe/2014tc16rfcb023

¹² “Kooperationsprogramm Interreg Deutschland-Nederland 2014-2020”, p. 4-5, <https://www.deutschland-nederland.eu/dokumente-und-downloads/>

- increasing cross-border cohesion will help to strengthen economic and other fields of cooperation

The programme's *specific objectives* (SO) try to meet these challenges through

- the promotion of cross-border research & innovation as well as product & process innovation in SME -> SO 1: "Strengthening product and process innovation in sectors relevant to the border region"
- the promotion of innovation in the field of low-carbon technologies -> SO2: "Strengthening product and process innovation in low-carbon technologies"
- the strengthening of social-cultural and territorial cohesion of the programme area -> SO3: "Reduction of the "barrier effect" of the border in the eyes of citizens and institutions"

In particular, the SOs target small and medium-sized enterprises, which are considered as crucial economic engine. Additionally, the programme focuses on the following sectors:

- agro-business/food
- health & life sciences
- high tech systems & materials
- logistics, energy/CO₂-reduction

(Background to the programme's needs and objectives are the Europe-2020 strategy, a strategic analysis based on country-specific recommendations of the European Commission as well as Smart Specialisation Strategies with regard to regional and national needs.)¹³

Specification of the programme's specific objectives

The above mentioned three specific objectives (SO) are assigned to two corresponding priority axes (PA). With regard to the first PA, the programme chose two thematic objectives (TO) with corresponding Investment Priorities (IP). SO1 and SO2 were assigned to PA1. With regard to the second PA, the programme chose one TO with one corresponding IP. SO3 was assigned to PA2.

The restriction to three SOs, covering a broad range of topics, allows for an easy allocation of diverse projects.

Table 1.3: Overview of the Priority Axes

PA 1: Strengthening cross-border innovation in the programme area		PA 2: Socio-cultural and territorial cohesion of the programme area
TO1: Strengthening research, technological development and innovation	TO4: Supporting the shift towards a low-carbon economy in all sectors	TO11: Enhancing institutional capacity of public authorities and stakeholders and efficient public administration through actions to strengthen the institutional capacity and the efficiency of public administrations and public services
IP1 b) Promoting business investment in R&I, developing links and synergies between enterprises, research and development centres and the higher education sector	IP4 f) Promoting research and innovation in, and adoption of, low-carbon technologies	IP: Promoting legal and administrative cooperation and cooperation between citizens and institutions

¹³ "Kooperationsprogramm Interreg Deutschland-Niederland 2014-2020", pp.6, pp. 11, <https://www.deutschland-niederland.eu/dokumente-und-downloads/>

PA 1: Strengthening cross-border innovation in the programme area	PA 2: Socio-cultural and territorial cohesion of the programme area
SO1: Strengthening product and process innovation in sectors relevant to the border region	SO2: Strengthening product and process innovation in low-carbon technologies
	SO3: Reduction of the "barrier effect" of the border in the eyes of citizens and institutions

- Priority Axis 1: Strengthening cross-border innovation in the programme area

Total Budget of PA1: € 271,478,738.00

Priority Axis 1 includes SO1 and SO2.

- *Overview SO1: Strengthening product and process innovation in sectors relevant to the border region*

One important goal of the programme is to strengthen SME, considering them as a crucial engine for the regional economy. However, according to the cooperation programme there is a lack of interaction between SME as well as between SME and educational/research institutions and a lack of specialised workforce within SME. Against this backdrop, INTERREG projects within the first SO are expected to promote research and innovation and to strengthen the interaction between educational/research institutions and SME. Furthermore, the programme seeks to sensitize SME for the potential of new technologies and to therefore increase product and process innovation and specialisation within these companies. As a result, intensified cross-border research and knowledge transfer should lead to increased competitiveness of the border region as well as a rise of competences within SME and other supported institutions. Additionally, the promotion of a closer cross-border network between Dutch and German SME is expected to lead to increased common business activities and economic growth.

- PA1: Strengthening cross-border innovation in the programme area
- TO1: Strengthening research, technological development and innovation
- IP 1 (b) promoting business investment in R&I, developing links and synergies between enterprises, research and development centres and the higher education sector, in particular promoting investment in product and service development, technology transfer, social innovation, eco-innovation, public service applications, demand stimulation, networking, clusters and open innovation through smart specialisation, and supporting technological and applied research, pilot lines, early product validation actions, advanced manufacturing capabilities and first production, in particular in key enabling technologies and diffusion of general purpose technologies

Brief justification for SO1:

- cf. EU 2020 priority "intelligent growth"
- It is necessary to create more and better cross-border networks and clusters, to advance cross-border knowledge and product valorisation and to commonly undertake research in order to meet the innovation goals set in the GSR and in the country-specific recommendations
- It is crucial that the existing innovation and internationalization potential of SME is strengthened in order to boost cross-border networks between SME

- Human Capital is a crucial factor for the promotion of innovation; with regard to the lack of specialized workforce innovation and labour market strategies should be harmonised across the border

Main change sought:

- increase research and innovation
- increase product and process innovation within SME
- internationalisation of SME

Activities undertaken:

- strengthen research/educational institutions
- promote product and process innovation within SME
- strengthen network between SME and R&I institutions (knowledge & technology transfer)

These activities concern the above mentioned sectors relevant to the border region. Within this SO, the programme has set measures across sectors as well as specific measures per sector (see cooperation programme p. 29-32).

Beneficiaries:

- Technology and innovation start-up-centers
- companies (especially SME and their potential employees)
- local and regional institutions and public authorities (e.g. business development agencies, chambers of industry and commerce, chambers of crafts)
- universities, universities of applied sciences, research institutions and institutions which support technological transfer
- educational institutions and providers of qualification trainings

Funding: € 211,478,738.00

- *Overview SO2:* Strengthening product and process innovation in low-carbon technologies

Secondly, the programme regards climate change and energy transition as a pivotal topic for our society in general and therefore also for the border region. Thus, the second SO concentrates on the promotion of low-carbon technologies in the context of cross-border cooperation. This target is pursued through the promotion of innovation and the sensitisation of SME for the potential of technologies in the field of sustainability. The programme is expected to yield a reduction of CO₂ emissions and other polluting emissions in the programme area as well as an intensified use of low carbon technologies and alternative energy sources. Other expected results are similar to those of SO1, including increased competitiveness, specialisation and better cross-border network between SME and other institutions – in this case however with a focus on low carbon technologies.

- PA1: Strengthening cross-border innovation in the programme area
- TO4: supporting the shift towards a low-carbon economy in all sectors by
- IP 4 (f) promoting research and innovation in, and adoption of, low-carbon technologies

Brief justification for SO2:

- Synergy with the EU 2020 priorities “intelligent and sustainable growth”
- It is necessary to create more and better cross-border networks and clusters, to advance cross-border knowledge and product valorisation and to commonly undertake research

in order to meet the innovation goals set in the GSR and in the country-specific recommendations

- New technologies and innovation are needed for the support and transformation of the energy system and for a more sustainable use of natural resources
- The topic has been included in the first priority axis in order to stress the importance of innovation in the domain of low carbon technologies

Main change sought:

- increase product and process innovation in the domain of low-carbon technologies
- increase share of SME which introduce product and process innovation in the domain of low-carbon technologies

Activities undertaken¹⁴:

- promote product and process innovation in low carbon technologies
- create cross-border networks and clusters of SME and research/educational institutions in low carbon technologies

Beneficiaries: see above, same as for SO1

Funding: € 60 million

- *Priority Axis 2:* Social-cultural and territorial cohesion of the programme area

Total Budget PA2: € 146,180,860.00

Priority Axis 2 includes SO3.

- *Overview SO3:* Reduction of the “barrier effect” of the border in the eyes of citizens and institutions

As a third SO, the reduction of the “barrier effect” of the border in the eyes of citizens and institutions was chosen. This SO is meant to cover a broad range of different projects which all aim at increasing the cooperation between the Dutch and German population. Even though the cooperation in the Germany-Netherlands programme area is described as “already successful”, the programme seeks for an even stronger socio-cultural and territorial cohesion within its area. The socio-cultural differences are still perceived as an obstacle for reaching the general aims of the programme, such as economic growth and strong cross-border networks in all sectors. Pursuing a general cohesion of the cross-border territory leads to a better basis for any other cooperation projects. Against the backdrop of these needs, the programme measures aim at increasing the exchange of citizens and institutions across borders which should in turn lead to more interaction, a more positive attitude towards the neighbouring country and a positive perception of the border (a “chance” instead of a “barrier”). The following domains are of relevance for SO3: work, education and culture; nature, landscape and environment; structural problems and demography; the network of civil society and public or private organisations on the local and regional level. Within these domains, a stronger

¹⁴ For specific measures see pp. 32-33 of cooperation programme.

cross-border network and the creation of concrete structures, services, products and events etc. is expected as an effect of INTERREG activities.

- PA2: Socio-cultural and territorial cohesion of the programme area
- TO11: Enhancing institutional capacity of public authorities and stakeholders and efficient public administration through actions to strengthen the institutional capacity and the efficiency of public administrations and public services

IP: Promoting legal and administrative cooperation and cooperation between citizens and institutions [see EU regulation Nr. 1299/2013, Art.7, 1 (a) (iv)]

Brief justification for SO3:

- EU 2020 priority “integrative growth”
- The broadening of cross-border contacts and cooperation – aiming at the integration of regional labour markets, company networks, new educational options and administrative structures – is described as one of the main needs of the programme area in the strategic analysis
- The Dutch-German border is still an obstacle with regard to the aims of the programme, among others in the domains of innovation, SME and sustainability. There is a need for direct and “natural” cooperation of citizens, institutions and – if applicable – companies and educational institutions. The aim is to “grow together”.

Main change sought:

- attitudes towards the neighbouring countries have changed in a positive way
- citizens of the programme area perceive the border as chance instead of barrier, change in the psychological sense
- conditions for other objectives of the programme are improved

Activities undertaken¹⁵:

- intensify cross-border interactions between citizens and institutions
- promote concrete cooperation activities between citizens and institutions, both socially (demography, labour market, care, living quality etc.) and physically (accessibility, nature, landscape and environment etc.)

Beneficiaries:

- citizens, associations
- regional and local institutions and public authorities (e.g. employers and employees as well as their professional association, insurance companies, social partners, cultural institutions, social institutions, municipalities)
- environmental and nature preservation organizations, natural parks
- companies (especially SME and their potential employees)
- hospitals, universities, research institutions, health organisations
- employees, apprentices, pupils, students, jobseekers and trainees
- schools, universities of applied sciences, universities and other educational institutions

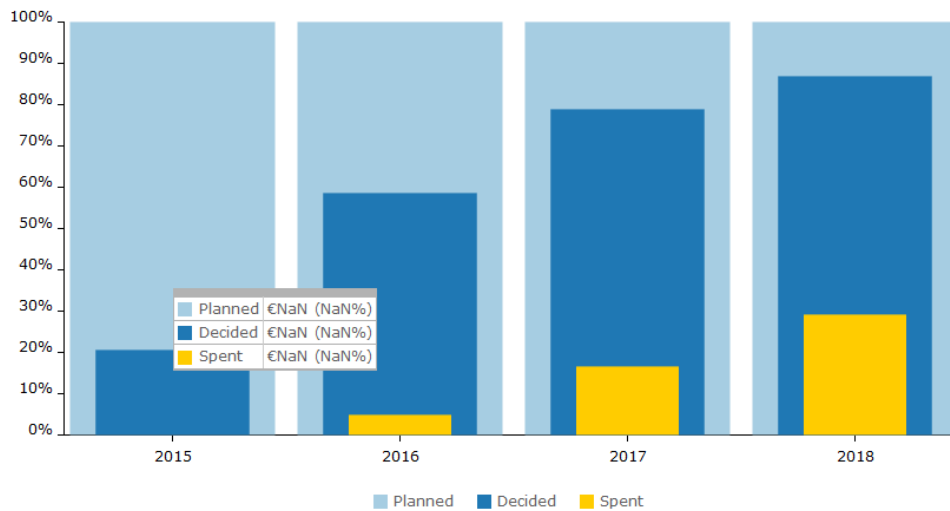
Funding: € 146,180,860.00

¹⁵ For specific measures see pp. 36-38 of the cooperation programme.

Figure 1.1: Implementation of the Programme (DG Regio 2019)

Finances: Implemented (total cost)

Explore and Share this Data



Period Covered: up to 30/9/2018

Refresh Date: 18/1/2019

According to figures of DG Regio, the financial implementation of the programme is going well. In 2018, almost 90% of the costs were already decided.

1.4 TIA Process

The territorial impact assessment process leans on desk research as well as expert input in a workshop setting. The systemic picture of the programme functioning (Intervention logic), the indicator selection, the net impact determination as well as the conclusions are never attributed to one method alone, but are always the result of a joint effort. The core element of the process is the Impact Assessment Matrix (IAM) which is presented in section 1.5. In this section, the working steps are described which are undertaken to produce the evidence of the territorial impact, the elaboration of the impacts and the conclusions derived.

1.4.1 Selection of TOs and TIA area

As described above, the allocation of the budget goes on the one hand into projects under the first Priority Axis “*Strengthening cross-border innovation in the programme area*” to which a total budget of € 271,478,738 is allocated. For the second Priority Axis “*Social-cultural and territorial cohesion of the programme area*”, there is a total budget of € 146,180,860. The assessment of the programme was dealing with the entire programme area and the three SOs “*innovation*”, “*innovation and CO₂*” and “*barrier effect of the border*”.

1.4.2 Finalized intervention logic

The intervention logic represents the systemic picture of how the programme functions in the programme area. The *needs* identified for the regions are tackled by *measures* funded through the programme. These measures have *effects* on the region, which are depicted via *indicators* in a territorial impact assessment. The indicators are either

- result indicators applied by the programme itself – marked (R)
- common CBC indicators as provided by the methodological handbook – marked (C)
- additional indicators discussed by each case study tailored to the programme –marked (not necessarily applicable due to lack of data) (A)

The intervention logic is a chain establishing a logical and coherent link between the programme, the effects on the regions and the indicators measuring these effects. It is the necessary basis for all further assessments made.

The needs, measures and expected effects of the programme are described in the programme framework characterisation (chapter 1.3.2). With regard to the assessment of this chain, indicators assessing the effects of SO1 (PA1) cover economic aspects such as employment (within supported institutions/companies), GDP and trade rate. Moreover, they cover content related aspects such as the quality of research and innovation. As for SO2 (PA1), the indicators assess, among other things, the rate of innovation within the field of CO₂ reduction as well as general environmental indicators and economic factors (employees in the field, number of research projects, etc.). When it comes to SO3 (PA2), a crucial assessment is a study conducted by the programme itself on the perception of the Dutch-German border as “barrier”.¹⁶ It gives insights into the stance of citizens, companies and institutions towards the border. Further indicators for the assessment of SO3 are mostly qualitative. They include labour market related aspects (work across the border), education related aspects (knowledge of the neighbouring language, qualification for employment across the border and others) as well as aspects concerning nature/landscape/environment (e.g. public transport system), structural problems and demography (e.g. gender balance) and the network on the local and regional level (quality of cross-border cooperation of public institutions and similar things).

¹⁶ Jos van den Broek (et al), 2015, Nullmessung des Ergebnisindikators der Priorität 2: „Wahrnehmung der deutschniederländischen Grenze als Barriere“ (Awareness of the German-Dutch border as an obstacle)

Table 1.4: SO 1: Strengthening product and process innovation in sectors relevant to the border region

Needs	Measures	Effects	Indicators
cross-border SME economy needs to be strengthened: weak relationship between educational/research institutions and companies; few cross-border cooperations between SME; restrained internationalisation of SME; restrained competences within SME/lack of specialised work force;	promotion of research and innovation	more cross-border research; strengthen competitiveness of the border region; raise of competences within supported institutions	number of new researchers in supported institutions (R) total number of employees in research institutions (comparative indicator) (A) Quality of cross-border research; share of common initiatives, access to funding (A)
	strengthen network between SME and research/educational institutions (knowledge & technology transfer)	more and closer cross-border networks and clusters; more cross-border activities/business of SME/companies/research institutions	number of companies/research institutions which participate in cross-border, transnational or interregional research projects (R) number of companies which cooperate with research institutions (R) number of SME/companies with cross-border business (C) total number of SME with research activities (comparative indicator) (A) total number of SME/companies & research institutions participating in cross-border, transnational or interregional research projects (comparative indicator) (A) total number of companies which cooperate with research institutions (comparative indicator) (A)
	product and process innovation in SME, sensitisation of SME for innovation opportunities and the potential of new technologies	increase of SME which introduce product and process innovation; strengthen competitiveness of the border region; raise number of available specialised work force	raise of employees in supported businesses (R) share of SME which participate in an INTERREG V-project in innovation and have introduced product and process innovation (R) cross-border territory GDP (C) economically active population per km ² (C) unemployment rate (C) employment in different sectors: agriculture, R&I, technology etc. (C) export from the cross-border territory (C) investment by companies in the cross-border territory (C) economic growth: GDP/capita (C) total share of SME which introduce product and process innovation (comparative indicator) (A) sensitization of SME with regard to product and process innovation (A)

Table 1.5: SO 2: Strengthening product and process innovation in low-carbon technologies

Needs	Measures	Effects	Indicators
"climate change" and "energy transition": promotion of low-carbon technologies	promotion of product and process innovation in low carbon technologies; sensitization of SME for innovation opportunities and the potential of new technologies in this field	increase of product and process innovation in low carbon technologies; reduction of CO ₂ emission and other emission in the programme area; intensified use of low carbon technologies and alternative energy sources etc.	number of new researchers in supported institutions (R) environmental indicators (air pollution, water, land-use, biodiversity, share of renewable energy, number of cars per household) (C) cross-border energy network connections (compared to previous years) (C) patent applications/million inhabitants (C) sensitization of SME with regard to product and process innovation in the field of CO ₂ reduction (A) increase of cross-border energy infrastructure projects (A)
		raise number of SME which introduce these technologies; strengthen competitiveness of the border region; raise number of available specialised work force	raise of employees in supported companies (R)
	cross-border networks and clusters of SME and research/educational institutions in low carbon technologies	more and closer cross-border networks and clusters in low carbon technologies; more cross-border activities/business of SME/companies/research institutions in low carbon technologies	number of companies/research institutions which participate in cross-border, transnational or interregional research projects (R) number of companies which cooperate with research institutions (R) number of SME which have participated in an INTERREG V-project in innovation and have introduced product and process innovation (R) the number of cross-border infrastructure projects in the sector of energy (compared to past numbers) (C)

Table 1.6: SO 3: Reduction of the "barrier effect" of the border in the eyes of citizens and institutions

Needs	Measures	Effects	Indicators
cooperation between Dutch and German population: strengthening of socio-cultural and territorial cohesion of the programme area; the Dutch-German border is still an obstacle for reaching the aims of the programme	strengthening cross-border exchange of citizens and institutions	cross-border relations and interactions are intensified; integration of regional labour market; higher living quality	number of participants in common local employment initiatives or training programmes (R) number of citizens who have benefited from a personal consulting (R) access to employment services in the neighbouring country (C) number of cross-border placements (EURES) (C) number of cross-border workers (C) Access to digital systems for

Needs	Measures	Effects	Indicators
			<p>cross-border workers, employers and citizens (C)</p> <p>Development of the situation of cross-border citizens/workers/companies with respect to taxes, social security, education, housing compared to previous years (C)</p> <p>share of population which benefits from improved health services (R)</p>
		attitude towards the border	programme study on the perception of the Dutch-German border as "barrier" (citizens and institutions) (R)
		citizens regard border as a chance instead of a barrier	programme study on the perception of the Dutch-German border as a "barrier" (citizens) (R)
	promotion of cooperation and creation of cross-border network <i>concerning work, education, culture</i> ; creation of concrete structures, services, products, events etc. in this field	cross-border network concerning work, education, culture; creation of concrete structures, services, products, events etc.	<p>number of participants in cross-border initiatives in the domain of education and language (R)</p> <p>duration and cost of recognition of professional qualifications (C)</p> <p>educational attainment: number of cross-border bi-diplomas (C)</p> <p>number of hours of courses taken in the respective foreign language (C)</p> <p>general understanding of neighbouring languages (C)</p> <p>percentage of pupils/students learning the neighbouring language (different schools, higher education) (C)</p>
	promotion of cooperation and creation of cross-border network <i>concerning nature, landscape, environment</i> ; creation of concrete structures, services, products, events etc. in this field	cross-border network concerning nature, landscape, environment; creation of concrete structures, services, products, events etc.	<p>increase of expected visitors in supported natural and cultural sites or monuments (R)</p> <p>Potential accessibility of the cross-border territory by road/rail/air compared to previous years (C)</p> <p>cross-border public transport connections (compared to previous years) (C)</p> <p>the number of cross-border infrastructure projects in the sector of traffic (compared to past numbers) (C)</p>
	promotion of cooperation and creation of cross-border network <i>concerning structural problems and demography</i> ; creation of concrete structures, services, products, events etc. in this field	cross-border network concerning structural problems and demography; creation of concrete structures, services, products, events etc.	<p>Cross-border difference: Gender balance employment (C)</p> <p>access to the housing market cross-border (number of cross-border housing) (C)</p> <p>prices real estate (C)</p> <p>Household income, number of households receiving social benefits (A)</p>

Needs	Measures	Effects	Indicators
	development of cross-border <i>network on the local and regional level</i> ; creation of concrete structures, services, products, events etc. in this field	cross-border network development on the local and regional level; creation of concrete structures, services, products, events etc.	development of a cross-border governance system (C) number of cross-border institutions (number of EGTC etc.) (C) The quality of cross-border cooperation of municipalities, employment services, educational institutions, cultural organisations, hospitals/ambulances, tax authorities, police forces, disaster management, public transport organisations compared to previous years (C) citizens/companies mind-set towards the border, cross-border institutions, the neighbouring region, the EU, European Projects (INTERREG) (C)

1.4.3 Indicators

1.4.3.1 Indicator and data

In order to find the right indicators, the programme's own indicators (for programme monitoring and evaluation) were carefully analysed in order to find additional impact assessment indicators with a clear added-value and a different character. The programme itself has formulated in the first place a long list of performance indicators. These are linked to the direct activities of the project in order to measure whether the objectives set by the programme and projects (with respect to number of trainings, participation of SME in certain activities, etc.) have been met. In a recent document (the situation on 16 September 2018)¹⁷ the performance indicators and corresponding values are presented.

Standard performance indicators are for the support of innovation, R&D, SME under priority axis 1, the number of companies (performing in a certain way) or more precisely SME, the number of employees (or scientists) participating in supported activities, or private investments that add up to funding. With respect to Priority Axis 2 and the specific objective "Reduction of the "barrier effect" of the border in the eyes of citizens and institutions, there are quantitative indicators describing the number of supported companies or institutions, but as well the number of participants in language courses or employment services, or the number of citizens that have improved access to health care. The indicators for this PA are of quantitative nature.

Certain aspects must be underlined when reflecting the relation between programme evaluation and impact assessment:

- data on the performance of the programme are not making references to different regions of the programme area.

¹⁷ "Sachstand und Analyse", document with the recent numbers provided by the Programme Secretariat, dated September 2018.

- Given the quantitative nature of the data, there is also no indication of the quality of the cooperation, the innovation character of the supported R&D, or whether a certain activity has finally led to a successful business model, a sustainable business opportunity, or a stable cooperation with a company on the other side of the border.
- The vast majority of the indicators are linked to the number of supported organisations or people.

The single result indicator for Priority 1 (Innovation) is the “share of all companies with process and product innovation” (in general and for CO₂-related innovations) within the programme area.

Therefore, additional qualitative indicators are especially an added value in order to know more about the impact of the programme on innovation beyond the single quantitative indicator.

The only qualitative indicators of the programme is on the perception of citizens and organisation with respect to the border as an barrier. The data has been and will be delivered by own surveys commissioned by the Programme. While a baseline measurement was conducted in 2015 at the start of the programme, a second measurement was conducted in parallel to the work on this study. The results could unfortunately not be an input for the two workshops.

In workshop 1, the experts debated on the usefulness of specific indicators. It was also noted that the own result indicator “perception of the border as a barrier” could be problematic. The positive impact of the projects under Priority Axis 2 would be hard to defend if citizens and organisations perceive more border obstacles in the programme area than in previous years. In the first place, there is of course the general question of the effects of non-programme related developments (national/EU legislation, policies, migration/Brexit/etc.) that could lead to a different perception of national borders. But the qualitative indicator “perception of border obstacles” could be as well misleading. Experts in workshop 1 were of the opinion that there is a certain paradox with respect to the perception of border obstacles. Citizens or organizations who are intensifying their cross-border activities do face more difficulties. That means that they are also aware of more practical border obstacles. This could even mean that the stimulation of many successful cross-border cooperation projects by the INTERREG programme could lead to a broader perception of the border as barrier. This is certainly not an argument against qualitative indicators related to the awareness of border barriers. But the limitations with respect to the chosen result indicator of priority axis 2 can lead to more misunderstandings than clarifications. What will be described in the following is that such a qualitative indicator (as part of the programme evaluation) has to be seen against the data produced by a broader qualitative assessments via qualitative indicators as part of an impact assessment.

Results from the 2018 survey on the perception of border barriers (draft report)¹⁸

The results of the draft report on border barriers were available in April 2019 and summarized by the Programme Secretariat. Some of the main findings support the remarks made by the expert but also presents a rather complex picture:

One of the results indicate that citizens with INTERREG-knowledge/experience perceive the border more as a barrier in everyday life, but the degree to which they take the border for granted is lower for them (lower mental barrier effect). This could confirm the assumption that more experience with and knowledge on cross-border cooperation increases the awareness that there are still practical problems. Nevertheless, for citizens, the total perception of the border as a barrier has slightly increased compared to 2015. The border is perceived as less observable, obstructive and divisive (less barrier effect in everyday life) The border is perceived as relatively more normal, natural useful and important (increased mental barrier effect/border is taken more for granted). However, the total barrier effect increased for general, economic and socio-cultural aspect of the border; the total barrier effect decreased (but remains still strongest) for legal-administrative aspect of the border. One external factor which slightly influenced the described development seems to have been the influx of refugees and the discussion around this (this specific factor has been researched, most likely other external factors also play a role). For organisations, the total perception of the border as a barrier has remained roughly the same compared to 2015. Also, Organisations with INTERREG-knowledge/experience perceive the border more as barrier in everyday life, but also for them the degree to which they take the border for granted is lower for them (lower mental barrier effect)

Challenges connected to indicators and data of the programme area

Indicators linked to effects in the intervention logic presented above have been populated with quantitative data wherever possible. It was aimed to obtain quantitative data for the baseline year as close as possible to 2014, and for the reference year as close as possible to the current year (2018). This means that the latest data was available for the year 2017, but *very often data was only available up to 2016. In this case, we have chosen to use 2013 and not 2014* as a base year in order to have a longer period and more meaningful differences. The second difficulty has been data availability for NUTS 3 regions. Except for a few indicators, the data was only available for NUTS 2 regions of the programme area. The following table lists the indicators that were finally discussed during the first workshop.

Quantitative data for 7 indicators could be collected. For most of the other indicators, no quantitative data was available so a qualitative assessment in an expert workshop was conducted instead. The metadata for these indicators is provided in Table 1.7.

¹⁸ Radboud Universiteit (2019), Erste Zwischenevaluierung des Ergebnisindikators der Priorität 2: Wahrnehmung der deutsch-niederländischen Grenze als Barriere“).

Table 1.7: Indicators

Name	Source	Baseline Year	Reference Year	Assessment method	Common CBC Indicator (Y/N)
Population change	Eurostat	2014	2017	quantitative	Y
Population Density	Eurostat	2013	2016	Quantitative	Y
GDP	Eurostat	2014	2016	Quantitative	Y
Unemployment	Eurostat	2015	2017	Quantitative	y
Employment Higher Education	Eurostat	2013	2017	Quantitative	n
Employment Scientist/Engineers	Eurostat	2013	2017	Quantitative	Y
Tourism Overnight stays	Eurostat	2013	2017	Quantitative	Y
Score Regional Competitiveness Index	RCI	2013	2016	Quantitative	N
<i>Quantitative Common indicators not used so far</i>					
export from the cross-border territory	Lack of data Nuts 3			Quantitative	y
investments by companies in the cross-border territory	Lack of Data Nuts 3			Quantitative	y
number of SME/companies with cross-border business	Lack of Data Nuts 3			Quantitative	y
employment in different sectors (agriculture, R&I, technology...)	Lack of Data Nuts 3				y
environmental indicators (air pollution, water, land-use, biodiversity, share of renewable energy, number of cars per household)	Considered as not relevant, Share of renewable energies/energy efficiency or CO ₂ -reduction not available at NUTS 2 or NUTS 3				y
cross-border energy network connections (compared to previous years)	Not relevant				
patent applications/mio inhabitants	Single use not relevant, part of the data set for the Regional Innovation Index as discussed				y
the number of cross-border infrastructure projects in the sector of energy (compared to past numbers)	Data not available for NUTS 2 and NUTS 3				y
Qualitative Indicators					
Sensitization of SME with regard to product and process innovation (in general and in the field of CO ₂ reduction)	Workshop II	2014	2018	Qualitative	Y
2. Share of common initiatives for cross-border research and to access funding	Workshop II	2014	2018	Qualitative	y
3. Quality of cross-border research	Workshop II	2014	2018	Qualitative	
4. INTERREG projects which lead to patent applications and to the application of new technologies	Workshop II	2014	2018	Qualitative	

Name	Source	Baseline Year	Reference Year	Assessment method	Common CBC Indicator (Y/N)
Cross-border energy/CO ₂ infrastructure projects	Workshop II	2014	2018	Qualitative	
In comparison to previous years: The quality of cross-border cooperation of: 6. municipalities 7. employment services 8. educational institutions (9. cultural organisations) 10. hospitals/ambulances 11. tax authorities (12. police forces) (13. disaster management) 14. public transport organisations	Workshop II	2014	2018	Qualitative	
15. Functioning of the governance system in the broader sense: functioning of cross-border organisations/networks/instruments	Workshop II	2014	2018	Qualitative	Y
16. Functioning of Euregios compared to previous years	Workshop II	2014	2018	Qualitative	Y
Bureaucracy /complexity of cross-border activities of citizens/employees/companies compared to previous years and with regard to 17. taxes 18. social security 19. professional training	Workshop II	2014	2018	Qualitative	Y
20. housing Mobility compared to previous years 21. potential accessibility of the cross-border territory by road/rail/air 22. cross-border infrastructure projects in the sector of traffic 23. cross-border public transport connections	Workshop II	2014	2018	Qualitative	Y
Mind-set of citizens/companies with regard to 24. cross-border institutions 25. the regions across the border 26. the EU 27. European projects (INTERREG)	Workshop 2	2014	2018	Qualitative	
Access to employment services in the neighbouring country 28. individual consulting (today/previous years) 29. Access to digital systems for cross-border worker, employers and citizens	Workshop 2	2014	2018	Qualitative	Y

These indicators have been chosen on the basis of the three dimensions of the common TIA CBC indicator set:

- General aspects of European integration (free movement, non-discrimination, etc.) and the impact on citizens, businesses and public organisations
- The socio-economic development of the entire territory and especially related to cross-border activities, and
- Cross-border cohesion in a broader sense, the quality of cross-border cooperation of citizens, companies and the public sector.

Indicators such as access to employment services, accessibility of the border region, public transport connection, the complexity of cross-border activities (bureaucracy) are linked to general aspects of European integration, whereas indicators as the impact on the cross-border mindset, the quality of cross-border cooperation of public and private organisations, the functioning of Euregions and other cross-border institutions are grouped under the heading “cross-border cohesion”.

The application of quantitative indicators and data

During the pilot different problems were encountered with respect to the use of quantitative indicators and data discussed in workshop 1. Given the very narrow thematic focus of the programme (“innovation” and “reduction of the barrier effect of the border”), many of the “common quantitative indicators” established for the pilots were not in-line with the objectives of the programme. For instance general environmental indicators, housing, number of cars, etc.. In chapter 1.4.3, the examples of data on different quantitative indicators will illustrate the problem connected to the assessment of net impacts. As already indicated, the programme area is a special case due to its size (more than 12 Million inhabitants) and economic situation (overall GDP in the range of middle sized Member States of the EU). The general observation made by the experts in workshop 1 has been that the limited resources of INTERREG are in the first place not considered to have a significant effect on the socio-economic development of the programme area. This is reflected in the intervention logic: the intervention logic of the programme is not in the first place to improve the socio-economic situation in a broader sense in certain Nuts 3 or Nuts 2 regions or to increase employment or GDP in the entire programme area. In this case it is doubtful whether the qualitative assessment of the net impact of the programme on employment indicators would be helpful. Even if the impact is assessed as being “low” due to comparatively little investments or very decisive other effects (economic situation, etc.), the assessment is not helpful since it does not refer to the cross-border nature of the intervention logic. This could be more useful in the future, if precise data were available on the development of cross-border employment or data related to cross-border developments of economic growth.

Even with respect to the intervention logic under PA 1 (innovation), the objective of the German-Netherlands Programme is not as such to stimulate innovation in certain Nuts 3 or Nuts 2 regions but to do so in a cross-border context with the stimulation of cross-border projects. The problem with the quantitative data (number of researchers, etc.) is, that they do not re-

flect innovation effects with respect to this cross-border dimension. This leads to a general question of cross-border data, that has to be available in the future for assessing the very specific effects of territorial programmes in line with their intervention logic. If the intervention logic – as in our case – is to stimulate for instance CO₂-related innovation in a cross-border context, it would be helpful to find data on CO₂-reductions at the Nuts 3 level, related to cross-border projects. So far, there is a lack of quantitative data that refer to this specific cross-border aspects.

1.4.3.2 Net impact determination

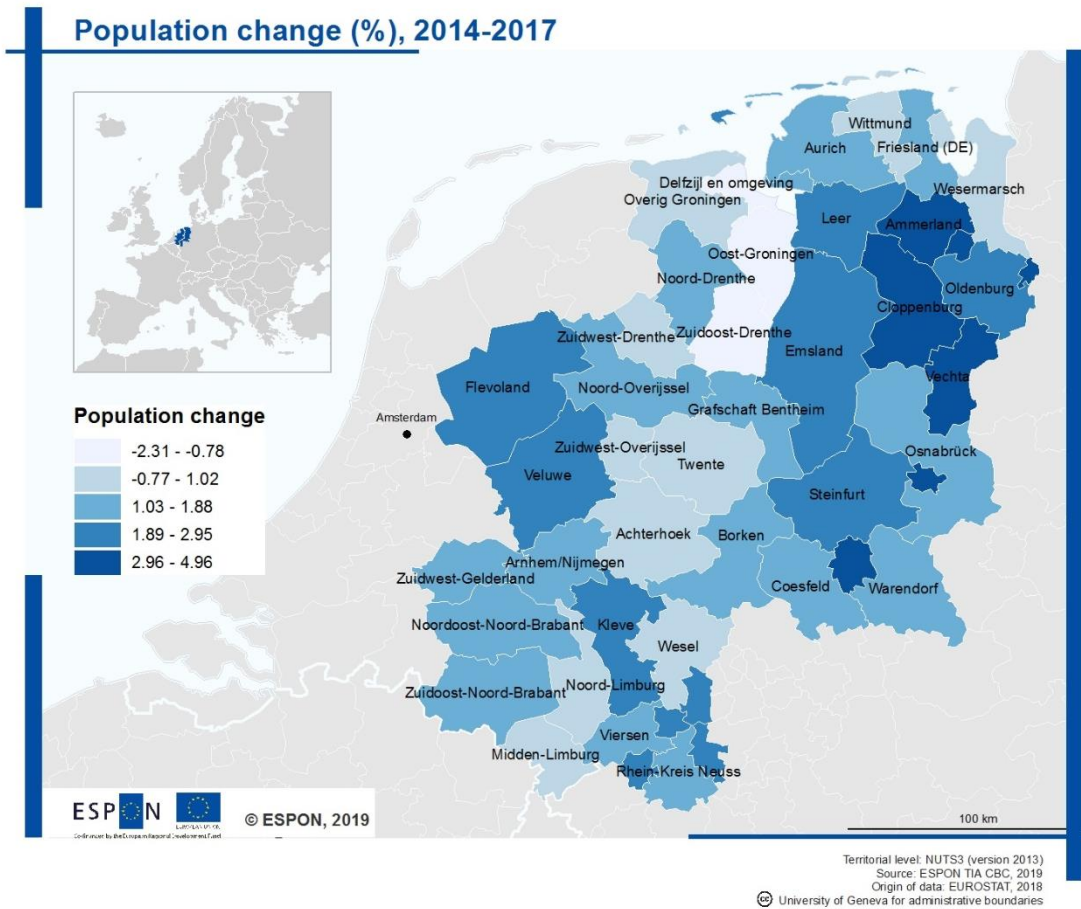
Based on the varied nature of the indicators, different approaches have been applied as provided by the methodological handbook of the ESPON TIA CBC project.

Net impact determination of quantitative indicators

One of the conclusions of the case study for the Dutch-German Programme (as already described above) is the limitation of economic indicators. The lack of data that has been available (or to collect with appropriate effort) especially with respect to NUTS 3 regions, questioned to some extent the relevance of the economic indicators for this programme and the possibility of a net impact determination. The debate stimulated in workshop 1 on the indicator question highlighted the fact that the experts were of the opinion that it is not possible to assess the impact of the programme with respect to general quantitative indicators such as the employment or unemployment rate (even for high skilled workers in SMEs), economic growth, population growth, exporting activities, etc.

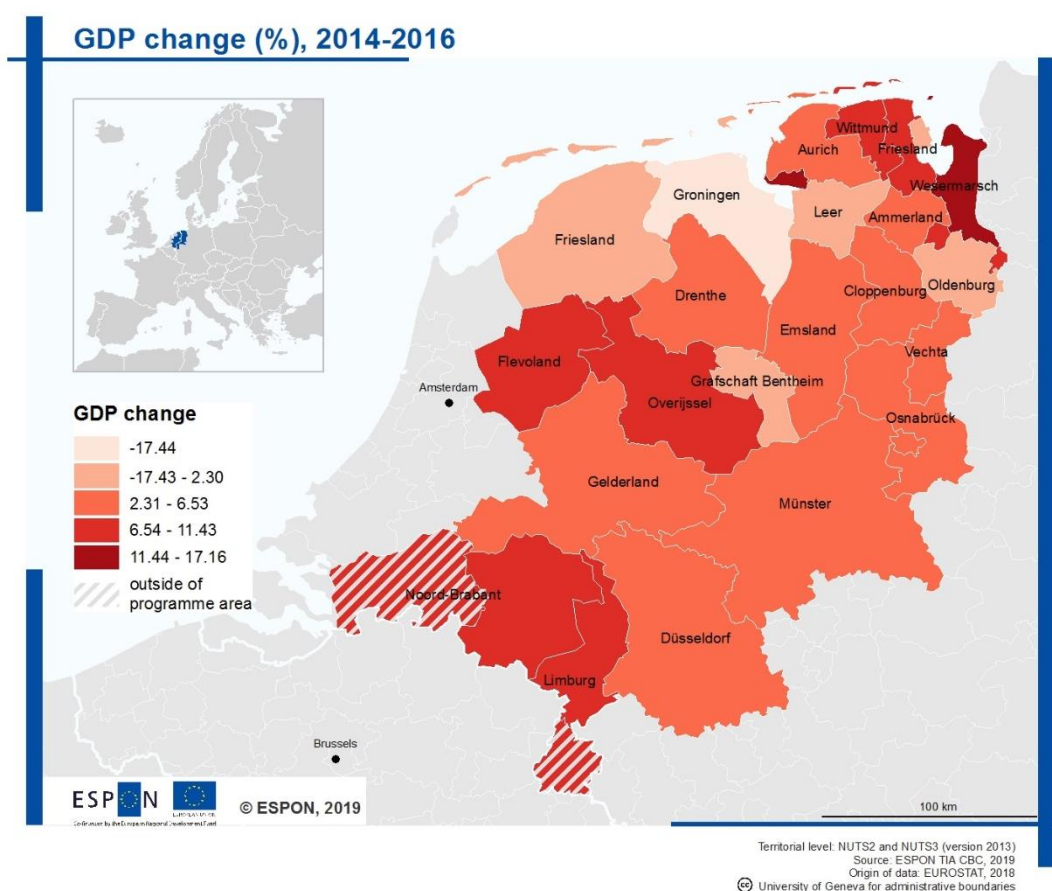
In the following, the chosen socio-economic indicators will be discussed with respect to the problems of assessing the net impact.

Map 1.5: Population Change



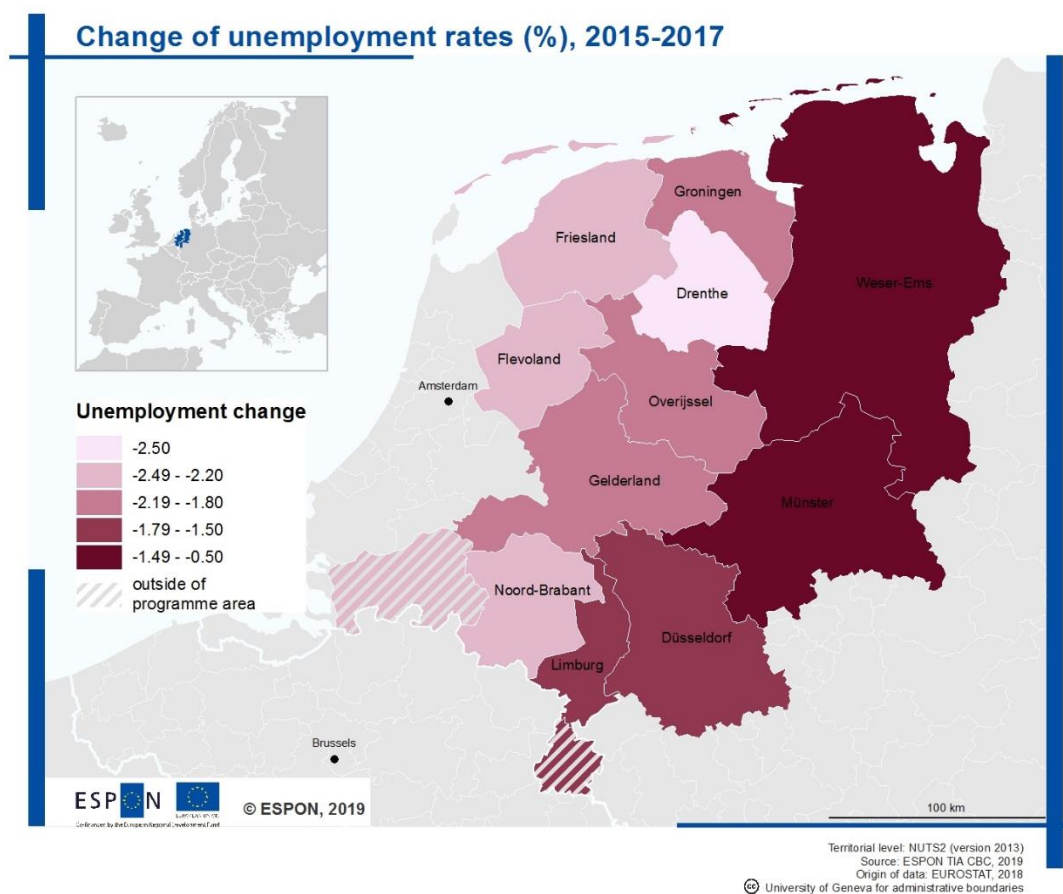
Population growth or decrease is not an explicit objective of the programme. Nevertheless it is interesting to see the trend during the programme period. An increase or decrease of the population can be discussed against the background of the attractiveness of border regions. The map shows a very heterogeneous picture at the NUTS 3 level (Total population on 1 January by NUTS 3 region [demo_r_pjangrp3]). There are regions in Germany and in the Netherlands with increasing and decreasing population. In total the population increased. As briefly discussed in Workshop 1, it is certainly not possible to assess or calculate the effect of the programme with respect to the population. Other effects as migration, national trends, general employment and housing opportunities are dominating.

Map 1.6: GDP per capita in current prices



Data on the gross domestic product (Gross domestic product (GDP) at current market prices [nama_10r_2gdp] were available for most of the sub-regions at NUTS 2 level. For the Land Niedersachsen, NUTS 3 data was found. For most of the programme area, the development has been very positive with increasing economic growth rates. The percentages does not refer to the increase as such, but to the difference between base 2014 and 2016. The heterogeneous cross-border character of the programme area is also highlighted by the fact that there is no trend related to a Member State. Again, other effects (economic situation, other funds) do not allow a specific impact assessment. An additional problem is the fact, that the numbers were only available for the year 2016. One could assume that the programme would cause some effects with respect to the stimulation of the economy after a bigger number of projects (and the investment of money) were started. Since many projects under priority axis 1 deal with R&D it is questionable whether the nature of these innovation projects lead to quick wins.

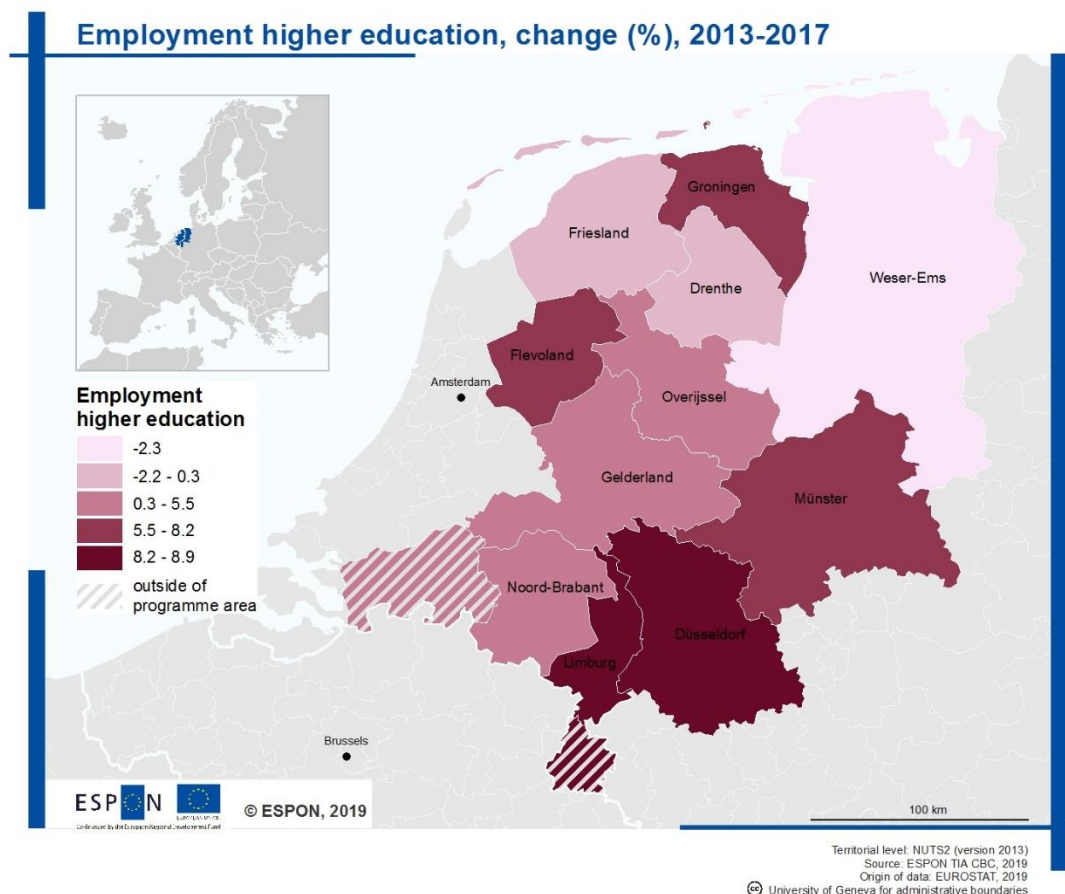
Map 1.7: Unemployment



The respective data for the development of the employment situation in the programming area was found for the year 2015-2017 at the NUTS 2 level [lfst_r_lfu3rt]). It shows a very positive development beginning with the second year of the programming period 2015. Unemployment has declined in all NUTS 2 regions. With respect to this indicator, there is a certain national pattern since the positive development has been stronger in the Dutch regions than in the German NUTS 2 territories. There has been no special disadvantage of German NUTS 2 regions with respect to funding from the programme during these years. In this respect, the effect cannot be related to the execution of the programme. As discussed in workshop 1, one cannot determine a net contribution of the programme in relation to the investments. As emphasized by the programme secretariat, the general reduction of unemployment is not an official objective of the programme and hence cannot be relevant for programme evaluation. Nevertheless, it is interesting with respect to a broader impact of the programme to discuss whether effects on employment can be detected. According to the dimension of the size of labour market in the programme territory and the limitations of the programme, effects cannot be determined. As one illustration: the target of “creating direct new jobs” under priority axis 1 (innovation) is according to figures from the secretariat around 180. This is in a region of more than 12 million inhabitants not relevant. It was discussed in Workshop 1 that even more detailed data on certain branches or sectors would not necessarily lead to relevant in-

formation for assessing the impact of the programme. Even for different branches, the number of supported companies or positions are relatively minor compared to the number of jobs in the programme area. It was said that even the number of additional scientists would be difficult to assess with respect to the real employment effect. It is often not clear whether a project created extra fte capacities or has been taken over by existing staff.

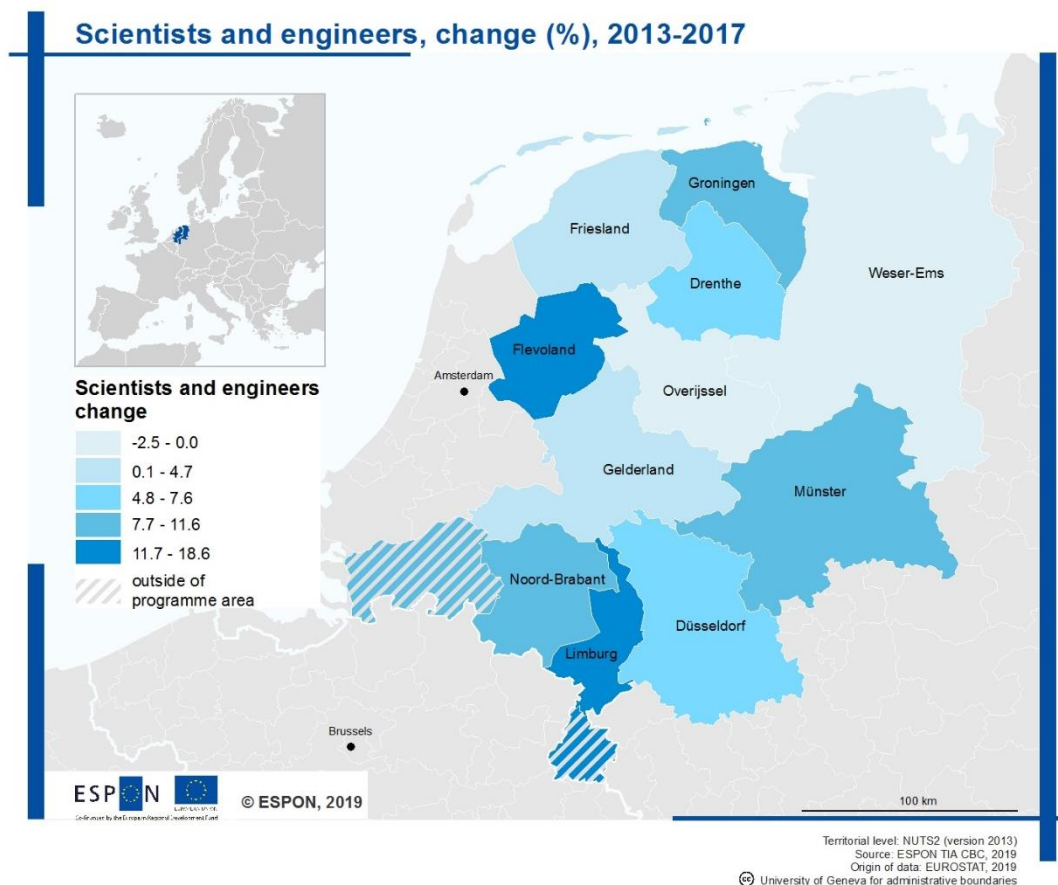
Map 1.8: Employment with higher Education



In order to learn more about the stimulation of high skilled personnel one employment indicator was chosen targeting persons with tertiary education and/or employed in science and technology (available at the level of NUTS 2 regions [hrst_st_rcat]). The map show a very heterogeneous picture with a positive or very positive trend in most of the regions. Again there is no national pattern but there are differences in both Member States.

It was discussed in Workshop 1 that even more detailed data on certain branches or sectors would not necessarily lead to relevant information for assessing the impact of the programme. Even for different branches, the number of supported companies or positions are relatively minor compared to the number of jobs in the programme area.

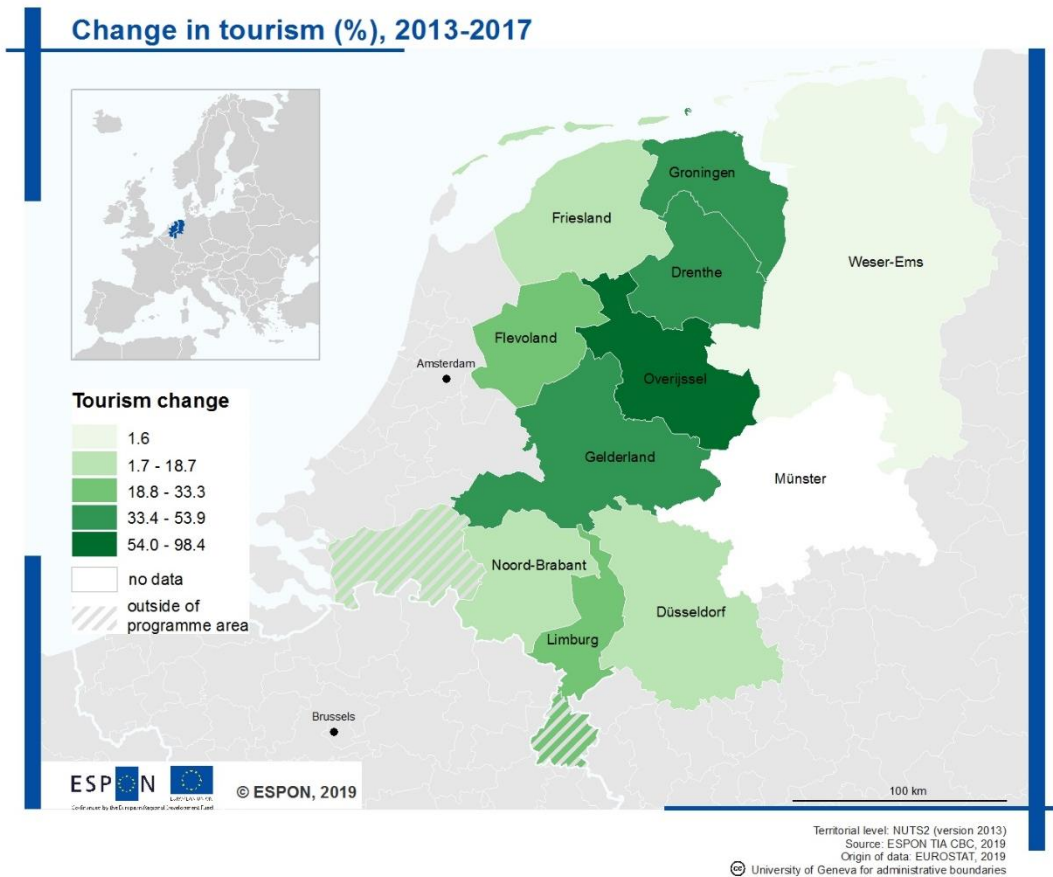
Map 1.9: Scientist and engineers



An additional indicator with respect to the development on the labour market was a special indicator on the employment of scientists and engineers in relation to the active population (Eurostat hrst_st_rcat). The intervention logic under Priority Axis 1 is to stimulate innovation and R&D where supposedly scientists and engineers are needed. The map shows a very heterogeneous picture not surprisingly rather compatible to the previous map on the employment of persons with higher education. There has been in most of the Nuts 2 regions a remarkable increase in the employment of scientist and engineers.

It was discussed in workshop 1 that it would be not feasible to assess the net impact of the programme on the employment of additional scientists.

Map 1.10: Change in tourism

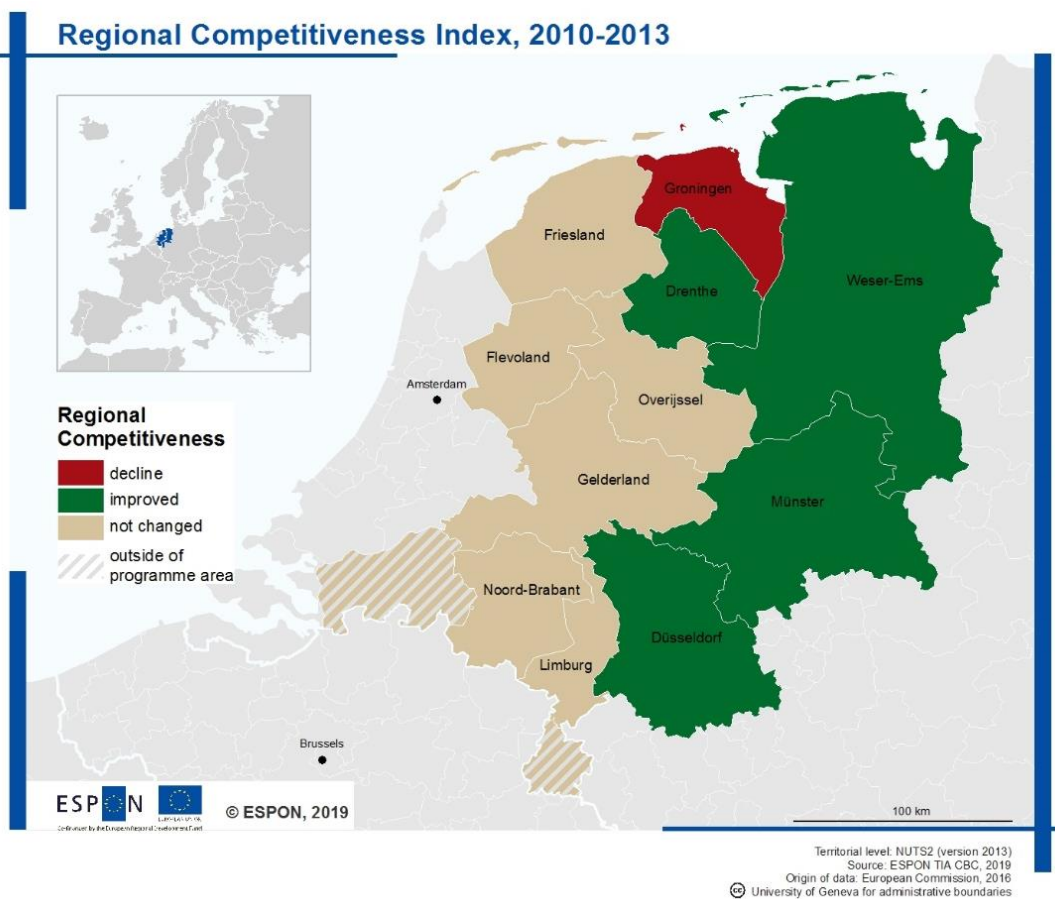


Since there are under Priority Axis 2 a few projects that are established to stimulate tourism nature and cultural heritage, the researchers also chose an available tourism indicator.¹⁹ The differences of the number of tourists in the programme area between the year 2013 and 2017 is measure by “Nights spent at tourist accommodation establishments by NUTS 2 regions [tour_occ_nin2]”. In all of the regions, there were more overnights stays in 2017 as in 2013. Especially in some Dutch regions (Gelderland, Overijssel, Drenthe, Groningen), the increase was remarkable. The own performance indicator with respect to additional visitors of supported projects in the field of nature and cultural heritage has been set at 50,000 additional visitors. It is not likely that the programme has an impact on overnight stays that could be measured or where a net impact determination could be calculated. In comparison: The number of overnight stays in the city of Düsseldorf alone (part of the programme area) saw a rise of 4.6% in 2017, to a total of 4,817,579.²⁰

¹⁹ This indicator was chosen mainly since the stimulation of tourism has been an objective of the other programmes and this indicators also illustrates the problem of net-contribution. The programme secretariat has pointed out that the increase of tourism is not a major goal of the programme.

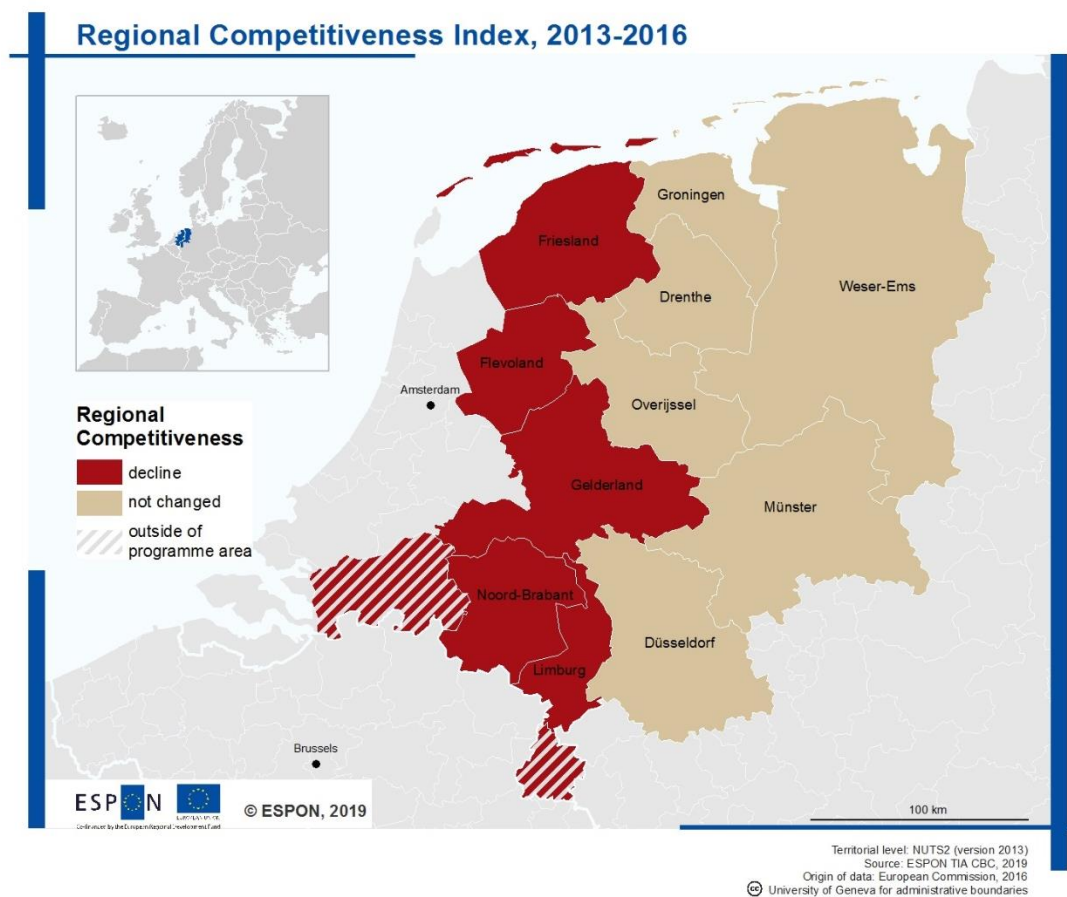
²⁰ See: City of Düsseldorf, press release, Record numbers: Guest arrivals once again rise in Düsseldorf, retrieved on 17.1. 2018, <https://www.duesseldorf-tourismus.de/en/corporate-communications/tourist-destination/tourist-facts-and-figures/>

Map 1.11: Regional Competitiveness Index, 2010-2013



Since under Priority Axis 1 innovation is the main objective, one underlying idea is the improvement of the competitiveness of the entire border territory. Hence, as an extra indicator next to the list of common indicators a map was produced with data from the Regional Competitiveness Index of the European Commission. The European Commission provides data on changes per region if there is a deviation from the last index (2013) above a range of 5%. A rather surprising development is displayed by Map 1.12: almost half of the NUTS 2 regions of the programme area declined by more than 5% on the index whereas the other half have been stable. The data are especially interesting if one compares the previous development from 2011-2013 (see table above). All the German NUTS 2 regions and one Dutch (Drenthe) improved their performance by more than 5%, whereas only one Dutch region (Groningen) declined.

Map 1.12: Regional Competitiveness Index, 2013-2016



The European Commission uses inter alia data on innovation, labour market efficiency, tech readiness of enterprises and citizens and business sophistication. In fact, the index based on the data is providing a broader picture of the development of competitiveness of a certain NUTS 2 regions. However, the index is not useful with respect to assessing the impact of the programme. As in the case of the Regional Innovation Scoreboard, also the Regional Competitiveness Index does not really show the situation up to the year 2016 as the compared periods suggest. The negative trend from 2013-2016 does not match with the programming period since there no data is used from the year 2016. For the different indicators, the main data goes back to the year 2013/2014. In this respect, it is no indication that the programme has not delivered positive impacts on the innovation aspect of competitiveness. One general problem of applying indicators related to both the Regional Competitiveness Index and the Regional Innovation Scoreboard is that the data is not referring to the actual programme period (other than the titles suggest). Even if more recent data would be available, the schemes – determined by the specific indicators- are not rewarding particular improvements in regional cross-border cooperation. There are not special indicators on showing the quality of cross-border activities related to competitiveness.

One additional reason for the problem of the application of the “tested” common quantitative socio-economic indicators is the scope of the Germany-Netherlands programme that focuses

very much on product and process innovation of companies and the reduction of barrier effects of the border for citizens and institutions .

This means, that the general stimulation of employment, tourism, investments etc. is not the focus of the programme. On the other hand, for the objectives of the programme, no meaningful quantitative data were available that could indicate the real effects of the programme on job creation related to innovation projects at the level of certain SMEs or the stimulation on patents, etc.. And for the priority “reducing the barrier effects of the border”, quantitative data other than the programme’s own performance indicators were not available and the production of meaningful additional data not possible due to the limited resources of the case study.

As a result, the idea of a net impact determination of programme investments related to quantitative socio-economic impacts has been not feasible for the Programme Germany-Netherlands

Net determination of qualitative indicators

As described in the case study handbook, the preferable setting of the impact assessment itself depends on the impacts to be assessed and the composition of the panel. Since the qualitative indicators assessed were situated in different thematic fields, the group of participants for workshop 2 was deliberately divers bringing together experts in the field and related to projects and programme. The workshop started with a full panel moderated discussion describing the nature of each indicator (European Integration, socio-economic, cross-border cohesion) and the problems encountered in workshop 1 with respect to the net determination of quantitative indicators. Each indicator was presented one after another by the moderators. The specific problem with the chosen qualitative indicators has been, that no maps could be produced beforehand. There were no qualitative data available. In this respect, the workshop had to deliver both: producing qualitative data with respect to the situation against the base year, and assessing the impact of the programme vis-à-vis these assessments. For this purpose, three groups were formed that went into discussion with the help of posters displaying each a third of the entire list of indicators. The three sub-groups composed of stakeholders with diverse backgrounds (red, yellow and blue group, see IAM). The groups were asked to exchange their opinion on how to fill in the field of the IAM for this indicator. In a first step the participants were asked to judge upon the development of each indicator with respect to the base year. In fact, the question was how positive the participants assessed the situation today against the baseline on a scale from 0-2. By doing so, they produced the missing qualitative data, meaning their expert judgement on the general development in a qualitative sense. As a second step, they assessed the impact of the programme on the previously assessed development on a magnitude from 0-2. With respect to indicators linked to PA 1 (innovation), special assessments were made for innovation linked to CO₂-reduction (marked with CO₂ in the matrix).

In the end, the moderator and the groups discussed and presented the results from the three groups to the whole panel. With the different scores of the three sub-groups, an average

score was calculated per indicator. When at least one group described an indicator as not being appropriate in the context of the Germany-Netherlands INTERREG programme, a “/” was added. Moreover, when at least one group considered itself not to be able to assess the indicator or was of the opinion that this indicator cannot be assessed in the programme’s context, a “?” was added. Consequently, in the IAM table, average values vary on a scale from 0 to 2 and are sometimes described as “not appropriate” (/) or as “not possible to assess” (?).

The experts were not in a position to make consistent sub-regional assessments (see 1.4.3), however for some indicators they gave different values to the German and Dutch territory of the programme area or added remarks with respect to a north-south divide. For single indicators, some remarks were added to express opinions on special conditions related to a parts of the border region. This is included in the comments attached to some indicators.

1.4.3.3 Net impact determination for the sub-regional level

The programme secretariat provided the following table indicating planned eligible costs of projects. This table shows in principle the allocation on the basis of the location of each project partner.

Table 1.8: Planned Eligible costs per Nuts 3 Region, February 2019

	NUTS 3 Region	Eligible costs EUR
NL226	Arnhem/Nijmegen	33,939,955.85
NL221	Veluwe	32,182,046.40
DEA34	Borken	30,319,250.90
DEA1B	Kleve	29,786,441.18
NL111	Oost-Groningen	28,930,173.25
	Sonstige DE	24,793,590.90
DEA33	Münster, kreisfreie Stadt	23,499,297.67
NL113	Overig Groningen	22,393,107.44
NL213	Twente	21,965,512.10
NL421	Noord-Limburg	14,141,822.35
DE949	Emsland	13,817,437.87
DEA11	Stadt Düsseldorf	12,953,143.34
DEA14	Krefeld, kreisfreie Stadt	12,468,401.31
DEA15	Mönchengladbach, kreisfreie Stadt	11,276,813.32
	Overig NL	10,562,763.68
NL225	Achterhoek	1,044,1767.5
NL414	Zuidoost-Noord-Brabant	9,917,515.86
DEA1F	Wesel	9,291,700.56
DE94E	Osnabrück, Landkreis	6,112,944.90
DE944	Osnabrück, kreisfreie Stadt	5,698,568.70
DEA12	Duisburg, kreisfreie Stadt	5,574,728.35
NL121	Noord-Friesland	5,509,173.87
NL131	Noord-Drenthe	5,172,966.74
DEA37	Steinfurt	5,120,171.11
NL211	Noord-Overijssel	4,171,511.65
DE94C	Leer	3,998,328.19

	NUTS 3 Region	Eligible costs EUR
NL132	Zuidoost-Drenthe	3,817,307.68
DE943	Stadt Oldenburg	3,718,081.44
DEA13	Sonstige DE	3,627,928.15
NL413	Noordoost-Noord-Brabant	3,330,287.97
DE942	Emden, Kreisfreie Stadt	2,972,157.62
NL422	Middel-Limburg	255,2542.4
NL212	Zuidwest-Overijssel	2,487,688.75
DEA1E	Viersen	2,236,853.08
NL230	Flevoland	1,343,601.25
DE94B	Grafschaft Bentheim	1,325,973.16
DEA38	Warendorf	935,641.70
DE94A	Friesland (DE)	890,687.40
DEA35	Coesfeld	818,407.30
NL122	Zuidwest-Friesland	640,912.40
NL133	Zuidwest-Drenthe	553,732.70
NL224	Zuidwest-Gelderland	388,050.75
DEA1D	Rhein-Kreis Neuss	354,390.95
DE948	Cloppenburg	320,076.00
NL123	Zuidoost-Friesland	270,355.65
NL112	Delfzijl en omgeving	251,318.75
DE945	Stadt Wilhelmshaven	199,635.20
DE94D	Landkreis Oldenburg	140,000.00
DE94F	Landkreis Vechta	105,168.75
DE946	Ammerland	97,750.00
DE947	Aurich	94,666.25

Source: Programme Secretariat, 2019

It is nevertheless not a final list of the allocation of funds by Nuts 3 region. For those projects for which most of the actual project partners only become known during project implementation, the planned eligible costs of these prospective partners are listed under the lead partner and are therefore also assigned to the location of the lead partner

In this sense, it was made clear by the programme secretariat that it would be not helpful to publish figures or tables with these types of sub-regional allocations since they show to some extent a distorted picture.

Next to these practical problems, are more fundamental problems with respect to the determination of a certain net impact of programme investments related to sub-regions. In calculating the net impact, one has to assume that the legal seat of certain lead partner and other project partners mean that the investment is made in the specific territory of the partners and the effects will occur there.

Given the cross-border and cross-regional nature of many projects (stimulating networks beyond the sub-region or even programme area) is not evident that the effect is limited to the territory in question (certainly not at the level of NUTS 3). Striking examples of the current programming period are projects led by the different Euregions related to the establishment of

cross-border information points (under Priority Axis 2). These points are created to provide information to citizens and businesses on border questions and how to overcome obstacles. The assistance is not limited to citizens or companies established in the particular NUTS 3 or NUTS 2 region of the information point. Moreover, one decisive element of these information points is the coordination of activities across the programme territory. In fact, the network is creating synergies for the entire German-Dutch border. A net impact determination of the invested INTERREG contribution that is limited to a certain NUTS 2 or NUTS 3 region is according to the situation of the Dutch-German programme not in accordance with the nature of cross-border projects.

1.4.3.4 Impact Assessment Matrix

The results of each working step of the TIA process have fed into the Impact Assessment Matrix (IAM), representing the combined input of the case study team as well as the experts taking part in the TIA workshops. The IAM provides a comprehensive overview of those working step results and is the basis on which the textual impact assessment in the following section is formulated. The impact assessment matrix deviates from the original format in the Case Study handbook as a result of discussions in workshop 1. For the reasons explained earlier, the quantitative indicators were not included in the net impact assessment. The matrix shows the results with respect to the qualitative indicators and the data provided by Workshop 2. With respect to indicators linked to innovation, special assessments were made for innovation linked to CO₂-reduction (marked with CO₂ in the matrix).

As explained in 1.4.3, for methodological reasons the assessment was made for the entire programme area and not split into Nuts 3 sub-regions. The number of Nuts 2 regions (11) and Nuts 3 regions (51) in the programme area is exceptional higher than in the programme areas of the other pilots. In addition, the programme area does not cover the entire territory of all Nuts 2 regions. As stated above, most of the projects are conducted by cross-regional partnerships and pursue cross-regional objectives. In some projects, even partners outside the programme area are participating. The impacts are in this sense by nature not limited to certain sub-regions. If sub-regional impacts and difference were discussed, this is shown in the justification/note section of the matrix.

Table 1.9: The Impact Assessment Matrix

Indicator	Assessment method		Programme area development 0 No positive development 1 Positive 2 Very positive development	Impact Programme on area 0 No impact 1 Impact 2 High impact
1. Sensitization of SME with regard to product and process innovation (in general and in the field of CO ₂ reduction)	Qualitative	Magnitude (0-2)	<i>Development of the indicator</i> 1.33 CO ₂ : 1.0	<i>Influence of the programme</i> 1.67 CO ₂ : 1.33
		Justification, Notes	A big effort has been made to integrate SME in the programme; now, there is a focus on SME business, which has been stimulated by INTERREG; knowledge production mostly happens separately from SME in research institutions; INTERREG plays a role when connecting SME and research institutions	
2. Share of common initiatives for cross-border research and to access funding	Qualitative	Magnitude (0-2)	<i>Development of the indicator</i> 0.67	<i>Influence of the programme</i> 1
		Justification, Notes	limited development; not within the reach of INTERREG	
3. Quality of cross-border research	Qualitative	Magnitude (0-2)	<i>Development of the indicator</i> 0.67	<i>Influence of the programme</i> 0.67
		Justification, Notes	yellow group: no big change of quality during the past years; however, a raise of the quantity of cross-border research is observed; red group: does not agree: quality has also risen	
4. INTERREG projects which lead to patent applications and to the application of new technologies	Qualitative	Magnitude (0-2)	<i>Development of the indicator</i> 1.33	<i>Influence of the programme</i> 1.33
		Justification, Notes	It is difficult to know whether INTERREG projects lead to patent applications since this is not always reported or registered.	
5. Cross-border energy/CO ₂ infrastructure projects	Qualitative	Magnitude (0-2)	<i>Development of the indicator</i> 1	<i>Influence of the programme</i> 1.33
		Justification, Notes	This has become much more important during the past years – but generally the importance of the CO ₂ -topic has risen; big influence of INTERREG even though it is hard to implement projects being faced with different energy markets and complex situations	

Indicator	Assessment method		Programme area development 0 No positive development 1 Positive 2 Very positive development	Impact Programme on area 0 No impact 1 Impact 2 High impact
(In comparison to previous years:) The quality of cross-border cooperation of:	Qualitative	Magnitude (0-2)	<i>Development of the indicator</i> 6) 1.33 7) 1.33 8) 1 9) 1 10) 1 11) 0.67 12) 1 13) 1 or ? 14) 1.5	<i>Influence of the programme</i> 6) 1.33 to 1.67 7) 1.33 to 1.67 8) 1 to 1.33 9) 1.33 to 1.67 10) 1.67 11) 0.67 to 1 12) 1 13) 1 or ? 14) 0
6. municipalities 7. employment services 8. educational institutions (9. cultural organisations) 10. hospitals/ambulances 11. tax authorities (12. police forces) (13. disaster management) 14. public transport organisations		Justification, Notes	6) better cooperation than 4 years ago, can be attributed to INTERREG 7) very positive development, has much improved; new projects with new employees have been created; gathering of common data; many initiatives would (above all financially) not be possible without INTERREG, e.g. when it comes to the GIPs 8) no comments 9) no comments 10) no comments 11) the respective tax systems have remained the same (national and not regional responsibility) but the quality of consultation for citizens has improved; however, other groups perceive this differently! 12) good cooperation thanks to INTERREG but this depends on the respective region (e.g. very positive experiences in the two northern Euregios) 13) Euregio Rhein-Waal: very good development, common meetings and training every 2 months 14) This is very dependent on the respective region; some participants state that it has become much more natural e.g. through a cross-border train-line; others say that projects in their regions have failed (e.g. Euregio Rhein-Waal, train between Kleve and Nijmegen); however, this is not due to INTERREG but to the cooperation between public institutions; some infrastructure projects cannot be funded by the German state due to legal reasons; other developments such as a new Flixbus line between Düsseldorf and Eindhoven for € 12 are also independent from INTERREG but anyways improve the situation of cross-border cooperation	

Indicator	Assessment method		Programme area development 0 No positive development 1 Positive 2 Very positive development	Impact Programme on area 0 No impact 1 Impact 2 High impact
15. Functioning of the governance system in the broader sense: functioning of cross-border organisations/networks/instruments	Qualitative	Magnitude (0-2)	<i>Development of the indicator</i> 1.33	<i>Influence of the programme</i> 1.33
		Justification, Notes	frequent bilateral meetings, systems are more closely connected without creating additional cross-border institutions or structures; INTERREG is supporting this	
16. Functioning of Euregios compared to previous years	Qualitative	Magnitude (0-2)	<i>Development of the indicator</i> 0.67 – 1	<i>Influence of the programme</i> 1 to 1.33
		Justification, Notes	already worked very well before the current funding period; for the German part the “European ideal” counts more whereas for the Dutch part the funding by the EU is more important; the Dutch-German Euregios are already on a very high level in comparison to other border regions; increasing the quality of cooperation is difficult at this point; at the same time, the conditions are very good: similar language and intercultural differences not that big (in comparison for example to Germany/Poland)	
Bureaucracy/complexity of cross-border activities of citizens/employees/companies compared to previous years and with regard to	Qualitative	Magnitude (0-2)	<i>Development of the indicator</i> 17) 0 or/(described as not appropriate, see justification) 18) 0 or ? (no assessment possible) or/(described as not appropriate) 19) 1 or/(described as not appropriate) 20) 0 or/(described as not appropriate)	<i>Influence of the programme</i> 17) 0.5 or/(described as not appropriate, see justification) 18) 0 or ? or/(described as not appropriate, see justification) 19) 1.5 or/(described as not appropriate, see justification) 20) 0.5 or/(described as not appropriate, see justification)
17. taxes 18. social security 19. professional training 20. Housing		Justification, Notes	17) not within the scope of INTERREG and not even part of regional but national competence 18) no comments 19) no comments 20) participants are not aware of any INTERREG projects in the domain of cross-border housing	
Mobility compared to previous years (related to transport)	Qualitative	Magnitude (0-2)	<i>Development of the indicator</i> 21) 0.67 22) 0.5 or/(described as not appropriate) 23) 1 or ? (no assessment possible) or/(described as not appropriate)	<i>Influence of the programme</i> 21) 0.33 22) 0.5 or/(described as not appropriate) 23) 1 or ? (no assessment possible) or/(described as not appropriate)

Indicator	Assessment method		Programme area development 0 No positive development 1 Positive 2 Very positive development	Impact Programme on area 0 No impact 1 Impact 2 High impact
21. potential accessibility of the cross-border territory by road/rail/air 22. cross-border infrastructure projects in the sector of traffic 23. cross-border public transport connections		Justification, Notes	These questions highly depend on the specific parts of the programme area. While in some sub-regions transnational public transport has improved during past years (often thanks to INTERREG projects), the situation is different for other sub-regions. Some participants state that the programme area is too vast to assess this indicator for the whole territory.	
Mind-set of citizens/companies with regard to	Qualitative	Magnitude (0-2)	<i>Development of the indicator</i> 24) 1.33 (citizens)/0.83 (comp.) 25) 1.67 26) 1 or ? (no assessment possible) 27) 0.67 (citizens)/0.67 (companies)	<i>Influence of the programme</i> 24) 0.83 (citizens)/0.67 (companies) 25) 1 26) 1 or ? (no assessment possible) 27) 0.67
24. cross-border institutions 25. the regions across the border 26. the EU 27. European projects (INTER-REG)		Justification, Notes	24) citizens attitude is more positive than the one of companies; generally, INTERREG is more important to citizens than to companies 25)/ 26) INTERREG has a very positive influence on what people think of the EU; this is not because people understand that it is an EU funded programme but because links across the border are established; BREXIT has a positive impact on people's attitude towards the EU -> people have realised which importance the EU has 27) there are numerous positive experiences with cross-border projects but people do not always know that these are EU funded; they have seldomly heard of the programme INTERREG; however, the financing by the European Union is noticed; some participants state that this is not important – as long as people participate in the projects they don't need to know about the funding and the connection to the EU (also see point above)	
Access to employment services in the neighbouring country	Qualitative	Magnitude (0-2)	<i>Development of the indicator</i> 28) Germany: 1.67 (citizens), 1.67 (companies); Netherlands: 1.67 (citizens), 1 (companies) 29) 1.5 or ? (no assessment possible)	<i>Influence of the programme</i> 28) Germany: 1.67; Netherlands: 1.33 29) Germany: 1 or ? (no assessment possible); Netherlands: 0.67
28. individual consulting (today/previous years) 29. Access to digital systems for cross-border worker, employers and citizens		Justification, Notes	28) very positive development; without INTERREG many initiatives would not be possible 29) (digital) information is better accessible for citizens, but this is not a result of INTERREG	

Indicator	Assessment method		Programme area development 0 No positive development 1 Positive 2 Very positive development	Impact Programme on area 0 No impact 1 Impact 2 High impact
Development of cross-border education	Qualitative	Magnitude (0-2)	<i>Development of the indicator</i> 30) Germany: 0.67; Netherlands: 1.33 31) Ger: 0.33; NI: 1 32) 0 or ? (no assessment possible) (citizens)/0.67 (companies) 33) 0	<i>Influence of the programme</i> 30) Germany: 0.67; Netherlands: 1.33 31) Germany: 0.33 to 0.67; Netherlands: 1 to 1.33 32) 1.33 33) 0.33 to 0.67
30. General understanding of the neighbour language 31. Development of hours of lessons in the neighbouring language 32. duration and cost of recognition of professional qualifications and competences 33. cross-border bi-diploma/cross-border coordination of professional training		Justification, Notes	30) generally: the knowledge of neighbouring languages has decreases over the past 20 years, it is a question of generations; for many things, English has become much more important (e.g. study programmes at Dutch universities are mostly in English); however, on the basis of "today's reality" the trend is positive: during the past 4 years, a positive influence has been noticed and the interest in the neighbouring language has risen; big difference between places which are very close to the border and those which are further away (15 km is already "far") 31) hours of German lessons in NL has decreased, is not compulsory anymore 32) big difference between "official recognition" and "acceptance" of foreign diplomas (the latter being more important in the end); the non-recognition of diplomas or competences mainly causes negative reactions when it comes to understaffed professions such as in social care 33) bi-diplomas are still very rare; however, participants argue that this is not necessary when professional qualifications are recognized	

1.5 Territorial Impact Assessment

1.5.1 Summary of main findings

According to the debate on appropriate indicator in Workshop 1 of the case study, the experts agreed that for them it was not possible to assess the net impact of the programme with respect to general socio-economic developments. As indicated in the summary, there are some reasons why this is explicitly difficult for the “Netherlands-Germany” programme. In the first place, the programme area is exceptional big with respect to population and economic activities. The investment of the INTERREG programme is in this respect rather marginal. Experts questioned in general that the investments are significant enough to create impacts that can be shown with respect to employment, GDP, general competitiveness or innovation. The second reason is the lack of specific data (on the NUTS 3 level) on the two priority axes “innovation” and “reduction of barrier effects of the border”. For the second priority axis, socio-economic indicators are not helpful to measure any impact on the quality of cross-border cooperation or the barriers in a broader sense for citizens and companies.

In Workshop 2, experts produced in the first round qualitative data with respect to the development of the programme areas for different indicators focusing on the two priority axes (innovation and reduction of barrier effects of the border). In a second step they assessed the impact of the programme on these developments. The findings are described in the impact assessment matrix describing the scores for the different indicators related to the general development of the programme area. The expert gave numbers from 0 to 2, describing whether the developments can be described as positive (with the score 2 as being very positive). The second score was given with respect to the impact of the programme on a certain development in a policy sector. Starting from 0 (no impact) and ending with 2 (high impact). The following description provides an overview on the findings and will use the categories “no positive development” (0-0.4), “positive development” (0.5-1.4) and “very positive development” (1.5-2). For the impact of the programme the categories are ‘no impact’ (0-0.4), impact (0.5-1.5) and “high impact” (1.5-2).

The general development of the *sensitization of SMEs* in the programme area with regard to product and process innovation was assessed positive with 1,33. The influence of the programme on the sensitization was assessed with 1,67 as very high. It was stated by the experts that INTERREG plays a vital role when connecting SMEs and research institutions. With respect to CO₂ related matters, the sensitization of SMEs was assessed slightly lower with 1.0 for the general development and 1.33 with respect to the impact of the programme.

The general development with respect to the share of *cross-border research initiatives* was assessed as positive but with a lower score (0.67). This refers as well to the quality of cross-border research (0.67). The influence of the programme on these aspects has been given a score 1 (impact on the share) and a 0.67 with respect to the impact on the quality. However, the experts did express different views. Whereas one group saw no special improvement of the quality of cross-border research, the other group did.

The experts however jointly agreed on a positive trend with respect to *patent applications* (1.33) with an impact of the programme (1.33).

The development in the field of *Cross-border energy/CO2 infra-structure projects CO₂-reduction* has been assessed positive with a score 1, whereas the impact of the programme was assessed with a score 1.33. In an explanatory remark, experts said that INTERREG has a big influence but it was hard to implement projects “being faced with different energy markets and complex situations”.

In the following, the experts assessed the *development of the quality of cross-border cooperation* for different stakeholders. They stated a positive trend (1.33) with respect to the cooperation of municipalities, employment services (1.33) and a very positive with respect to public transport organisations (1.5). Nevertheless, the experiences were very dependent on the sub-regional experiences. Some experts stated that cooperation has become much more natural e.g. through a cross-border train-line; others say that projects in their regions have failed.

Different from the reported improvements with respect to the transport organisations, the experts experienced less improvement related to the cooperation of tax authorities (0,67). In between was the assessment of the cooperation of educational institutions (1.0), cultural organisations (1.0), hospitals/ambulances (1.), police forces (1.0). For disaster management, some of the expert could not make a judgement, whereas others referred to positive developments in a particular sub-region (Euregion Rhine-Waal: “very good development, common meetings and training every 2 months”).

The experts noted an impact or high impact of the programme with respect to the cooperation of municipalities, employment services and cultural organisations (1.33-1.67).²¹ and an impact on educational organisations (1-1.33) Whereas the impact of the programme was less important in relation to tax authorities (0.67-1), police forces (1) and disaster management (1)²². The impact of the programme on the cooperation of transport organisation was assessed as “no impact” with a score 0. This was explained by the fact that transport has been not a focus of the programme.

Also with respect to the quality of the cross-border governance system, the picture has been diverse: the development of the governance system in a broader sense is assessed as positive (1.33) whereas the functioning of the Euregions has been described by the experts as “stable” (since they are regarded as well functioning) with the score “positive” (0.67-1). It is important to note that the experts concluded in their explanatory remarks that the Dutch-German Euregions are already operating on a very high level in comparison to other border regions.

²¹ In this case, one out of three expert groups gave a score of 1 or 2, whereas the average score of the groups together is either 1.33 or 1.67)

²² One group decided not to make a judgement on disaster management.

What has been the influence of the INTERREG programme in this matter: the experts assessed the impact on the governance situation with an 1.33. The influence on the functioning of the Euregions was assessed with the same score 1.33.

The experts were hesitant to judge upon the question of increased or reduced legal, bureaucratic or administrative obstacles for citizens and companies. There was no clear assessment of the situation in the field of taxes, social security, professional training or housing. Most of the participants of the workshop did not want make judgments and referred to developments that are driven by national agendas and not by developments in the border region.

Judgements were made with respect to the general accessibility of the territory by road/train/air. The development was seen positive but with a low score of 0.67. However in this field, the experts pointed out that there are huge regional differences and that the programme area is too vast to assess that for the whole. The impact of the programme on accessibility was assessed as comparatively low with 0.33. This refers to the general remarks of experts that there was no focus on transport projects in the programme. Also with respect to the development of cross-border infrastructure projects and cross-border public transport connections part of the expert did not make a judgement or regarded the questions as not appropriate with respect to the programme.

A rather divers picture can be detected with respect to the development of *the mindset of citizens and companies* with respect to cross-border institutions. The development with respect to the attitude of citizens has been assessed more positive with 1,33 than the score for companies (0.83).

The impact of the INTERREG programme on the mindset of citizens on Euregional institutions is assessed with a 0.83 for citizens and a lower score of 0.67 for companies. In an explanatory note, experts concluded that INTERREG was more important for citizens than for companies.

A very positive development is detected regarding the attitude towards the neighbouring border region. The experts gave a score of 1.67. The experts assessed the impact of the programme on this development with an score of 1.

A positive development (but with a lower score of 1) was seen with respect to the attitude of citizens and companies towards the EU. The was assessed with a score of 1.²³ Finally, the experts assessed that there is a rather small improvement with respect to the attitude towards European programmes as INTERREG both for citizens (0.67) and companies (0.67). One explanation given by the experts was that there were numerous positive experiences with cross-border projects but people do not always know that these are EU funded.

²³ Also with respect to this indicator, one experts group did not judge upon the question.

The impact of the programme on the attitude towards European Programmes has been assessed with a modest score of 0.67 for both companies and citizens.

A very diverse picture was given with regards to the quality of the access to employment services in the neighbouring country. The experts made in this case a distinction between the German employment services and the Dutch of the programme territory. The development with respect to individual consulting was seen as very positive, both assessed with a 1.67 for the German and Dutch parts with respect to citizens. For companies the development was for the German situation also assessed as very positive (1.67) and the Dutch as positive (1). The digital accessibility was assessed as very positive for the services in both countries (1.5).²⁴

What was the assessment of the impact of the programme in this respect? Concerning individual consulting services, the judgement for Germany was very high (1.67) and for the Dutch service a bit lower (1.33). The impact on the accessibility to the neighbouring digital systems was regarded as lower with a score of 1 for the German and 0.67 for the Dutch situation.

Also in the field of education, a diverse picture was presented with respect to the understanding of the neighbouring language. The experts in general concluded that there has been a downward trend for the last 20 years with respect to cross-border language skills. On the Dutch side the understanding of German was still better than Dutch on the German side. The expert noted a positive development during the last couple of years given the fact that the interest for the neighbouring language is again increasing. With respect to the development of the general understanding of the neighbour language the experts gave for Germany a score of 0.67 and for the Dutch side a score of 1.33. Concerning the development of hours of lessons the score for Germany is low with 0.33 and for the Netherlands better with 1. Also the impact of the programme is according to the experts diverse: with respect to the general understanding of the language, the score for Germany was 0.67 and for the Dutch part 1.33. The impact of the programme on the actual number of lessons is also seen higher on the Dutch side with a score of 1, compared to a score of 0.33-0.67 for the German situation.

One last indicator related to education was the duration and cost of recognition of professional qualifications and competences. There was a very low score of 0 with respect to the development in this field concerning the situation of citizens (one group abstained from the judgement). A higher score – meaning a more positive development – was experienced for the situation of companies (0.67). In the debate, experts explained that there are big differences between “official recognition” and “acceptance” of foreign diplomas which was often the bigger problem. The influence of the programme with specific projects for schools and employers was assessed with a score of 1.33.

The last indicator dealt with the related question of cross-border bi-diplomas and the cross-border coordination of professional training. There was no positive development experienced

²⁴ One group that did not make a judgement.

by the experts (with a score of 0) in this field. And also the impact of the programme was assessed with a low score (0.33 to 0.67)

1.5.2 Impact on the regions

The idea to break down the impact of the programme at the level of sub-regions (NUTS 2 or 3) was discussed with experts and seen as problematic in the framework of this case study. In meetings with the Programme Secretariat (Germany-Netherlands), the steering group of the research study and during the first Workshop, general concerns were made with respect to such a regional and sub-regional analysis, as most of the projects include the idea of stimulating networks outside the own sub-region. In this sense, the nature of most of the projects would not be appropriate for an assessment of the impact concerning the limited territory of the beneficiaries. “Cross-border” in this sense means as well crossing the borders of sub-regions. Another problem is the available data. Even if there were more detailed socio-economic quantitative indicators available, this would lead to a distorted picture and net-value calculations. As described in the overall methodology, effects on the socio-economic development of the programme territory is only one out of three dimensions of border effects. The two others, namely the impact on aspects of European Integration and cross-border cohesion were assessed by qualitative indicators. In this case the experts were able to describe broader regional differences (i.e. differentiating between the German or Dutch situation, North or South of the programme area).

1.5.3 Qualitative assessment

The most relevant results on the assessment of impacts of the programme have been produced in the second expert Workshop held in November 2018 in Kleve. As a result of the first Workshop, the project team decided to concentrate on qualitative indicators and produce data as a result of expert judgements. A detailed presentation of the results of the second Workshop is given in the impact assessment matrix and in the description of the findings under 1.5.1.

1.6 Methodological commentary for the programme set-up

The assessment of quantitative socio-economic effects has been the biggest challenge of this case study. Reasons were the lack of meaningful data (NUTS 3) with respect to the focus of the programme and the general problem that experts were hesitating to assess a net impact of the programme on socio-economic developments of the programme area. A specific difference related to other programmes is the size of the programme area (population and economic activities), its many Nuts 3 regions and modest INTERREG investments compared to the overall size of the economy. In this case, the experts saw too many other dominating influences that are not related to the programme (also not to other funds). A sub-regional assessment of effects of investments was difficult because of the multitude of Nuts 3 regions, the problem of the precise allocation of investments to a certain region and fundamental

methodological frictions with respect to the transboundary nature of most of the projects described above.

There has been a different picture with respect to the impact on aspects of European Integration and Cross-border cohesion. Here, the impact was more successfully assessed with the formulation of qualitative indicators, the production of qualitative data by an expert group and the application of the expert judgement approach with respect to the net-impact of the programme on certain developments in the programme area.

This discrepancy illustrates how difficult it is to determine quantitative and qualitative indicators that are appropriate instruments to measure the broader impact of the programme. For instance, the “share of all companies with process and product innovation” is not appropriate. That has been for instance one of the results of Workshops 1. There are too many other determinants that influence the development, being it the general economic development or as it is assessed in this case, the limited internal capacities of companies due to filled order books and a positive economic outlook of companies. It was also stated that the perception of the border as a barrier by citizens and organisations does not necessarily correspond to the impact of all activities to ease cross-border activities.

In this respect, also available tools as the “Regional Innovation Scoreboard” that is produced by assessing 18 innovation related indicators does not help (but can be misleading). Half of the NUTS 2 regions in the programme area show lower scores from 2013 to 2017 according to the Scoreboard with respect to their innovation performance. A closer look however shows that most of the data used in the 2017 edition is from 2014 (or even earlier). A balanced mix of indicators related to innovation could deliver assistance with respect to the possible impacts of an INTERREG Programme. But, only if appropriate recent data is used and these data are not limited to the NUTS 2 level.

A similar problem was further illustrated during the attempt of the research team to use some of the earlier proposed common quantitative indicators. In order to assess the general social and economic development of the programme territory, the maps were created on the basis of Eurostat data at the level of mainly NUTS 2. Only a few data were as well available at the level of NUTS 3. The different indicators were discussed in Workshop 1 with experts related to the programme management (from the secretariat and other stakeholders). As in the case of the indicator “companies with process or product innovation”, the indicators chosen were not convincing. It was not evident that one could calculate or assess a certain influence of the programme on general data between base year and the current situation. The tested indicators were on employment, employment of persons with higher education, employment of scientist and engineers, economic growth, population, overnight stays and the performance of regions in the framework of the Regional Competitiveness Index. As a result, it was not possible to calculate a net impact determination on the basis of quantitative indicators. Yet, the maps fulfil an important purpose. They give a more detailed insight into the general development of the programme area with respect to specific socio-economic developments.

1.6.1 TIA Process

In general, the templates were extremely useful for the structuring of the work. The handbook has provided good instructions. The structure of the process was experienced as very helpful. A first kick-off with the programme secretariat was very important to get an overview on the programme and its management. From the beginning, the programme secretariat provided useful documentation, helped with the organisation of the workshop and gave very important advice. The timing of the two workshops was perfect due to the help and the contacts of the programme secretariat. In this case, the approach is dependent on an excellent cooperation with the secretariat. In this respect, this case study was conducted under excellent conditions. The research team faced problems with respect to quantitative socio-economic data. A lot of time was necessary to search for comprehensive data on NUTS 3 level. Given the only two priority axis and the focus on innovation, the full list of common quantitative indicators was not that relevant. Even detailed sets of indicators – as in the framework of the Regional Innovation Index – do lack essential indicators for a cross-border territory. The real impact of the programme is not so much on innovation as on innovation in a cross-border context. One of the findings of this case study is that the programme operates with limited result indicators. The innovation result indicator (share of companies with process and product innovation) has its limitations since it is not referring to the cross-border dimension of innovation and improvement of cross-border activities.

The production of qualitative data with the expert judgments of Workshop II were seen as more stringent. As also stated by the Programme Secretariat, the group of experts represented a good range of different sector expertise and knowledge on regional developments. It is evident, that an assessment of impacts with a more balanced view into different sub-regions is not possible with such a limited number of experts. With much more resources, four different workshops covering different areas could have delivered more in-depth results on regional impacts. If the qualitative element of such an impact assessment is emphasized – what is one of the recommendations of this case study – a concept with more expert workshops would be an option. Nevertheless, there is the methodological problem of reproducing expert workshops. One has to accept the subjective and temporary nature of specific assessments with respect to programmes. There should be a list of minimum requirements with respect to the mix of experts with respect to the sectoral and regional diversity.

1.6.2 Intervention logic

It was feasible to work with the intervention logic scheme that helps to get a grip on the fundamental elements of the programme. In the case of the case study, the programme as such was not that complex. Since there are only two priority axis formulated, the intervention logic is not too complex. That is certainly an advantage compared to other case studies. Hence, it was not necessary to limit the scope of the research. There was much guidance on the question of quantitative indicators and data with respect to the socio-economic impacts of the programme. Less attention was devoted to the question how to produce qualitative data with

respect to the qualitative indicator in the field of European integration and cross-border cohesion. Given the experiences of the case study, it would be necessary to redefine the use and appropriateness of quantitative indicators and describe certain limitations. It would be also helpful to work on a specific set of quantitative cross-border indicators (e.g. number of companies with innovation partner across the border) and discuss the availability or the innovative production of data.

It would be of course also helpful to devote more time on the formulation of qualitative indicators and the question how to produce the data in an expert workshop setting.

1.6.3 Upscaling of the methodology

In principal, the methodology can be used for any CBC programme. As already mentioned, the process demands a rather good coordination with the programme secretariat. Especially if the qualitative element will be emphasized, only the secretariat has the expertise and contacts to find appropriate experts and help to bring them together. If the experiences from this case study are also valid for other cases, there has to be an up-date with respect to the use of quantitative socio-economic indicators, the calculation of net impact determination and the sub-regional dimension. The common indicators should be still grouped around the three dimension. More explanation is necessary whether an indicator is appropriate with respect to the nature of a certain programme.

1.7 Appendix chapter 1

Programme documents, other sources and literature

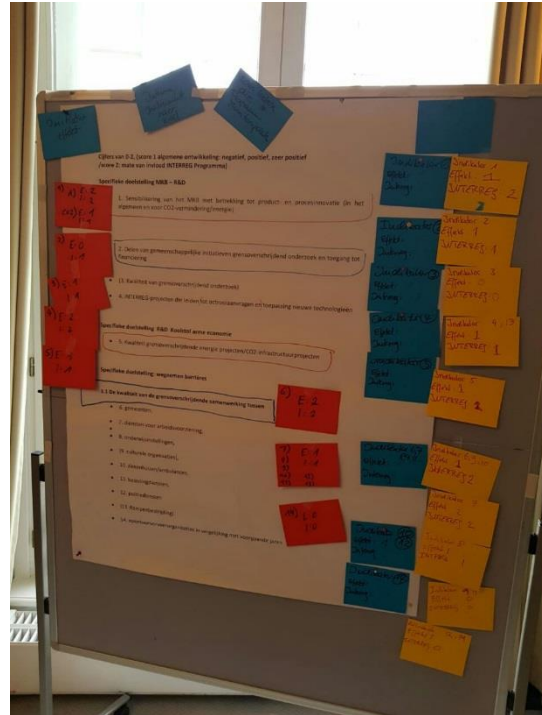
- Programmhandbuch 2014-2020 (Programme Manual)
- Kooperationsprogramm DT-NL 2014-2020 (Cooperation Programme)
- Durchführungsberichte 2014-2017 (Annual Implementation Reports)
- Messung "DE-NI Grenze als Barriere" (Report on the perception of the border as a barrier)
- ExAnte Bewertung INTERREG VA (Ex-Ante evaluation report)
- Sachstand und Analyse der Indikatoren, 2018 (not public)
- Eligible Costs by Nuts 3 Region, Document provided by the programme secretariat (situation January 2019, not public)

Photos of Workshop 2

Participants during Workshop 2



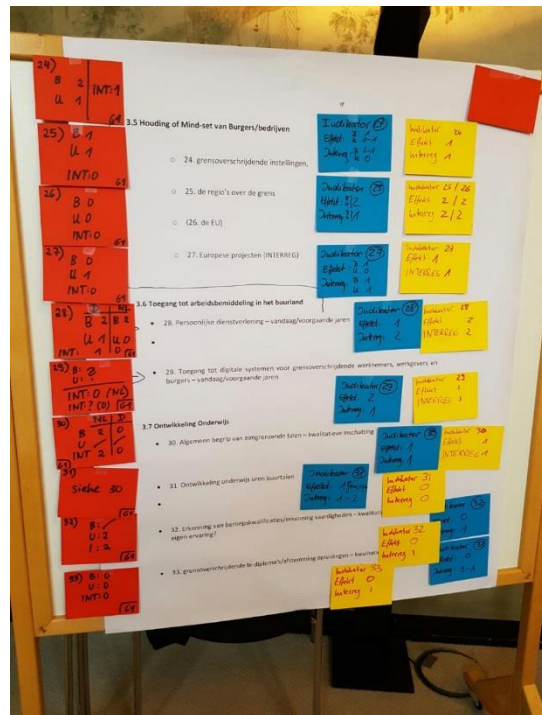
Assessment Results 1



Assessment Results 2



Assessment Results 3



2 Case study Sweden – Norway

2.1 Introduction

This document acts as a scientific report for the ex-post Territorial Impact Assessment procedure for the CBC Programme Sweden-Norway within the ESPON TIA CBC project. As this TIA was conducted as a pilot testing a previously developed methodology, the purpose of the report is threefold:

- Brief politicians and policymakers about the results of the Territorial Impact Assessment
- Give extensive evidence for the Territorial Impact of the Programme
- Comment on the methodology applied and its upscalability to other programmes

For policymakers, an executive summary (section 2.2) is included in the report, giving an overview of the results in around 5 pages and informing about the main conclusions derived from the TIA. All this information is backed in detail by the technical summary of the TIA process (section 2.4) and by the comprehensive description of the territorial impact assessment (section 2.5).

This report is produced for a pilot case study within the ESPON TIA CBC project, therefore the methodology applied will be subject to changes based on the experiences gathered within the case study. Section 2.6 acts as the commentary part, where experiences and suggestions for the further methodological development are recorded. Furthermore, the project shall serve as an input to future CBC programmes regarding the indicators used and gathered to conduct a territorial impact assessment. Thus within section 2.6 suggestions for indicators to be collected in the upcoming programming period are recorded.

Disclaimer: as the methodology applied to produce evidence of the territorial impact of the Sweden-Norway CBC programme includes expert workshops and bases various steps on expert knowledge and opinions. Several measures are undertaken to ensure sound and well justified results, however an element of subjectivity based on the participating experts is inherent to the process. The results are meant to be used for decision support only.

2.2 Executive summary

Title of the programme:	Interreg Sweden-Norway Programme – Inner Scandinavia Sub Region
Version:	CCI 2014TC16RFCB016
First year:	2014
Last year:	2020

Introduction

The concept of a territorial impact assessment (TIA) for cross border programmes aims at showing the regional differentiation of the impact on the programme region of a cross border cooperation (CBC) programme. The focus of analysis in this report is an impact assessment of the Sweden-Norway programme with a focus on the sub-region of Inner Scandinavia. The results are based on the methodology of the ESPON TIA CBC project, which ideally com-

bines both quantitative data and qualitative expert assessments to produce evidence of the territorial distribution of impacts. In the course of the TIA, two expert workshops have been held on the 10th of December 2018 in Hamar (Norway) and on the 8th of January 2019 in Hamar (Norway) with participants from the Interreg Joint Secretariat, Norwegian Managing Authority, and representatives from regional higher education institutes, businesses, and associations. The input gathered from and expert discussions held in these workshops has been translated into the present report by the authors from Nordregio Research Institute (Stockholm, Sweden).

TIA Inner Scandinavia: Specific Objectives

The TIA of Inner Scandinavia highlights the heterogeneous effects of the Sweden-Norway programme on this sub-region. On a regional level, a significant urban-rural distinction can be observed in the overall effects of the programme and in the main focus and volume of spending on projects. The impact of the programme also differentiates in relation to each specific objective of the CBC programme, as outlined in more detail below:

Specific Objective 1: Increase the R&D and innovation capabilities of organisations and enterprises (TO1, PA1)

The main undertakings in this area are focused on increasing the collaboration and knowledge transfers between stakeholders, e.g. by way of networking and skills centres (quadruple- and penta-helix), as well as projects that develop concrete models for introducing new ideas to the market, including testing and demonstrations. Current projects include innovation-network projects in sectors such as green technology and construction. The interviewees stressed that the most significant effect has been the expansion and growth of the innovation ecosystem in Inner Scandinavia. While there have also been a few entirely new clusters, this growth is viewed predominantly as an expansion and deepening of existing networks of co-involved actors. Regarding regional distribution, the one hand, interviewees found that Norwegian regions as a whole are commonly a bit behind the level of innovation and R&D advancement of the Karlstad urban area in Sweden, but on the other hand, in the Swedish national innovation context Karlstad in the relatively peripheral Värmland risks falling behind larger Swedish cluster regions. In this way, growing the available resources and interactions through a cross-border ecosystem becomes mutually beneficial for the regional centres of Inner Scandinavia. Moreover, while the innovation networks are naturally stronger in urban centres than in rural localities, the accessibility and connectivity of many smaller localities has been improved significantly by the increased cross-border connections. The volume of funding by the cross-border programme is spread quite equally across the programme area, but interviewees point out that this does not give the whole picture in terms of effects. The efficiency of funded projects is very contextual and depends on which nodes of the innovation ecosystem are being supported and what their prior connections and capabilities are.

Specific Objective 2: Increase the competitiveness of enterprises (TO3, PA2) and Specific Objective 3: Increase the frequency of establishment in the programme area (TO3, PA2)

The main undertakings of this area have focused on efforts that support the growth opportunities of enterprises, international growth opportunities in particular, e.g. through collaboration, skills training, and method development. Current efforts include projects to strengthen the competitiveness of manufacturing exports and, for example, ecosystems for creative industries, as well as projects to promote and strengthen the region as an international tourism destination. There is also promotion of student entrepreneurship initiatives as well as supporting newly-established SMEs in networking within the cross-border ecosystem. The clearest dimension of cross-border added value concerns the number of companies collaborating across the border: Interviewees estimated that the impact of the Interreg cross-border programme has been particularly decisive for this development, in supporting a networking culture among SMEs through which it has gradually become completely natural to engage with partners and supply chains across the border. The cross-border programme has acted as a facilitator for firms to take advantage of the expanding entrepreneurial networks and a supporter of collaborative scale-up efforts that would not otherwise have taken place. In general terms, Interreg funding has been more effective as a tool for established firms to expand and develop than as start-up seed funding. Moreover, Interreg-funded projects have helped in building up the global tourism competitiveness of the programme area, especially for outdoor and recreation activities. Entrepreneurship and SME growth is naturally more centred in and around more densely populated urban centres in the programme area, but interviewees pointed out that pioneer entrepreneurs and municipalities eager to act as testing grounds can be found in smaller localities across the programme area.

Specific Objective 4: Increase the access to and engagement with the natural and cultural heritage of the cross-border region while maintaining their status of conservation (TO6, PA3)

The main undertakings in this area concern common management projects for cross-border protected natural areas and water bodies, including cooperation in knowledge creation, inventory, and method development (e.g. for natural restoration). Current projects include protecting river ecosystems and species living in the several cross-border water bodies of the programme area, as well as coordination of gamekeeping and conservation of forest mammals living and moving back and forth across the border. Efforts and investment focus in cultural heritage conservation have been much less extensive during the current programme period. It is difficult to link and compare programme-level indicators with specific, project-level activities in this thematic area, and thus it is too early to establishing an overall impact of the undertakings. For example, many of the critically endangered species and vulnerable ecosystems supported by programme projects are yet to show significant signs of recovery. However, in terms of output and activity in mobilising new collaborations and targeting new focus areas, it stands clear that the projects funded by the cross-border programme have performed rea-

sonably well. The undertakings of the cross-border programme are spread across the natural, predominantly rural areas of Inner Scandinavia. Some variation in project intensity between regions and municipalities is linked to the prevailing natural conditions, however, even more significant is the variation caused by administrative factors. The activity and engagement of local and municipal authorities to support project causes and to improve collaboration with cross-border counterparts varies substantively based on available resources and previously existing connections. The Norwegian decentralised administrative bodies are perceived to carry more autonomy in general to collaborate with the projects funded by the cross-border programme.

Specific Objective 5: Increase travel by cross-border public transport (TO7, PA4) and Specific Objective 6: Increase cross-border mobility with a focus on low-carbon transportation (TO7, PA4)

The main undertakings in this SO area are focused on developing the knowledge-base to support the planning of cross-border transport infrastructure to increase the share of freight and people transport carried out by carbon efficient means of transport. Current measures include projects promoting information sessions and networking events on the spread of fossil-free private transportation solutions in the cross-border region, and the establishment of public transport links between tourism destinations in the northern part of the programme area, connecting them to the new Scandinavian Mountain Airport. The overall impact of the programme in this specific objective have been relatively small, as different national level transport infrastructures and priorities between Norway and Sweden make collaboration difficult and reduce the potential impact of the programme. The level of involvement of regional organisations in relation to transport issues was considered important for regional differentiation. Hedmark county was particularly active in this area, whereas areas including Ostfold, Dalarna and Värmland were less involved in transport reforms. The regional effects of the programme are largely restricted by the limited spread of funding to urban areas around Hedmark and Dalarna and the very specific rural areas of Trysil/Sälen where the Mountain Airport is being constructed. The programme has not made a made direct impact on meeting the specific objectives of the programme including the development of cross-border transport networks and infrastructures, increasing the use of environmentally friendly transports and reducing pollution emissions. Developments in these areas are most likely the result of existing transport networks or national level climate and energy policies, such as the Norway tax incentive scheme to encourage citizens to buy electric vehicles.

Specific Objective 7: Increase cross-border labour mobility (TO8, PA5)

The main undertakings in relation to this SO include projects that facilitate collaborative initiatives by industry clusters and higher education facilities across the border to increase networking and exchanges, for example in the bio-economy and construction sectors, with the aim to exchange knowledge and models to better match educational competences to the demand of the labour market in the cross-border region. The programme has made a signifi-

cant impact in enhancing cross-border labour mobility and training schemes in the region. Changes can be directly attributed to the programme as there are no other national or local level initiatives that focus on promoting employment and education across the border. However, the impact of the programme is only of a short-term in nature as workers or students return to their home countries once project related jobs or educational courses have concluded. There is a strong urban-rural divide within this specific objective area, which is reflected in the spread of funding allocated to the regions of Hedmark, Värmland, Dalarna and Akershus that have more diverse urban economies with more businesses and stronger higher education institutes. The programme has helped build strong networks between universities in Hamar, Karlstad and Borlänge, but more can be done to link rural areas to urban nodes through mobility and training schemes based around bio-economy initiatives and forestry and eco-foods industries.

TIA: Main Findings

The TIA results indicate that the Sweden-Norway programme has had a significant impact on building and enhancing cross-border collaborations within the Inner Scandinavia region, but regional and thematic distinctions are evident. There is a greater impact in urban areas than in rural ones, with the largest regional towns, including Karlstad (Värmland), Hamar (Hedmark) and Borlänge (Dalarna) benefitting most from the programme. This can partially be explained by the regional spread of programme spending, as Värmland, Hedmark and Dalarna receive higher levels of funding than the Akershus and Ostfold regions. The main reason that the programme has a bigger impact in urban areas is that these cities, particularly Hamar and Karlstad, have a critical mass of key stakeholders, including industries, businesses, and higher education institutions. The regional variations are broadly reflected across the different specific objectives of the programme, with the exception of the specific objectives for natural and cultural heritage, which is largely focused on rural areas around the immediate cross-border areas.

At the specific objective level, the programme has the largest impact in relation to fostering cross-border innovation. The programme has helped in the development of an innovation ecosystem involving cross-border stakeholders, with particularly strong collaboration between actors in the Värmland and Hedmark regions in areas of shared interests and strength, such as forestry, bio foods, manufacturing, and renewable energy solutions. The programme has also had a significant impact in the thematic objective area of labour mobility by promoting cross-border labour schemes and student exchanges that are driven by a close connection between the universities in Hedmark, Karlstad and Dalarna. In relation to SMEs and entrepreneurship, the impact of the programme is largely confined to urban hubs, such as Hamar and Karlstad, which have dense business agglomerations within the programme area, although some examples of pioneering localities for rural entrepreneurship have also received great benefit from the programme. Overall, the impact of the programme funding is more significant for SMEs in their expansion phase than as seed funding for start-ups, as the former

are well-placed to maximise the opportunities presented by the programme in relation to cross-border networking.

The impact of the programme has been smaller in the specific objectives areas of transport, as well as in culture and heritage. Different national priorities and administrative differences in these thematic areas are an obstacle to cross-border collaboration and significant developments can be attributed mainly to national level policies and cluster organisations. In the thematic area of innovation, the programme has helped contribute to building long-term collaborations between stakeholders, but in most other specific objective areas the impacts are short-term and do not extend beyond the project period. Overall, the TIA results indicate that the Inner Scandinavia region is a genuinely functional area that has the critical mass of stakeholders required to stimulate regional growth and development. The next programme period should focus on finding ways of utilising the cross-border innovation ecosystem that the programme has helped develop to stimulate new business development through training, knowledge sharing and sharing test bed facilities. There should also be a more explicit focus on how to connect rural areas to urban hubs and on promoting the use of rural capital and entrepreneurship opportunities. If the rural dimension is to be genuinely developed in relation to opportunities presented by cultural heritage and environmental tourism, the programme must find ways of enhancing collaboration between municipalities in Norway and Sweden in the development of environmentally friendly transport initiatives.

2.3 Initial programme assessment findings

2.3.1 Context and programme area description

The programme area for Interreg Sweden-Norway 2014-2020 comprises nine regional administrations – five Swedish *län* and four Norwegian *fylke* – which are arranged along the southern half of the long Sweden-Norway border that splits the Scandinavian Peninsula and its namesake mountain range from north to south. The programme area is geographically extensive and very sparsely populated, with an average population density of just 19 inhabitants per square kilometre (while the EU average is about 117 people per square kilometre). The combined population of the programme area is a little over four million people, most of whom live in and around a few main urban and sub-urban agglomerations while the more remote parts of the programme area count among the most sparsely populated regions in Europe. These demographic variations are mirrored in similarly significant inter- and intra-regional differences in economic structure and growth. That being said, the regions of the programme area are also united by similar natural conditions and a cultural heritage, and their cross-regional collaborative tradition dates back centuries. There are many economic, demographic, environmental, and infrastructure challenges that are shared across most of the programme area and for which the Interreg Sweden-Norway programme thus sets out common strategies and solutions. A common inter-regional approach is seen to increase the prospects of the programme area as a whole through facilitating cross-border engagement and critical mass

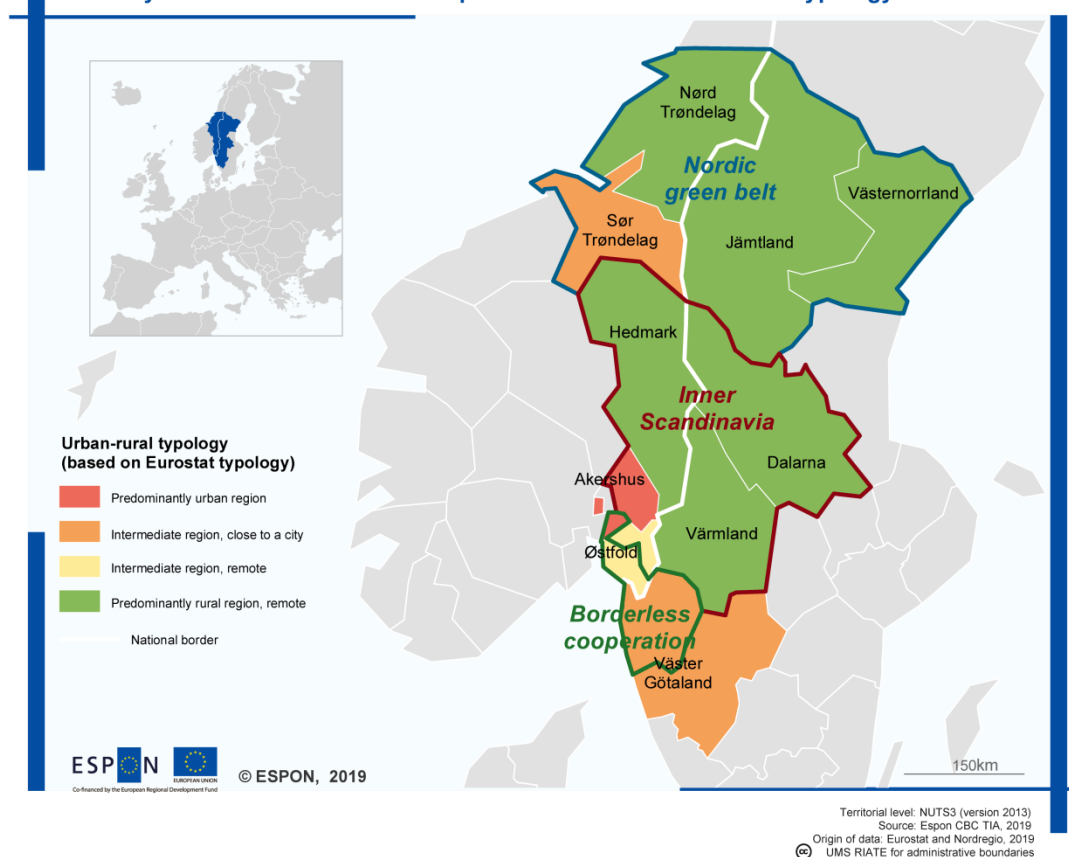
formation. The Sweden-Norway programme area is divided into three sub-areas, as the cross-border regions in each of these share even more characteristics in common with each other than with the programme area as a whole. The three sub-areas are the Nordic Green Belt, featuring the northernmost regions included in the programme area; Inner Scandinavia, the central part of the programme area and the main sub-area explored in the present report; and Borderless Co-operation, which includes the southern regions of the programme area.

The regions included in the programme area are (NUTS III level):

Nordic Green Belt	Inner Scandinavia	Borderless Co-operation
Nord-Trøndelag, NO	Hedmark, NO	Østfold, NO
Sør-Trøndelag, NO	Østfold, NO	Akershus, NO
Jämtland, SE	Akershus, NO	Västra Götaland, SE
Västernorrland, SE	Dalarna, SE	
	Värmland, SE	

Map 2.1: Sweden-Norway Cross Border Cooperation: Three Functional Sub-Regions

Norway-Sweden Cross Border Cooperation: functional areas and typology



Overview of needs and challenges

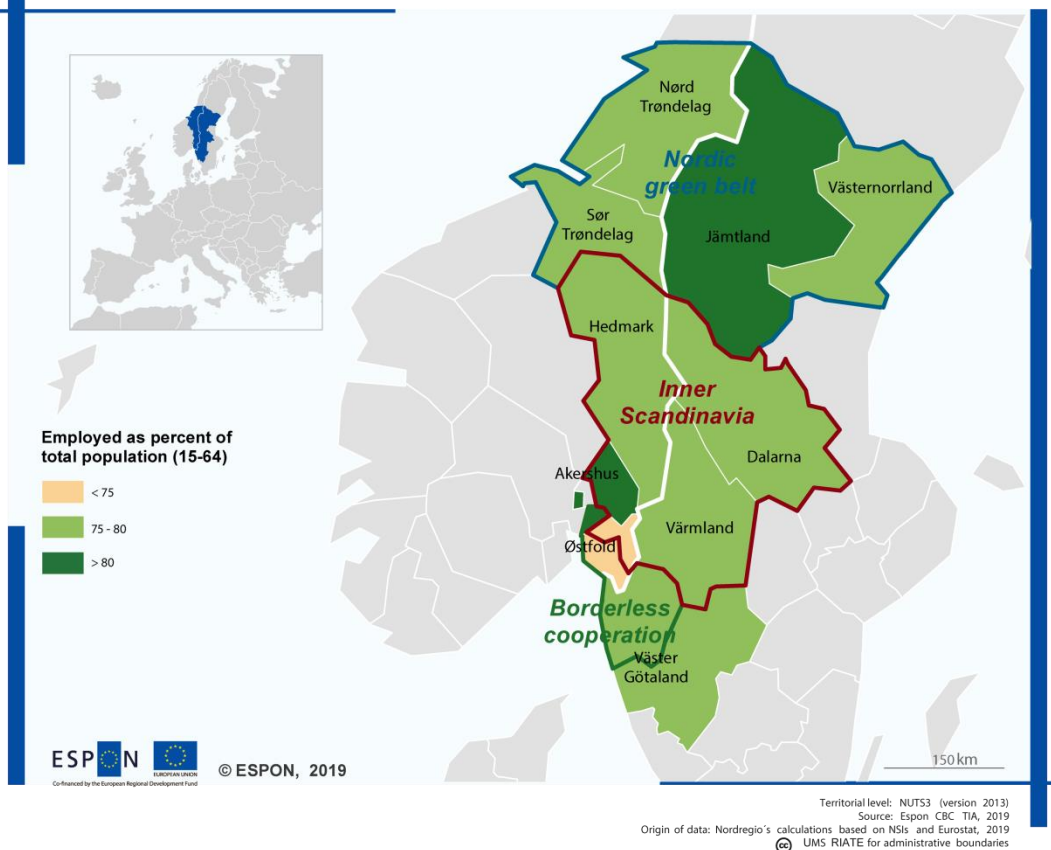
- Economy and industry

Economic growth in the programme area over the past few years has varied from moderate in the more rural regions (which also feature meagre demographic prospects and decreasing population) to strong in the most industrialised regions. There is considerable variation across

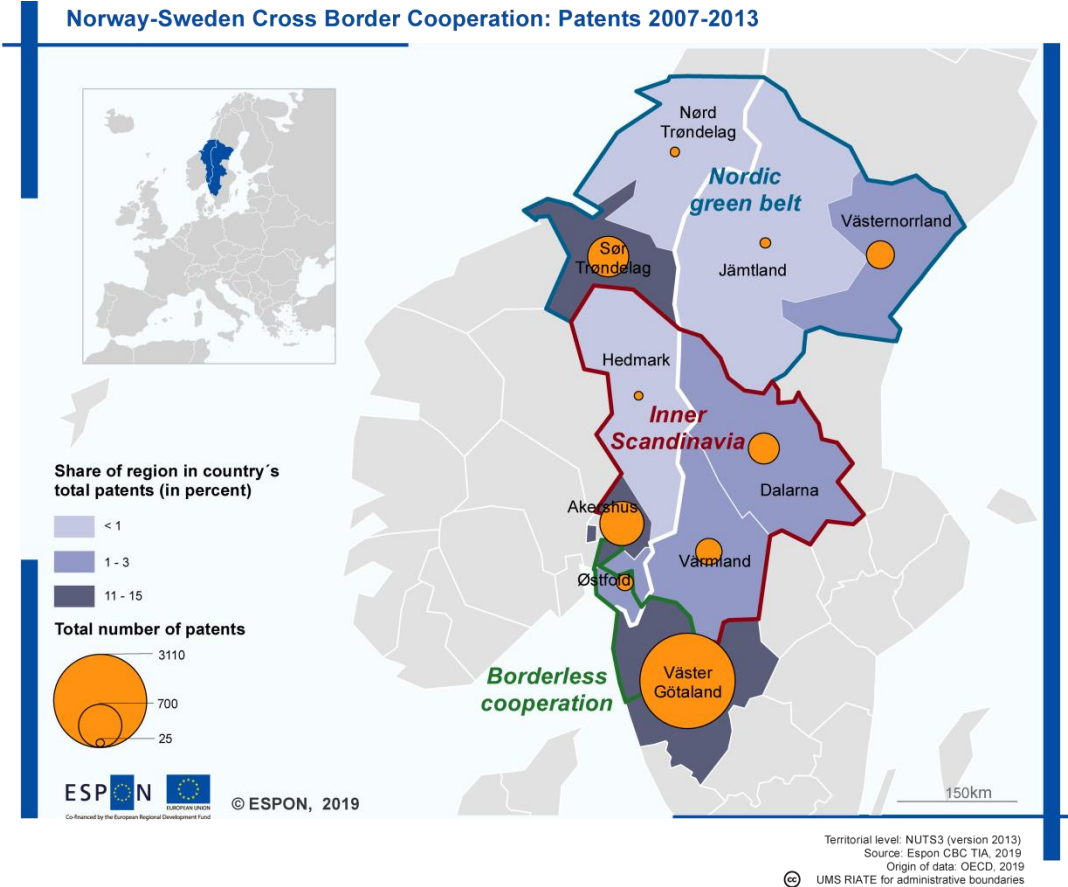
the programme area in which sectors dominate the local economy: Whereas some regions have the most extensive forestry or agriculture industries in their respective countries (e.g. Hedland in Norway or Värmland in Sweden), others host large clusters of industrial production (such as the automobile industry centred around Trollhättan, Sweden). Innovative capacity, especially outside the urban centres of the programme area, is highlighted as a specific challenge. The education levels and skillsets among the inhabitants in remote regions are comparatively low, and long geographical distances inhibit engagement in innovative cluster activities. R&D investment levels are modest across the programme area. SMEs are identified to warrant specific attention; 90% of all enterprises in the programme area are SMEs, but the number of newly-established SMEs has decreased in recent years. The border presents a further challenge to this, as there still exist differences in skill certification and information asymmetries between the Swedish and Norwegian regions and between urban and rural areas within these regions, which makes it difficult to match the needs of the labour market with skilled labour. This makes it more difficult to reach critical mass and thus build up and maintain the competitiveness of the border region.

Map 2.2: Sweden-Norway Cross Border Cooperation: Employment rate 2016

Norway-Sweden Cross Border Cooperation: Employment rate 2016



Map 2.3: Sweden-Norway Cross Border Cooperation: Number of Patents 2007-2013



- Natural and cultural heritage

The border region features a long-running common natural and cultural heritage, the lacking preservation of which is recognised as a particular risk in times of economic and demographic change. One dimension of this is to maintain the level of protection of natural heritage areas alongside efforts to increase tourism and improve the accessibility for inhabitants and tourists to experience and enjoy these natural environments. Moreover, the Swedish and Norwegian border region communities have engaged with each other for many centuries and are thus interwoven by way of cultural and family ties as well as shared local living and environmental conditions characteristic of the mountainous or forestry/agricultural regions, respectively. The conservation of the shared cultural heritage has been highlighted to carry inherent value for the border region, and also an instrumental importance as a solid foundation of shared experiences on which to build future collaboration.

- Transport

The border region already benefits from a strong tradition of communication and economic cooperation across the border. Cross-border commuting is relatively common and is growing in volume, as are cross-border transports of goods. The main Norwegian and Swedish highways and railways are linked together by road and rail links that run east to west. However, the infrastructure for commuting by means of public transport is lagging behind, especially in

the most sparsely populated parts of the programme area. A particular challenge is thus that the pressure to increase cross-border transport and commuting, while economically beneficial for the region, is being channelled into environmentally unsustainable transport flows that rely excessively on fossil fuels, such as commuting by private car. This founds the programme's priorities to increase and improve the transport infrastructure of the programme area and to base this increase on environmentally-friendly public transport links.

 Source: Programme document, implementation reports

2.3.2 Programme framework characterisation

- *Thematic Objective 1:* Strengthening research, technological development and innovation.
- *Specific Objective 1:* Increase the R&D and innovation capabilities of organisations and enterprises.
- *Priority Axis 1:* Innovative environments

Brief Justification: Enterprises in the programme area have low volumes of R&D investment. SMEs have little engagement with educational institutions or research institutes, nor do they have platforms meant for such engagement.

Main change Sought: To stimulate open innovation through clustering activities and increased cooperation between academia and industry.

Activities undertaken: Increasing the collaboration and knowledge transfers between stakeholders e.g. by way of networking and skills centres (quadruple- and penta-helix); a Smart Specialisation approach to enrich the specific strengths of the cross-border region, e.g. by way of demand-driven research; projects that develop concrete models for introducing new ideas to the market, including testing and demonstrations. Current projects include innovation-network projects in sectors such as green technology and construction.

Beneficiaries: SMEs; the public sector; the social economy; R&D-institutions. E.g. universities; institutes of education and research; business associations; enterprise groups; public organisations at the local, regional, and national levels; foundations; cooperatives; non-profit organisations.

Funding (per Priority Axis): € 26,519,980 (30% of total).

- *Thematic Objective 3:* Enhancing the competitiveness of SMEs.
- *Specific Objective 2:* Increase the competitiveness of enterprises.
- *Priority Axis 2:* SMEs

Brief Justification: SMEs in the programme area have narrow profit margins and few resources for internationalisation efforts. Previous analyses emphasise that there are particularly promising development opportunities in tourism, cultural and creative industries, and other service-based sectors.

Main change Sought: Joint efforts should lead to an increased access to skills, knowledge and technology, to facilitate the commercialisation of innovations as well as to increase the internationalisation of the regional business community.

Activities undertaken: Efforts that support the growth opportunities of enterprises, international growth opportunities in particular, e.g. through collaboration, skills training, and method development. Increasing knowledge of which industries and companies have potential for cross-border cooperation. Current efforts include projects to strengthen the competitiveness of manufacturing exports and, for example, ecosystems for creative industries, as well as projects to promote and strengthen the region as an international tourism destination.

Beneficiaries: SMEs; prospective entrepreneurs. E.g. public organisations at the local, regional and national levels; business associations; enterprise groups; universities; education and research institutions; foundations; cooperatives; non-profit organisations.

Funding (per Priority Axis): € 30,939,976 (35% of total).

- *Thematic Objective 3:* Enhancing the competitiveness of SMEs.
- *Specific Objective 3:* Increase the frequency of establishment in the programme area.
- *Priority Axis 2:* SMEs

Brief Justification: SMEs in the programme area have narrow profit margins and few resources for internationalisation efforts. 90% of all enterprises in the programme area are SMEs, but the establishment frequency of new SMEs has been steadily decreasing.

Main change Sought: Increase entrepreneurship and new businesses.

Activities undertaken: Strengthening and developing business advisory and incubator functions for cross-border business establishment; projects that channel the entrepreneurial spirit and drive of young people; stimulating entrepreneurship among diverse social groups. Current projects include, for example, promotion of student entrepreneurship initiatives as well as supporting newly-established SMEs in networking within the cross-border ecosystem.

Beneficiaries: SMEs; prospective entrepreneurs; young people. E.g. public organisations at the local, regional and national levels; business associations; enterprise groups; primary education institutions; secondary education institutions; universities and tertiary education institutions; research institutions; foundations; cooperatives; non-profit organisations.

Funding (per Priority Axis): € 30,939,976 (35% of total).

- *Thematic Objective 6:* Preserving and protecting the environment and promoting resource efficiency.
- *Specific Objective 4:* Increase the access to and engagement with the natural and cultural heritage of the cross-border region while maintaining their status of conservation.
- *Priority Axis 3:* Natural and cultural heritage.

Brief Justification: The cross-border region hosts a common natural and cultural heritage and therefore a shared responsibility to conserve, promote, and develop them for the benefit of future generations. This is done most efficiently on a cross-border basis. Natural and cultural heritage is of fundamental importance for an attractive living environment, for the development of a sustainable economy, and for the promotion of creativity.

Main change Sought: Ensuring that the natural and cultural heritage is preserved and made accessible, and that they can contribute to business development and strengthen the attractiveness of the border region.

Activities undertaken: Developing natural areas and cultural heritage to the benefit of sustainable outdoor recreation and attractive visitor destinations; improving the accessibility to natural areas and cultural heritage, both physically and through new technology; strengthening and displaying the historical and cultural identity of the border region; common management projects for cross-border protected natural areas and water bodies, including cooperation in knowledge creation, inventory, and method development (e.g. for natural restoration). Current projects include protecting river ecosystems and species living in the several cross-border water bodies of the programme area, as well as coordination of gamekeeping and conservation of forest mammals living and moving back and forth across the border.

Beneficiaries: Inhabitants and visitors of the programme area; SMEs; the public sector. E.g. public organisations at the local, regional and national levels; universities and tertiary education institutions; research institutions; foundations; cooperatives; non-profit organisations.

Funding (per Priority Axis): € 8,839,993 (10% of total).

- *Thematic Objective 7:* Promoting sustainable transport and improving network infrastructures.
- *Specific Objective 5:* Increase travel by cross-border public transport.
- *Priority Axis 4:* Sustainable transport.

Brief Justification: Cross-border communications, and cross-border public transport in particular, are highlighted as one of the main weaknesses in the cross-border region. This affects both mobility and the environment negatively.

Main change Sought: Developing well-coordinated and efficient public transport across national borders.

Activities undertaken: Developing knowledge-bases and surveys to support the planning of infrastructure investments across or in conjunction with the national border; supporting projects that aim to increase cross-border public transport. Current projects include, for example, the establishment of public transport links between tourism destinations in the northern part of the programme area, connecting them to the new Scandinavian Mountain Airport.

Beneficiaries: Inhabitants and visitors of the programme area; actors in the regional economy; the public sector; state-level authorities. E.g. public organisations at the local, regional and national levels; universities and tertiary education institutions; research institutions; foundations; cooperatives; non-profit organisations.

Funding (per Priority Axis): € 8,839,993 (10% of total).

- *Thematic Objective 7:* Promoting sustainable transport and improving network infrastructures.
- *Specific Objective 6:* Increase cross-border mobility with a focus on low-carbon transportation.

- *Priority Axis 4: Sustainable transport.*

Brief Justification: A large proportion of both freight and people transport in the cross-border region takes place with by means of transportation that are heavily reliant on fossil fuels. The negative environmental impact can be minimised by way of coordinating among different means of transportation, facilitating collective transport across the border, and finding solutions to decrease the reliance on fossil fuels of both freight and people transport. There is good potential to increase the production of renewable energy in the programme area – this provides a unique opportunity to decrease the reliance on fossil fuels.

Main change Sought: Increased coordination of traffic and freight flows using environmentally friendly vehicles and fuels.

Activities undertaken: Developing knowledge-bases and surveys to support the planning of infrastructure investments across or in conjunction with the national border; projects that aim to increase the share of freight and people transport carried out by carbon efficient means of transport. Current measures include, for example, projects hosting information sessions and networking events as well as promoting and surveying the spread of fossil-free private transportation solutions in the cross-border region.

Beneficiaries: Inhabitants and visitors of the programme area; actors in the regional economy; the public sector; state-level authorities. E.g. public organisations at the local, regional and national levels; universities and tertiary education institutions; research institutions; foundations; cooperatives; non-profit organisations.

Funding (per Priority Axis): € 8,839,993 (10% of total).

- *Thematic Objective 8:* Promoting sustainable and quality employment and supporting labour mobility.
- *Specific Objective 7:* Increase cross-border labour mobility.
- *Priority Axis 5:* Employment.

Brief Justification: Daily and weekly commuting is important for the employees and enterprises in the border region and for the programme area as a whole. Moreover, the relatively low education levels in several parts of the programme area constitutes a specific challenge. Regional development may stagnate if available training does not correlate with the competence demand.

Main change sought: Increasing cross-border mobility in the labour market by matching the available skills of the labour force to market needs through enhanced education and certification of competences.

Activities undertaken: Projects that support cross-border activity among individuals and enterprises, e.g. through exchange schemes, awareness efforts, or bringing up new models of experience exchange; projects that contribute to better matching competences to the demand from the labour market in the border region. Current projects include collaborative initiatives

by industry clusters and higher education facilities across the border to increase networking and exchanges, for example in the bioeconomy and construction sectors.

Beneficiaries: Employees; job applicants and job searchers; young people; SMEs. E.g. public organisations at the local, regional and national levels; employment agencies and headhunting firms; universities and tertiary education institutions; research institutions; foundations; cooperatives; non-profit organisations.

Funding (per Priority Axis): € 13,595,994 (15% of total).

2.3.3 Additional funding instruments

In the programme period of 2014-2020 Interreg Sweden-Norway has coordinated efforts with several EU funds and programmes, transnational sectoral programmes, and Swedish and Norwegian national-level funds. The synergy points may be both geographical and thematic in nature. Synergies may also arise if Interreg Sweden-Norway makes use of results and analyses from other EU-funded projects and develops these further from the specific perspective of the cross-border programme.

In cases where the responsible secretariat concludes that a project is closely related to another structural programme, the responsible authority of that programme is contacted in order to find the most efficient synergies between the two and to ensure that one activity is not simultaneously being financed by multiple programmes. The primary guideline for Interreg Sweden-Norway is that only such activities are funded from which cross-border interregional collaboration brings added value.

Priority Axis 1 of the programme, Innovative environments, entails clear synergy points with the Horizon 2020 research and development programme. The focus area for Horizon 2020 is to develop excellence in science and the entire innovation value chain so that new ideas successfully reach the market. Interreg Sweden-Norway can complement these efforts by building regional capacity and thus increasing the opportunities of actors in the programme area to participate in the research and innovation collaboration of the EU. Interreg projects can benefit from and build on the results of Horizon 2020 projects at the regional level.

The following is a list of funds and programmes that have synergy points with Interreg Sweden-Norway:

Structural funds (incl. Interreg)

- National and regional structural fund programmes and ESI-funds (Sweden)
- Öresund-Kattegat-Skagerak (A)
- Botnia-Atlantica (A)
- Interreg Nord (A)
- The North Sea Programme (B)
- The Baltic Sea Programme (B)
- Northern Periphery (B)
- Interreg Europe (C)
- URBACT (C)

Transnational sectoral programmes:

- Horizon 2020
- COSME
- Connecting Europe Facility
- Erasmus+
- The programme for Employment and Social Innovation
- Creative Europe
- LIFE

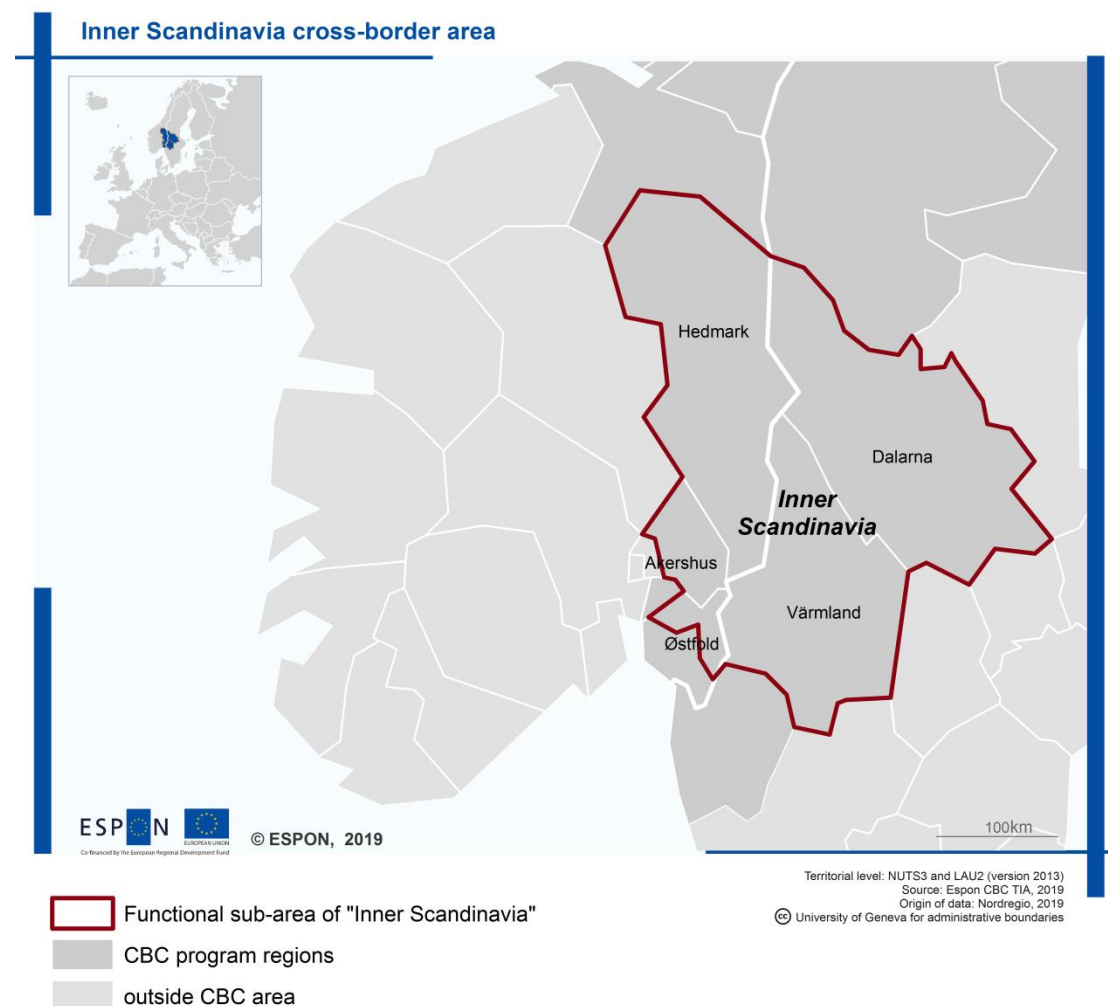
2.4 TIA Process

The territorial impact assessment (TIA) process leans on desk research as well as expert input in a workshop setting. The systemic picture of the programme functioning (Intervention logic), the indicator selection, the net impact determination as well as the conclusions are never attributed to one method alone, but are always the result of a joint effort. The core element of the process is the Impact Assessment Matrix (IAM) which is presented in section 2.5. In this section, the working steps are described which were undertaken to produce the evidence of the territorial impact. The elaboration of the impacts and the conclusions derived thereof are presented in the following section 2.5.

2.4.1 Selection of TOs and TIA Area

To make the TIA process more manageable, the number of intervention logics was reduced from seven to five by merging specific objectives that shared a similar focus. Specific Objective 2 “Increase the competitiveness of enterprises (TO3, PA2)” and Specific Objective 3 “Increase the frequency of establishment in the programme area (TO3, PA2)” were merged into one intervention logic as they both had an SME focus, examining the development of new SMEs and the internationalization of SMEs in the programme area. Furthermore, Specific Objective 5 “Increase travel by cross-border public transport (TO7, PA4)” was merged with Specific Objective 6 “Increase cross-border mobility with a focus on low-carbon transportation (TO7, PA4)” as they were both concerned with enhancing cross-border transport through the use of environmentally friendly modes of transportation. All thematic objectives and specific objective areas remained covered despite the reduction in the number of intervention logics.

Map 2.4: Inner Scandinavia Cross-Border Area



The managing authority representatives asked if it would be possible to concentrate the TIA on the sub-programme of Inner Scandinavia as shown in Map 2.4. The main reason for this was that it is deemed too difficult to conduct an effective TIA assessment across the sizeable geographical scope of all three sub-regions in the Sweden-Norway programme. Reducing the scale of the territorial focus would allow for a more detailed analysis of one area and ensure more meaningful analysis and results upon which an assessment of the TIA methodology could be made. The Inner Scandinavia sub-region has been a consistent partnership of five border regions since 1996 and represents the most interesting case study in the Sweden-Norway programme due to the geographical diversity of the area that includes urban centres like Akershus region (Norway) and rural areas like Ostfold (Norway), along with key regional towns in inner-peripheral areas, including Hedmark (Norway), Dalarna (Sweden), Värmland (Sweden). Another key reason for focusing the case study on Inner Scandinavia is that it is regarded by managing authority representatives as a genuinely “functional cross border territory” within the Sweden-Norway programme, due to the higher levels of cross-border activities in this region. The managing authority pointed out that the SWOT analysis upon which the programme area document was developed is largely based on findings from

this sub-region. Furthermore, there is more data and reports to build an analysis/case study upon in the Inner Scandinavia sub-region as the variety of projects covers more of the thematic objectives of the programme.

Inner Scandinavia

The Inner Scandinavia area covers the three border regions of Hedmark (Norway), Värmland (Sweden), Dalarna (Sweden) and the two Norwegian provinces of Akershus and Ostfold. The area represents 7% of the total population of Sweden and Norway. This population is largely concentrated around the provincial Oslo metropolitan areas of Akershus and Ostfold, and the main urban towns of Hamar (Hedmark), Karlstad (Värmland), and Falun/Borlänge (Dalarna). There is a strong urban-rural divide in the area and the Swedish side of the border in particular has been affected negatively by depopulation and outmigration. As indicated in Table 2.1, socioeconomically, the Inner Scandinavia area has an unbalanced, largely industrial/manufacturing-based economy and a weak business infrastructure, low levels of education, a lack of public transport, and long distances between cities. The regional strengths include access to natural resources and other environmental assets that present opportunities for innovative entrepreneurship and tourism.

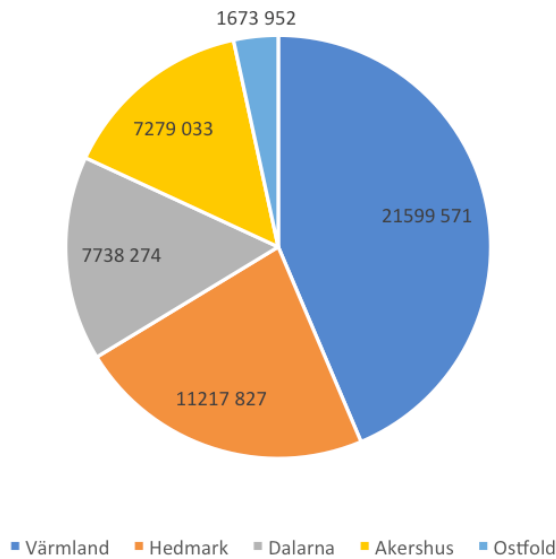
Table 2.1: Inner Scandinavia Partnership Region: Statistical Overview

Criteria	Värmland (S)	Dalarna (S)	Hedmark (N)	Akershus (N)	Østfold (N)	Sweden	Norway
Employment excl. cross-border commuters	74.9%	78.1%	76.0%	80.7%	74.6%	76.8%	78.7%
Employment ratio incl. cross-border commuters	78.2%	78.9%	76.0%	80.7%	74.6%	77.6%	78.7%
R&D Investment Total Mill. EUR	57	58	18	594	65	11.194	4.188
R&D Investment Private Sector Mill. EUR	28	40	8	335	33	7.863	1.820
Climate gas emissions 1000 tons CO ₂ eq.	1.634	1.872	1.146	1.954	1.619	59.054	35.506
Renewable energy	48%	46%	57%	56%	65%	47%	65%
Tertiary level education Female 30-39 Y	50.0%	44.6%	44.3%	51.7%	41.5%	55.0%	51.5%
Tertiary level education Male 30-39 Y	30.3%	29.2%	25.7%	39.5%	26.8%	41.9%	36.6%
GDP/Capita EUR	28,651	31,188	30,974	40,372	30,768	35,731	43,641
Total population (2017)	279,999	285,724	197,032	619,440	296,575	9,995,000	5,295,600
Population change (1970-2012)	-4%	-1%	8%	50%	28%	20%	30%
Square area (km ²)	17,591	28,189	27,397	4,918	4,181	450,295	385,203

Sources: SCB, SSB, Østlandsforskning, Karlstad University

The focus of the Interreg programme in the Inner Scandinavia region has been to connect isolated areas by building cross-border networks of collaboration with a focus on promoting business links, human capital and cultural activities (Medeiros 2017). As Figure 2.1 highlights, Värmland, Hedmark and Dalarna regions have received the most funding from the programme, with Akershus and Ostfold receiving the least money.

Figure 2.1: Interreg Sweden-Norway Investment Distribution per Region 2014-2020 (EUR)



Source: Consortium, based on the information from the Managing authority

2.4.2 Finalized intervention logic

The intervention logic represents the systemic picture of how the programme functions in the programme area. The *needs* identified for the regions are tackled by *measures* funded through the programme. These measures have *effects* on the region, which are depicted via *indicators* in a territorial impact assessment. The indicators are either

- result indicators applied by the programme itself – marked (R)
- common CBC indicators as provided by the methodological handbook – marked (C)
- additional indicators developed by each case study tailored to the programme –marked (A)

The intervention logic is a chain establishing a logical and coherent link between the programme, the effects on the regions and the indicators measuring these effects. It is the necessary basis for all further assessments made.

Table 2.2: SO 1: Increase the R&D and innovation capabilities of organisations and enterprises

Needs	Measures	Effects	Indicators
Stimulating innovation and the commercialisation of new ideas through clustering activities and increased cooperation between academia and industry	Projects that increase synergies and contribute to knowledge transfer between research environments, companies, the public sector, and the social economy	Increased cross-border cooperation between innovation stakeholders (e.g. clusters and networks)	Number of clusters and networks (A)
	Projects that that increase the innovation capabilities of organisations through development of practically useful models that bring new ideas to the market, including tests and demonstrations	Increase in companies getting new products to the market	Number of new patents/trademarks (C)

Table 2.3: SO 2: Increase the competitiveness of enterprises (TO3, PA2) and Specific Objective 3: Increase the frequency of establishment in the programme area (TO3, PA2)

Needs	Measures	Effects	Indicators
Fostering entrepreneurship and new startups, and enhance internationalization through collaborative cross-border support schemes	Joint projects that strengthen and develop advisory and incubator functions for cross-border business	Increase in cross-border businesses	Number of companies cooperating across the border (C)
	Joint projects that support business growth opportunities in international markets	Increased involvement of businesses in external markets	Number of companies engaged export efforts (R)
	Projects that encourage startups and entrepreneurship	Increase in new businesses	New enterprises (number of new enterprises with 1-4 employees) (R)

Table 2.4: SO 4: Increase the access to and engagement with the natural and cultural heritage of the border region while maintaining their status of conservation (TO6, PA3)

Needs	Measures	Effects	Indicators
Ensuring that the natural and cultural heritage sites are preserved and made accessible, so they can contribute to business development and strengthen the attractiveness of the border region	Joint projects that develop accessibility to and raise awareness of nature areas and cultural heritage for benefit of sustainable outdoor recreation and visitor areas	Increased coordination and collaboration between culture and nature authorities	Number of joint nature, culture and heritage governance initiatives (A)
	Cross-border projects that protect and restore cross-border nature areas	Improved natural and cultural heritage status	Increased area of protected natural and cultural landscape (R)

Table 2.5: SO 5: Increase travel by cross-border public transport (TO7, PA4) and Specific Objective 6: Increase cross-border mobility with a focus on low-carbon transportation (TO7, PA4)

Needs	Measures	Effects	Indicators
Developing well-coordinated and efficient public transport across national borders and increased coordination of traffic and freight flows using environmentally friendly vehicles and fuels.	Projects aiming to increasing cross-border public transport by enhancing knowledge and planning of infrastructure initiatives	Enhance cross-border transport management	Number of joint platforms cross-border knowledge sharing on transport infrastructures (R)
	Projects aimed at increasing the proportion of freight and passenger traffic performed with low carbon dioxide transport	Increase in environmentally friendly transport Decrease in pollutant emissions	Number of available systems for environmentally friendly and carbon efficient transport (R) Number of CO ₂ and N ₂ O emissions (R)

Table 2.6: SO 7: Increase cross-border labour mobility (TO8, PA5)

Needs	Measures	Effects	Indicators
Increasing cross-border mobility in the labour market by matching the skills to labour market needs through enhanced education and certification of competences	Projects that support cross-border labour mobility among individuals and enterprises through exchange schemes, awareness raising, or new models that better match education with the needs of the labour market	Increased cross-border labour mobility	Number of participants in cross-border labour mobility schemes (R) Number of cross border students (A)

2.4.3 Indicators

2.4.3.1 Indicator data

Indicators linked to effects in the intervention logic presented above were to be populated with quantitative data wherever possible. It was aimed to obtain data for the baseline year as close as possible to 2014, and for the reference year as close as possible to the current year (2018). During the first workshop it became clear, however, that neither the managing authority nor the national statistics offices or other stakeholders had been collecting any data on the result indicators set out in the programme document. Data had not been compiled on common CBC indicators, either. Therefore the intervention logics were revised in cooperation with experts present at the first interview, producing a set of indicators (predominantly output indicators from the programme document) which both captured the intended impacts of the programme, for which the managing authority could provide project-level data, and in which the intended participants for the second workshop could support the process with qualitative insight and expertise. The ambition then became to obtain information about the general development on the revised indicators, in order to be able to perform quantitative net impact calculations. However, with the exception of the indicator on the number of patents, for which the OECD has collected regionalised information, the case-study team concluded that there was no general statistics available on these indicators, either. Furthermore, the data provided by the managing authority after the first workshop turned out to be incomplete, with only a minority of projects having reported results on the indicators. Qualitative assessments in an expert workshop were conducted for all indicators, and the primary rationale for indicator selection therefore became to focus only on such indicators for which panel experts had noted during the first interview that they would be able to provide meaningful insight. The metadata for these indicators is provided in Table 5.27.

Closely adapted or verbatim versions of CBC indicators were drawn from the Regional Competitiveness and Cross Border Cohesion groups on the CBC list. With the exception of the indicator of cross-border students, which was partly inspired by the European Integration related CBC indicator on cross-border bi-diplomas, the European Integration group of CBC indicators was not represented, mainly due to the response by participants during the first workshop that some of the proposed indicators would not reflect very accurately the intended impact of the programme, or that the experts had too little knowledge to provide meaningful information on a proposed indicator. For these same reasons some of the adopted CBC indicators were reworded in collaboration with workshop participants to better fit the processes and objectives of the Sweden-Norway programme and the availability of qualitative expertise to analyse the programme impact. Whereas the list of common CBC indicators included indicators of the number of SMEs/companies with cross-border business, the number of patent applications, and the number of cross-border bi-diplomas, the expert stakeholders present at the workshop did not have specific enough information to make a precise assessment of programme impact based on these measures. These indicators were thus formulated into measures of the number of companies with cross-border business, the number of granted

patents/trademarks, and of the number of cross-border students. This facilitated the qualitative assessment process and made possible the use of the limited project-specific data available on behalf of the Managing Authority to create through the workshops a general qualitative picture of programme impact.

Table 2.7: Indicator assessment method

Name	Source	Baseline Year	Reference Year	Assessment method	Common CBC Indicator (Y/N)
Number of clusters and networks	Adapted by case-study team from programme document	2014	2018	Qualitative	No
Number of new patents/trademarks	Adapted common CBC Indicator	2014	2018	Qualitative	Yes
Number of companies cooperating across the border	Common CBC Indicators, programme document	2014	2018	Qualitative	Yes
Number of companies engaged in export efforts	Programme document	2014	2018	Qualitative	No
New enterprises (number of new enterprises with 1-4 employees) (R)	Programme Document	2014	2018	Qualitative	No
Number of joint nature, culture and heritage governance initiatives	Programme Document	2014	2018	Qualitative	No
Increased area of protected natural and cultural landscape	Programme Document	2014	2018	Qualitative	No
Number of joint platforms cross-border knowledge sharing on transport infrastructures	Programme Document	2014	2018	Qualitative	No
Number of available systems for environmentally friendly and carbon efficient transport	Programme document	2014	2018	Qualitative	No
Number of CO ₂ and N ₂ O emissions	Programme document	2014	2018	Qualitative	No
Number of participants in cross-border labour mobility schemes	Programme document	2014	2018	Qualitative	No
Number of cross border students	Adapted by case-study team from programme document and CBC indicators	2014	2018	Qualitative	No

Source: Consortium, 2019

2.4.3.2 Net impact determination

Data shortages and the low quality of available statistical information determined that the net impact of all of the indicators could only be assessed using the qualitative analysis strategy outlined in the case study handbook. Initially there was the potential prospect to undertake quantitative analysis with indicators for which both programme-specific and regionalised general data was available. The indicator on patent/trademark statistics was the most promising and the only indicator for which any general data was available: The case-study team was able to obtain both project-specific data on the number of new patents generated (achieving NUTS 3 regional granulation by using the spending on each project per region as a proxy)

and general statistics on regional patent counts drawn from OECD databases. However, the latter data was only available up until 2013, in other words, there was suitable baseline statistics but no statistics from later years that could be used to calculate the gross impact over the programme period. Therefore, while the project and OECD data could be compared to get a general image of the size of the Interreg interventions in comparison to the overall general volume of patent/trademark counts in the programme area, there was no way to calculate the gross or net impacts in the way set out by the handbook and the Impact Assessment Matrix. As there was no comparable general data available for any or the other indicators, either, and as the project-specific data for all other indicators had significant gaps in reporting outputs, the case-study team decided that a harmonised qualitative analysis method for all indicators was the only attainable way to conduct the territorial impact assessment.

As part of the qualitative assessments, workshop interviews were conducted with regional experts in each thematic area of the Inner Scandinavia region (innovation, SMEs, nature and cultural heritage, transport, and labour mobility). The qualitative assessments were performed using the structure outlined in the case study handbook and involved experts from managing authorities, the joint secretariat, academics, regional associations and businesses.

Experts were first reintroduced to the intervention logics and indicators that had been agreed upon in the first workshop in relation to their thematic area. The thematic experts then systematically assessed the impact of the programme in relation to each individual indicator, focusing on any regional, geographic and socio-economic divergences in impact. As a starting point for discussions, experts were asked to review the funding statistics and project data provided by the MA on project level indicators and assess what information on programme impact could be ascertained from this data. The experts agreed that the quality of the quantitative data available was too incomplete to provide any concrete reflections on programme impact. The research team, therefore, conducted the remainder of the qualitative assessment using key interview questions they had developed using the case study handbook as a guide. The experts were asked to consider the following questions in relation to each indicator, including:

- What are the overall trends in relation to this indicator?
- To what extent are interventions by the cross-border programme responsible for bringing about these effects?
- What other factors (e.g. other EU/national funding sources) have had an impact on this indicator?
- What has been the outcome in regions/fields where interventions by the cross-border programme have been absent?
- How do the trends on this indicator differ across different regions in Inner Scandinavia (e.g. urban-rural, geographic, socioeconomic divergences)?
- How does the volume of programme focus and funding differ across different regions in Inner Scandinavia?

As highlighted in the questions above, there was a counterfactual element built into the workshop interview questions, as experts were asked to consider what other factors outside of the

programme may have contributed to impact, as well as how overall trends had developed in the regions least affected by the Interreg interventions. A central challenge in implementing the qualitative assessment was a geographic imbalance in the composition of the workshop experts. All the experts that attended the workshop were from the Norwegian side of the border as experts invited from the Swedish side were unable to attend. The research team tried to compensate for this imbalance by ensuring that the Norwegian experts present offered insights from both sides of the border.

2.4.3.3 Impact Assessment Matrix

The results of each working step of the TIA process have been fed into the Impact Assessment Matrix (IAM), representing the combined input of the case study team as well as the experts taking part in the TIA workshops. The IAM provides a comprehensive overview of those working step results and is the basis on which the textual impact assessment in the following section is formulated.

Table 4.1: Impact Assessment Matrix

Indicator	Assessment method	Nature of Impact	Region 1 Hedmark	Region 2 Värmland	Region 3 Dalarna	Region 4 Akershus	Region Ostfold		
Number of clusters and networks	Quantitative	Value T0							
		ValueT1							
		Gross impact							
		Net impact calculation method							
		Net impact							
	Qualitative	Magnitude (0-2)		2	2	2	1	0	
		Direction against baseline		Up	Up	Up	Up	Same	
		Temporal distribution (short/medium/long term)		Short-medium					
		Justification, notes	The interviewees stressed that the most significant impact has been the expansion and growth of the innovation ecosystem in Inner Scandinavia. While there have also been a few entirely new clusters, this growth is viewed predominantly as an expansion and deepening of existing networks of co-involved actors, with many new entrants from both urban and rural localities.						
Number of new patents/trademarks	Quantitative	Value T0							
		ValueT1							
		Gross impact							
		Net impact calculation method							
		Net impact							
	Qualitative	Magnitude (0-2)		2	2	2	1	0	
		Direction against baseline		Up	Up	Up	Up	Same	
		Temporal distribution (short/medium/long term)		Short-medium					
		Justification, notes	The interviewees stressed that the most significant impact of the cross-border programme in innovation terms has been the system-wide expansion and growth of the innovation ecosystem in Inner Scandinavia. Statistics on patents and the frequency of new projects and ideas coming out of this ecosystem have been very positive for many of the projects supported by the programme, especially in the Hedmark, Värmland and Dalarna regions.						

Indicator	Assessment method	Nature of Impact	Region 1 Hedmark	Region 2 Värmland	Region 3 Dalarna	Region 4 Akershus	Region Ostfold	
Number of companies cooperating across the border	Quantitative	Value T0						
		ValueT1						
		Gross impact						
		Net impact calculation method						
		Net impact						
	Qualitative	Magnitude (0-2)	1	2	1	1	1	
		Direction against baseline	Up	Up	Up	Up	Up	
		Temporal distribution (short/medium/long term)	Short-medium					
		Justification, notes	The clearest dimension of cross-border added value for SMEs concerns the number of companies collaborating across the border: Interviewees estimated that the impact of the Interreg cross-border programme has been particularly decisive in supporting a networking culture among SMEs. It has gradually become completely natural to engage with partners, supply chains, and testing facilities across the border.					
Number of companies engaged in export efforts	Quantitative	Value T0						
		ValueT1						
		Gross impact						
		Net impact calculation method						
		Net impact						
	Qualitative	Magnitude (0-2)	1	1	1	1	1	
		Direction against baseline	Up	Up	Up	Up	Up	
		Temporal distribution (short/medium/long term)	Short-medium					
		Justification, notes	Interviewees pointed out that the projects supported by the cross-border programme have performed very well on the indicator measuring new export efforts, and internationalisation initiatives have been particularly extensive with regards to the international marketing the tourism industry of the cross-border area.					

Indicator	Assessment method	Nature of Impact	Region 1 Hedmark	Region 2 Värmland	Region 3 Dalarna	Region 4 Akershus	Region Ostfold
New enterprises (number of new enterprises with 1-4 employees) (R)	Quantitative	Value T0					
		ValueT1					
		Gross impact					
		Net impact calculation method					
		Net impact					
	Qualitative	Magnitude (0-2)	1	1	1	1	1
		Direction against baseline	Up	Up	Up	Up	Up
		Temporal distribution (short/medium/long term)	Short				
	Justification, notes		The number of new firms shows a positive trend particularly in relation to student-driven entrepreneurship projects. But also in general the interviewees highlight the importance of the cross-border programme: The cross-border programme funding covers only a minority share of the total expenses for a project (vis-à-vis, for example, fully-funded Horizon grants) and thus remains attainable for a higher number of projects, giving room for new, lesser-known entrants with few prior connections.				
	Number of joint nature, culture and heritage governance initiatives	Quantitative	Value T0				
ValueT1							
Gross impact							
Net impact calculation method							
Net impact							
Qualitative		Magnitude (0-2)	1	1	1	0	0
		Direction against baseline	Up	Up	Up	Same	Same
		Temporal distribution (short/medium/long term)	Meduim-long				
Justification, notes		In terms of output and activity in mobilising new collaborations and targeting new focus areas, the projects funded by the cross-border programme have performed reasonably well, although differences in national and regional administration present persisting inhibiting factor for closer coordination of efforts. Investment focus in cultural heritage conservation has been much less extensive than nature-focused investment.					

Indicator	Assessment method	Nature of Impact	Region 1 Hedmark	Region 2 Värmland	Region 3 Dalarna	Region 4 Akershus	Region Ostfold	
Increased area of protected natural and cultural landscape	Quantitative	Value T0						
		ValueT1						
		Gross impact						
		Net impact calculation method						
		Net impact						
	Qualitative	Magnitude (0-2)	1	1	1	0	0	
		Direction against baseline	Same/up	Same/up	Same/up	Same	Same	
		Temporal distribution (short/medium/long term)	Long					
		Justification, notes	While some positive signs are visible, it is too early to assess exactly how impactful the cross-border programme has been in improving natural and cultural conservation status in the border region. For example, many of the critically endangered species and vulnerable ecosystems supported by programme projects are yet to show significant signs of recovery.					
Number of joint platforms cross-border knowledge sharing on transport infra-structures	Quantitative	Value T0						
		ValueT1						
		Gross impact						
		Net impact calculation method						
		Net impact						
	Qualitative	Magnitude (0-2)	1	1	1	1	0	
		Direction against baseline	same	same	same	same	same	
		Temporal distribution (short/medium/long term)	Short term					
		Justification:	Workshop experts argued that the programme has helped develop a small number of short term transport knowledge-sharing infrastructure networks across the border, however, most long-term interaction occurs in well-established transport clusters. Cross-border collaborations and decision-making in this thematic area are largely determined by different national level transport infrastructures and priorities, therefore, the programme only has a limited short-term impact.					

Indicator	Assessment method	Nature of Impact	Region 1 Hedmark	Region 2 Värmland	Region 3 Dalarna	Region 4 Akershus	Region Ostfold		
Number of available systems for environmentally friendly and carbon efficient transport	Quantitative	Value T0							
		ValueT1							
		Gross impact							
		Net impact calculation method							
		Net impact							
	Qualitative	Magnitude (0-2)		2	1	1	2	1	
		Direction against baseline		Up	same	same	Up	same	
		Temporal distribution (short/medium/long term)		Short/Medium term					
		Justification: The programme areas main transport project was focused on enhancing knowledge on how to develop and implement effective infrastructure for increasing the use of environmentally friendly vehicles. This project has coincided with a rise in the number of environmentally vehicles on the Norwegian side of the border inn urban areas, whereas the use of electric vehicles in Sweden remains low. Experts pointed out that this rise can be partially attributed to the programme activities but has mostly been the result of national level tax incentive schemes to encourage people to buy electric cars.							
Number of CO ₂ and N ₂ O emissions	Quantitative	Value T0							
		ValueT1							
		Gross impact							
		Net impact calculation method							
		Net impact							
	Qualitative	Magnitude (0-2)		1	0	0	1	1	
		Direction against baseline		Same	same	same	same	same	
		Temporal distribution (short/medium/long term)		short term					
		Justification: Experts noted that it was extremely difficult to link emission levels to the impact of the programme activities. The increase in the use of environmentally friendly vehicles, particularly on the Norwegian side of the border, has contributed to reducing emissions, however, the most likely cause has been the implementation of new national level climate and environmental policies.							

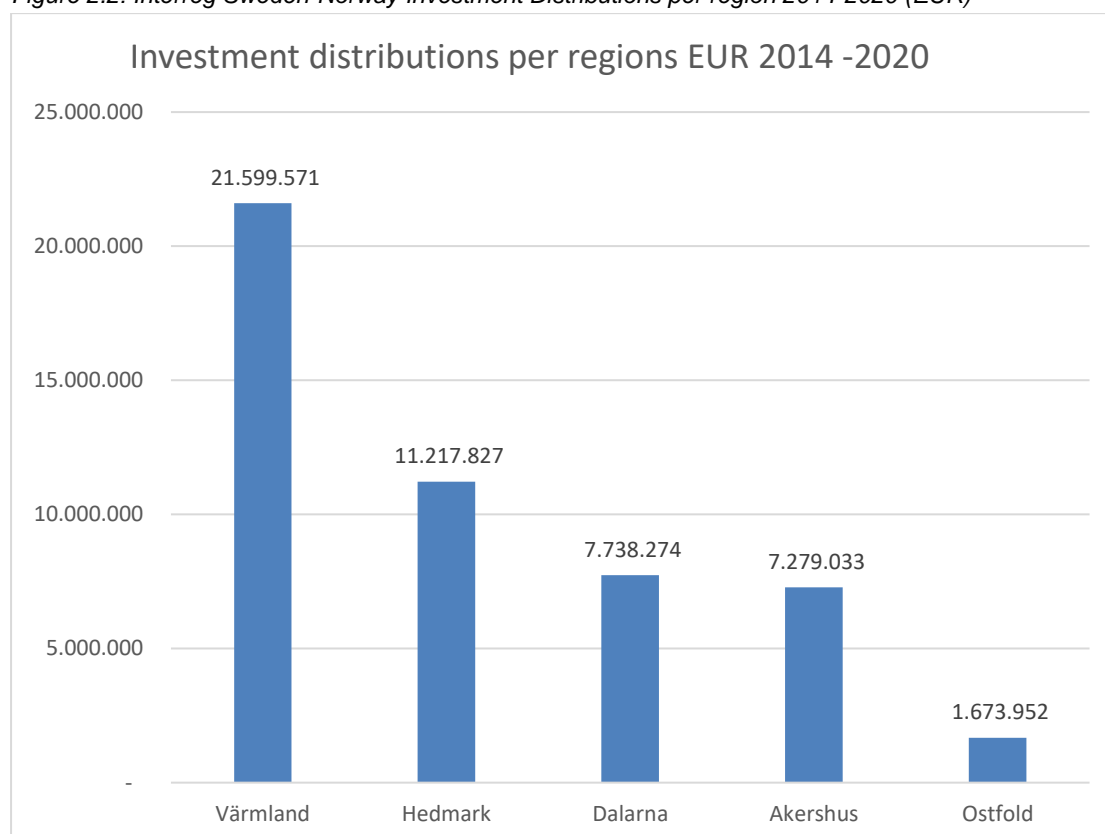
Indicator	Assessment method	Nature of Impact	Region 1 Hedmark	Region 2 Värmland	Region 3 Dalarna	Region 4 Akershus	Region Ostfold	
Number of participants in cross-border labour mobility schemes	Quantitative	Value T0						
		ValueT1						
		Gross impact						
		Net impact calculation method						
		Net impact						
	Qualitative	Magnitude (0-2)	1	1	1	1	0	
		Direction against baseline	up	up	up	up	Same	
		Temporal distribution (short/medium/long term)	Short term					
	Justification: Workshop participants argued that the programme has made a good impact on labour mobility with projects encouraging the development of short term cross-border employment schemes. Labour mobility schemes have largely focused on urban towns and cities within the programme area, where employment opportunities are greater due to the location of businesses and higher education institutions.							
	Number of cross border students	Quantitative	Value T0					
ValueT1								
Gross impact								
Net impact calculation method								
Net impact								
Qualitative		Magnitude (0-2)	2	2	2	2	0	
		Direction against baseline	up	up	up	up	same	
		Temporal distribution (short/medium/long term)	Short term					
Justification: Experts suggested that the programme has had a large impact on fostering collaboration between universities within the programme area and has contributed directly to an increase in the number of cross-border students. The impact is relatively short term, however, and rarely lasts beyond the time scale of programme projects.								

2.5 Territorial Impact Assessment

2.5.1 Summary of main findings

The territorial impact assessment of the Sweden-Norway programme reveals heterogeneous effects across different regions in Inner Scandinavia and specific objective areas of the programme. On a broad programme level, the assessment reveals a significant urban-rural distinction in the overall effects of the programme and in the main focus and volume of spending on projects. There is a greater impact in urban areas than in rural ones, with the largest regional towns, including Karlstad (Värmland), Hamar (Hedmark) and Borlänge (Dalarna) benefitting most from the programme. This can partially be explained by the regional spread of programme spending, as Värmland, Hedmark and Dalarna receive higher levels of funding than the Akershus and Ostfold regions (Figure 2.2). The main reason that the programme has a bigger impact in urban areas is that these cities, particularly Hamar and Karlstad, have a critical mass of key stakeholders, including industries, businesses, and higher education institutions. The regional variations are broadly reflected across the different specific objectives of the programme, with the exception of the specific objectives for culture and heritage, which is largely focused on rural areas around the immediate cross-border areas.

Figure 2.2: Interreg Sweden-Norway Investment Distributions per region 2014-2020 (EUR)



Source: Consortium based on data by Managing authority, 2019

At the specific objective level, the programme has the largest impact in relation to fostering cross-border innovation. The programme has helped in the development of an innovation ecosystem involving cross-border stakeholders, with particularly strong collaboration between

actors in the Värmland and Hedmark regions in areas of shared interests and strength, such as forestry, bio foods, manufacturing, and renewable energy solutions. The programme has also had a significant impact in the thematic objective area of labour mobility by promoting cross-border labour schemes and student exchanges that are driven by a close connection between the universities in Hedmark, Karlstad and Dalarna. In relation to the SMEs and entrepreneurship, the impact of the programme is largely confined to urban hubs, such as Hamar and Karlstad, which have dense business agglomerations within the programme area, although some examples of pioneering localities for rural entrepreneurship have also received great benefit from the programme. Overall, the impact of the programme funding is more significant for SMEs in their expansion phase than as seed funding for start-ups, as the former are well-placed to maximize the opportunities presented by the programme in relation to cross-border networking. The impact of the programme has been smaller in the specific objective areas of transport, as well as in culture and heritage. Different national priorities and administrative differences in these thematic areas are an obstacle to cross-border collaboration and significant developments can be attributed mainly to national level policies and cluster organisations. In the thematic area of innovation, the programme has helped contribute to building long-term collaborations between stakeholders, but in most other specific objective areas the impacts are short-term and do not extend beyond the project period. The following section provides a more detailed overview of key findings from the TIA conducted in each specific objective as outlined in the intervention logics. The findings are predominantly based on qualitative interviews with regional experts.

2.5.2 Impact on the regions

Specific Objective 1: Increase the R&D and innovation capabilities of organisations and enterprises (TO1, PA1)

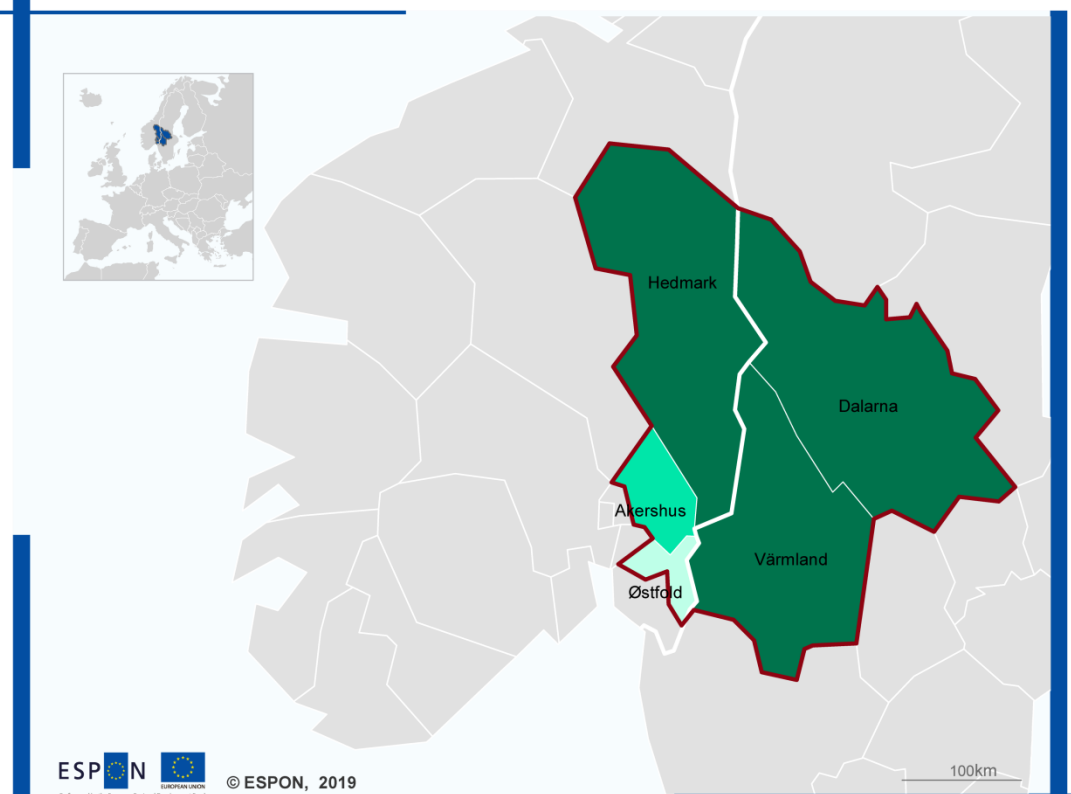
Judging by interview testimonials, the engagement of the cross-border programme to improve innovation collaboration and capabilities in Inner Scandinavia has brought the most significant impact among all thematic objective areas of the cross-border programme. Interviewees from public and private sectors as well as academia all agree in their emphasis that the innovation-related projects of Interreg Sweden-Norway have decisively supported the emergence of a cross-border innovation system where stakeholders in Swedish and Norwegian regions cooperate and interact smoothly and naturally without border barriers. This does not mean that the conditions in all Inner Scandinavia regions are equally stimulating in all sectors of the economy, but rather that stakeholders are learning to recognise the opportunities from cross-regional and cross-border collaboration to connect with peers who have the specific expertise and resources they need. Interviewees maintained that this added value from an innovation system that spans across the border would not have been achieved without the interventions of the Interreg Sweden-Norway programme, as cross-border collaboration in innovation and R&D in the area receives little attention from national stakeholders and other institutional actors.

The interviewees stressed that the most significant impact has been the expansion and growth of the innovation ecosystem in Inner Scandinavia. While there have also been a few entirely new clusters, this growth is viewed predominantly as an expansion and deepening of existing networks of co-involved actors. Universities in, for example, Karlstad in Sweden and Hamar in Norway are tied together much more closely than in previous years, and industrial partners are more closely engaged in promoting the agglomeration in research and expertise across Inner Scandinavia. Regional actors emphasise the need for a penta-helix view on developing the innovation ecosystem (engaging private sector, public sector, academia, users, and capital).

The impact of the cross-border programme is particularly visible as improved co-development of innovation stakeholders in different Inner Scandinavian regions. One dimension of this is the interaction between core areas in the two countries: On the one hand, interviewees found that Norwegian regions as a whole are commonly a bit behind the level of innovation and R&D advancement of the Karlstad urban area in Sweden, but on the other hand, in the Swedish national innovation context Karlstad in the relatively peripheral Värmland risks falling behind larger Swedish cluster regions. In this way, growing the available resources and interactions through a cross-border ecosystem becomes mutually beneficial for the regional centres of Inner Scandinavia. Moreover, the interviewees highlighted that the specific balance of available expertise and resources depends on the context of the industry-sector in question: For example, while the Karlstad area is leading the way in bioenergy-related R&D, the main market and thus the core area for solutions in the construction sector are in the urban areas in Norway. Moving then to discuss the situation in more rural areas in Inner Scandinavia, the interviewees assessed that the accessibility and connectivity of many smaller localities has been improved significantly by the increased cross-border connections. In fact, interviewees found that stakeholders and authorities in smaller localities are often more motivated to engage in collaborative projects than their counterparts in large urban centres with more alternative partners and collaborations available to them. Thus the Interreg cross-border programme alleviates the urban-rural divide in innovative activities by making it easier for new ideas and products to continue to be developed in rural areas with close links to each other and to the urban centres. That being said, while the volume of funding by the cross-border programme is spread quite equally across the programme area, interviewees point out that this does not give the whole picture in terms of expected results. The efficiency of funded projects is very contextual and depends on which nodes of the innovation ecosystem are being supported and what their prior connections and capabilities are. Which localities and projects engage actively and how successful these projects are depend crucially on initiatives by engaged individuals and prior existing connections with innovation stakeholders.

Map 2.5: Impact Magnitude for indicator “Number of clusters and networks”

Impact magnitude for indicator 'Number of clusters and networks'



Impact magnitude

- 0
- 1
- 2

Qualitative assessment of project impact magnitude in January 2019. Zero means no significant change compared to baseline year (2014)

Source: Stakeholder workshops

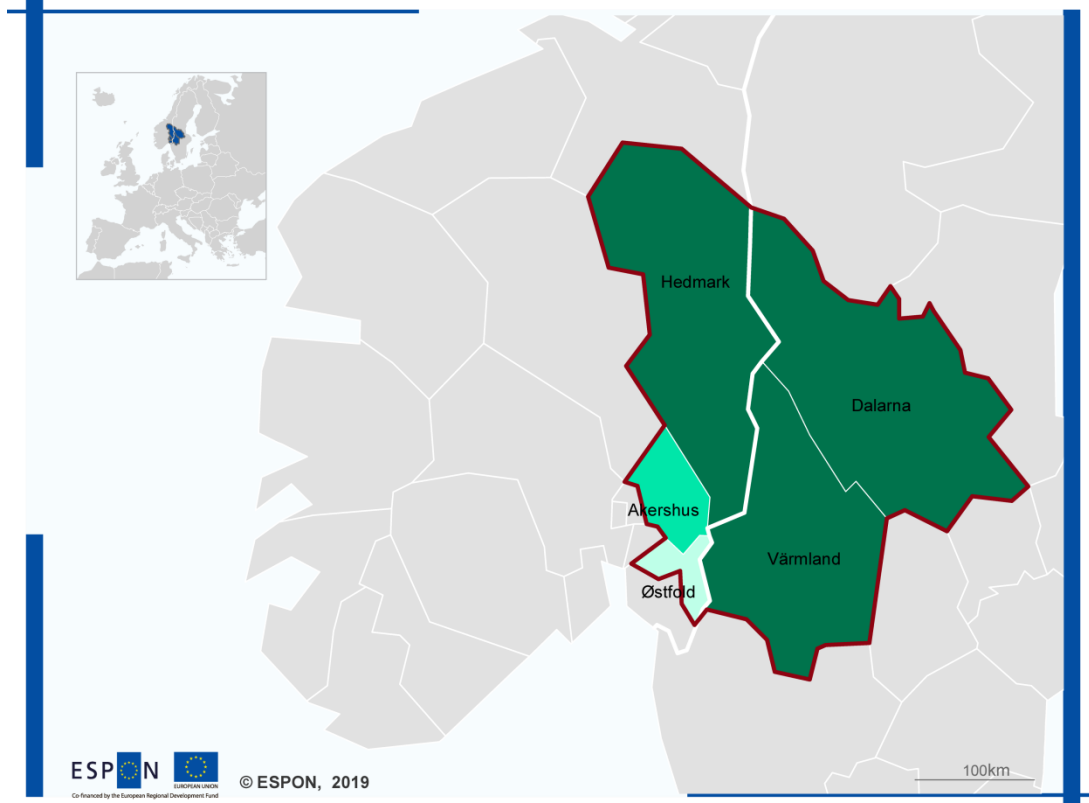
Territorial level: NUTS3 and LAU2 (version 2013)
 Source: EspoN CBC TIA, 2019
 Origin of data: Nordregio, 2019
 UMS RIATE for administrative boundaries

The interviewees highlighted several alternative sources of funding available to prospective projects in the innovation domain, such as schemes set up by county councils or functional institutions such as the Norwegian cluster programme, as well as other EU-linked funding programmes such as Horizon 2020. Advancements in building up innovation and R&D collaboration and capabilities can thus not be solely accredited to the Interreg cross-border programme. That being said, the interviewees emphasised that the character of the Interreg funding opportunities is distinct from most alternative sources: While Horizon 2020 grants for fully-funded projects attract a lot of competition and lead to a very low success rate of applications, the Interreg cross-border programme funding covers only a minority share of the total expenses for a project and instead remains attainable for a higher number of projects and to new, lesser-known entrants with few prior connections. While some interviewees expressed mild concern that this results in a lower overall quality of supported projects, the interviewees agree that the inclusive character of the cross-border funding also makes it a fundamental

part of the expansion and deepening of the Inner Scandinavia innovation ecosystem. Therefore, the interviewees conclude, the significant strengthening of cross-border and cross-regional innovation networks over the previous years would not have been attainable without the Interreg cross-border programme. As the support is not fully-covering but requires projects to have other sources of funding, the interviewees viewed that the cross-border programme is an optimal source of funding for the up-scaling and expansion of R&D and innovation collaborations and networks, supporting projects that are already partly funded and would go ahead in any case but get a much-needed increase in investment by the cross-border programme's interventions. Projects at this stage of aspiring R&D activities are at a resource-intensive stage at which there may otherwise be a shortage of available investment capital, which further underlines the importance of the Interreg programme for the overall impact of an improved innovation environment in Inner Scandinavia.

Map 2.6: Impact Magnitude for indicator "Number of patents/trademarks"

Impact magnitude for indicator 'Number of patents and trademarks'



Impact magnitude

- 0
- 1
- 2

Qualitative assessment of project impact magnitude in January 2019. Zero means no significant change compared to baseline year (2014)

Source: Stakeholder workshops

Territorial level: NUTS3 and LAU2 (version 2013)
 Source: EspoN CBC TIA, 2019
 Origin of data: Nordregio, 2019
 © UMS RIATE for administrative boundaries

Specific Objective 2: Increase the competitiveness of enterprises (TO3, PA2) and Specific Objective 3: Increase the frequency of establishment in the programme area (TO3, PA2)

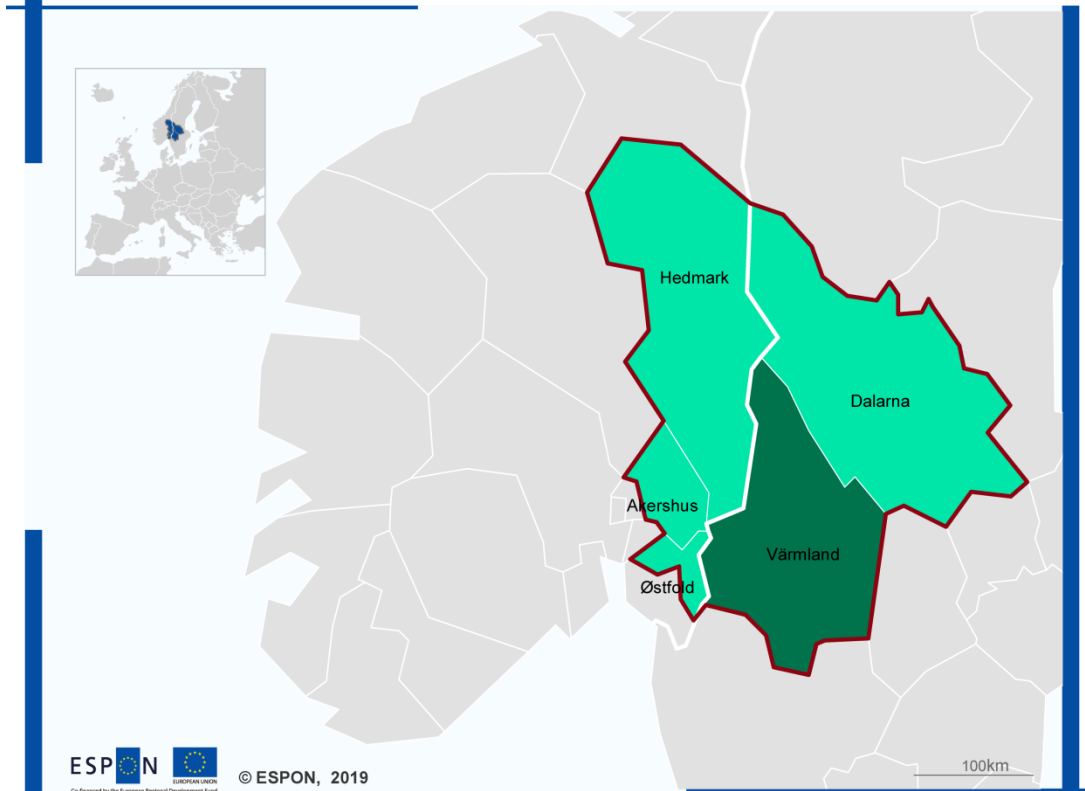
Judging by expert testimonials given at the stakeholder workshop, the Interreg Sweden-Norway cross-border programme has had a positive impact on the entrepreneurship and competitiveness trends of Inner Scandinavia. Many of the mechanisms through which the emergence and expansion of new start-ups in the cross-border region are in close conjunction with those highlighted in relation to the innovation and R&D ecosystem. The strength and growth of local market conditions have been strengthened by an expansion of the regional market to involve potential partners, collaborators, and customers located across the border. Companies also gain benefit from a wider availability of R&D resources such as testing facilities and research centres in the cross-border region, which allows them to grow and innovate faster and more extensively than they could otherwise afford. The combined presence of higher education facilities and collaborative networks among academia and industry in Inner Scandinavia is a cornerstone for the future of entrepreneurship in the programme area, and many of the projects funded by the cross-border project have been key stakeholders in further building up these enabling conditions.

Interviewees pointed out that the projects supported by the cross-border programme have performed very well on the indicator measuring new export efforts. However, it is highly unlikely that an increasing trend in overall exports can to a significant extent be accredited to Interreg funding –many other factors in economic development and digitalisation have played a very large part in internationalisation developments. Based on interview testimonials a specific focus-area for internationalisation in the programme area in the past few years has been the expansion of international marketing of Inner Scandinavia as a tourism destination. Many Interreg-funded projects focus on building up the global tourism competitiveness of the programme area, especially for outdoor and recreation activities.

The indicator measuring the number of new firms shows a positive trend particularly in relation to student-driven entrepreneurship projects. The cross-border programme has acted as a facilitator for firms to take advantage of the expanding entrepreneurial networks and a supporter of collaborative scale-up efforts that would not otherwise have taken place. In general terms, Interreg funding has been more effective as a tool for established firms to expand and develop than as start-up seed funding.

Map 2.7: Impact Magnitude for indicator “Number of companies cooperating across the border”

Impact magnitude for indicator 'Number of companies cooperating across the border'



Impact magnitude

- 0
- 1
- 2

Qualitative assessment of project impact magnitude in January 2019. Zero means no significant change compared to baseline year (2014)

Source: Stakeholder workshops

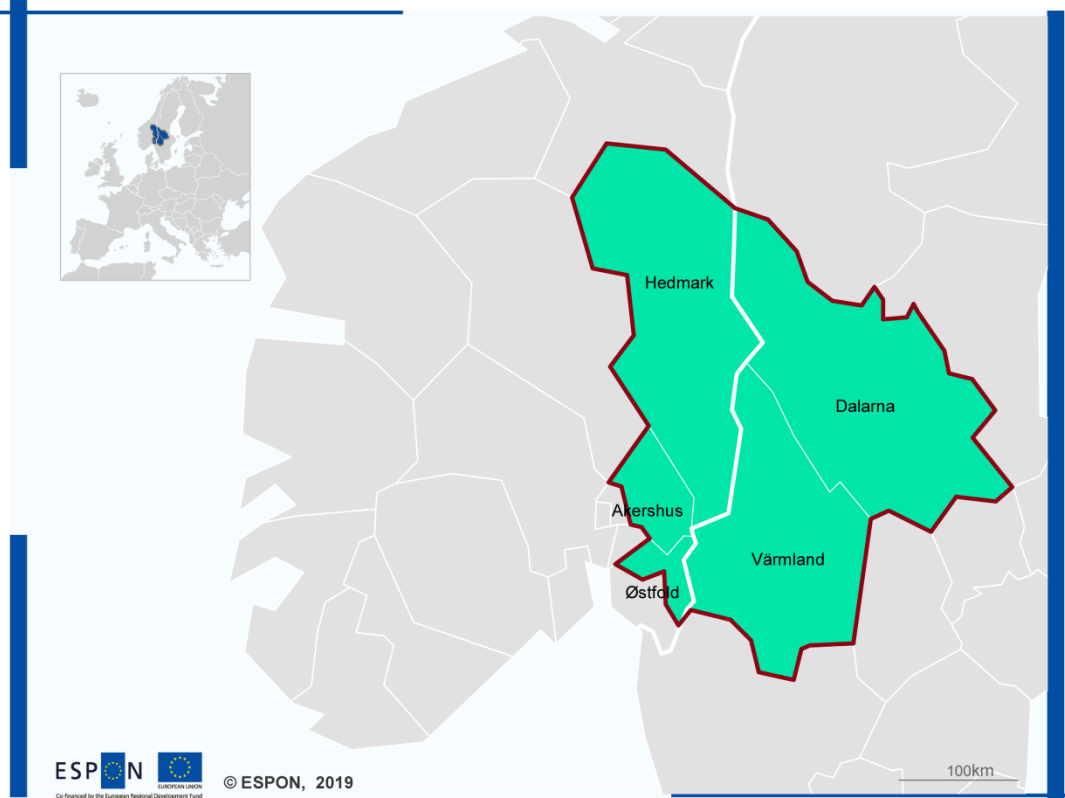
Territorial level: NUTS3 and LAU2 (version 2013)
 Source: Espo CBC TIA, 2019
 Origin of data: Nordregio, 2019
 © UMS RIATE for administrative boundaries

The clearest dimension of cross-border added value concerns the number of companies collaborating across the border: Interviewees estimated that the impact of the Interreg cross-border programme has been particularly decisive for this development, in supporting a networking culture among SMEs through which it has gradually become completely natural to engage with partners and supply chains across the border. The cross-border links are naturally dependent on geographical distance and are strongest in the immediate cross-border area between businesses in shared thematic areas, for example forestry, food, and construction. While business and entrepreneurship are being promoted by many other actors and funding sources, the increase in cross-border networking visible today would not have occurred in the absence of the cross-border programme. There is a clear lack of political interest in the programme area to strengthen cross-border activities, and many of the efforts undertaken by Interreg are unlikely to persist beyond the duration of the project, making their impact short-term in nature.

Entrepreneurship and SME growth is naturally more centred in and around more densely populated urban centres in the programme area, agglomerating around important markets, supply chain partners, research facilities and universities, etc. Whether the main business agglomeration is on the Swedish or the Norwegian side of the programme area depends on the industry in question, but in general terms the framework infrastructure, funding opportunities, and culture and tradition for entrepreneurship are stronger in Sweden. While rural areas on both sides of the border face the risk of falling behind in business growth, interviewees pointed out that stakeholders and authorities in smaller localities are often very actively involved in, for example, Interreg-funded projects as collaborators, pilot areas, as a means to combat the challenges posed by a more remote location and/or sparse population and to boost regional SME development. Pioneer entrepreneurs can thus be found in smaller localities across the programme area.

Map 2.8: Impact Magnitude for indicator “Number of companies engaged in export efforts”

Impact magnitude for indicator 'Number of companies engaged in export efforts'



Impact magnitude

- 0
- 1
- 2

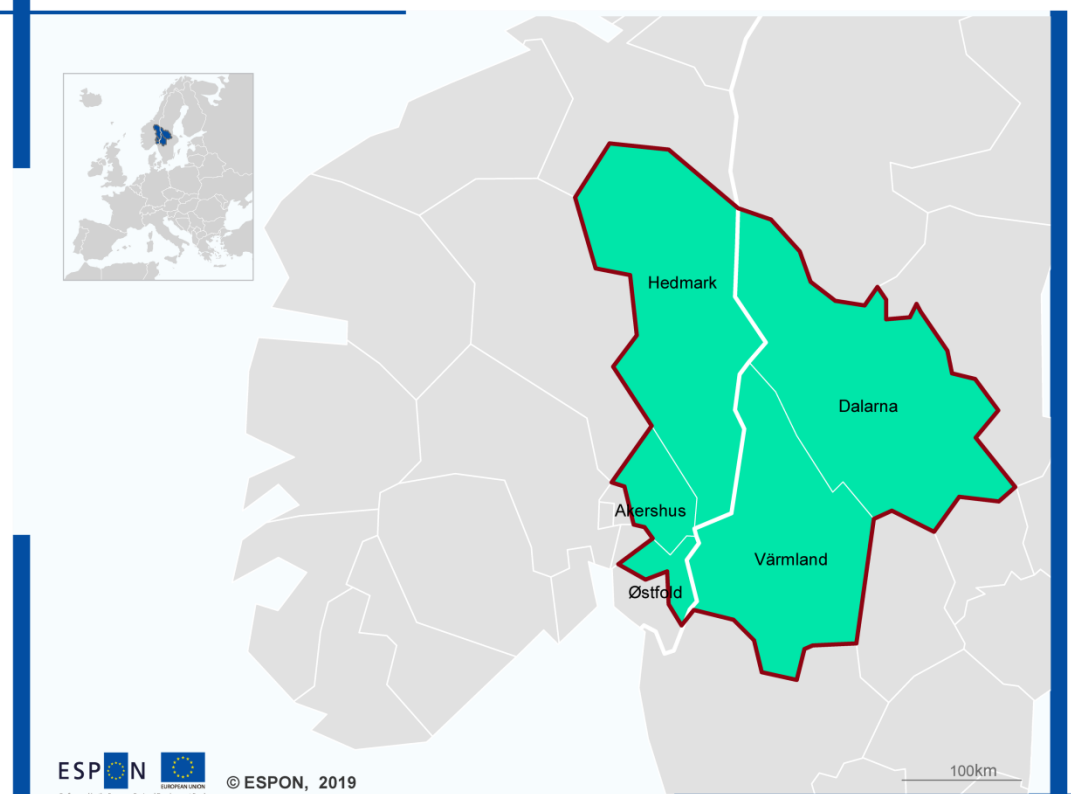
Qualitative assessment of project impact magnitude in January 2019. Zero means no significant change compared to baseline year (2014)

Source: Stakeholder workshops

Territorial level: NUTS3 and LAU2 (version 2013)
 Source: EspoN CBC TIA, 2019
 Origin of data: Nordregio, 2019
 © UMS RIATE f or administrative boundaries

Map 2.9: Impact Magnitude for indicator “Number of new enterprises with 1-4 employees”

Impact magnitude for indicator 'Number of new enterprises with 1-4 employees'



Impact magnitude

- 0
- 1
- 2

Qualitative assessment of project impact magnitude in January 2019. Zero means no significant change compared to baseline year (2014)

Source: Stakeholder workshops

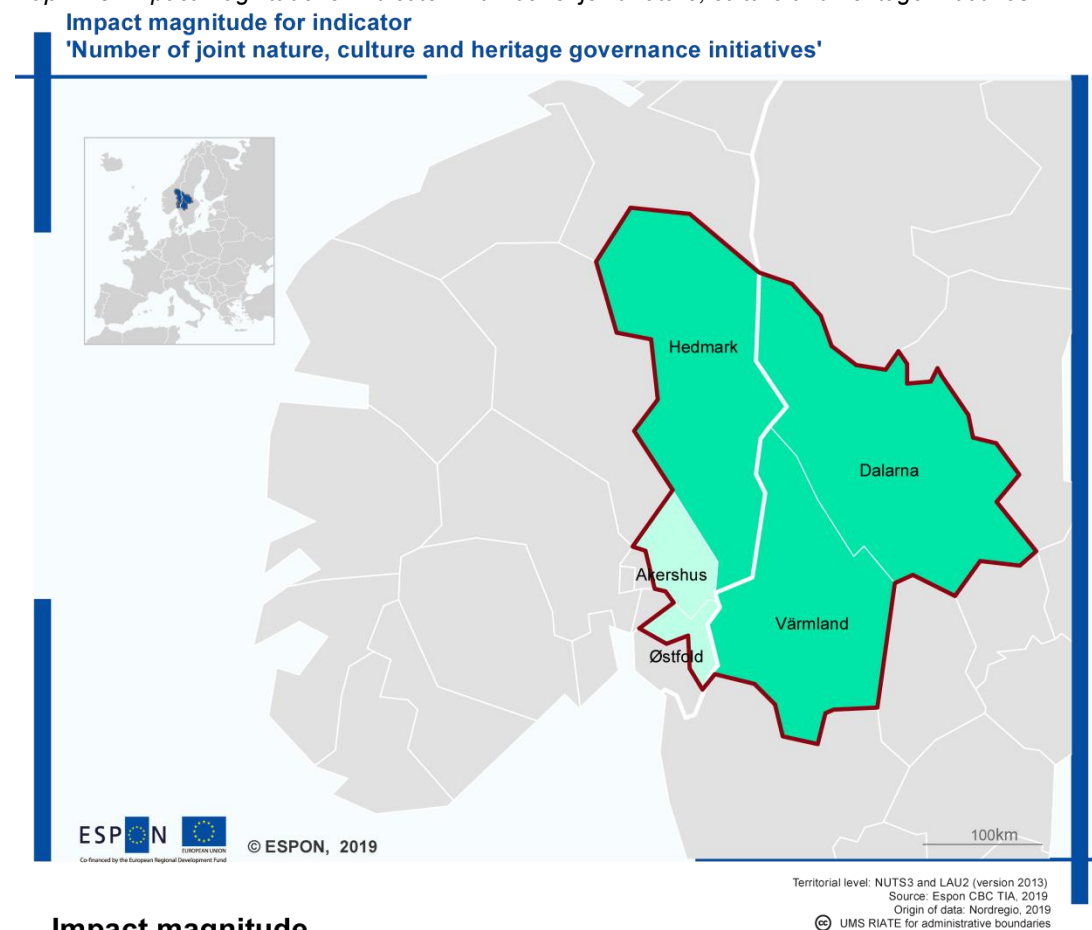
Territorial level: NUTS3 and LAU2 (version 2013)
 Source: Espo CBC TIA, 2019
 Origin of data: Nordregio, 2019
 © UMS RIATE for administrative boundaries

Specific Objective 4: Increase the access to and engagement with the natural and cultural heritage of the border region while maintaining their status of conservation

The Thematic Objective of management and conservation of natural and cultural heritage entails efforts and aims with concrete cross-border reach: The Sweden-Norway border cuts across river valleys, animal migration patterns, and cultural heritage sites, the management and conservation of which crucially depend on harmonised and coordinated management efforts between the relevant authorities of the two countries. Funding by the Interreg Sweden-Norway programme is a central element in enhancing this cross-border collaboration. That being said, judging by the information gathered through the stakeholder workshops, the efforts undertaken so far through interventions funded by the programme have been uneven in distribution and effectiveness, and clear cross-border advancements seem to be lacking in several areas of natural and cultural heritage conservation. Further complications arise from

diverging strategies and lacking communication between Swedish and Norwegian stakeholders at different administrative levels. This means that Interreg-funded projects need to undertake substantive efforts in order to ensure long-term impact of their interventions on the natural and cultural environment in the border region.

Map 2.10: Impact Magnitude for indicator “Number of joint nature, culture and heritage initiatives”



Impact magnitude

- 0
- 1
- 2

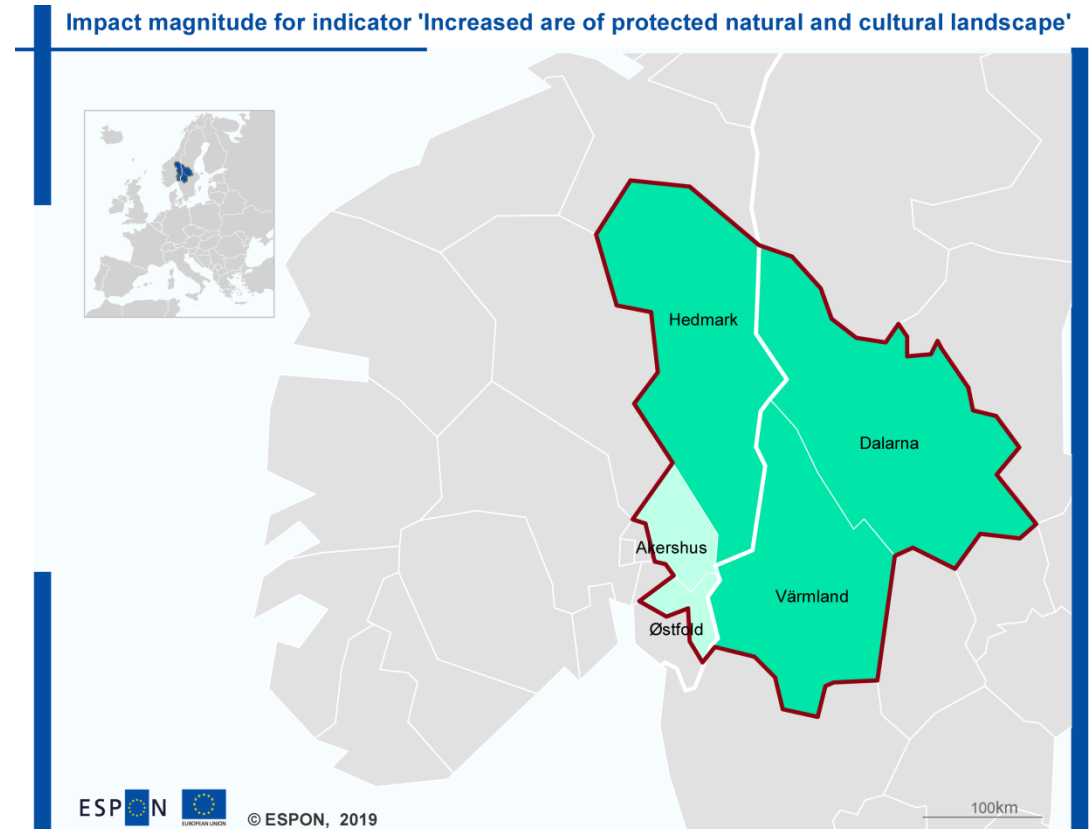
Qualitative assessment of project impact magnitude in January 2019. Zero means no significant change compared to baseline year (2014)

Source: Stakeholder workshops

It is too early to distinguish in detail whether the cross-border programme has been impactful in improving natural and cultural conservation status in the border region. For example, many of the critically endangered species and vulnerable ecosystems supported by programme projects are yet to show significant signs of recovery. It is difficult to link and compare programme-level indicators with specific, project-level activities, and thus establishing an overall impact in the short term is quite complicated. However, in terms of output and activity in mobilising new collaborations and targeting new focus areas, it stands clear that the projects fund-

ed by the cross-border programme have performed reasonably well. Interviews revealed that many initiatives that had only reached planning stages earlier have been concretely operationalised during the current programme period. These advancements have taken place in particular in collaborative natural heritage conservation efforts, such as protecting river ecosystems and species living in the several cross-border water bodies of the programme area, as well as coordination of gamekeeping and conservation of forest mammals living and moving back and forth across the border. Compared to these projects focusing on natural areas, efforts and investment focus in cultural heritage conservation have been much less extensive during the current programme period.

Map 2.11: Impact Magnitude for indicator “Increased are of protected natural and cultural landscape”



Impact magnitude

- 0
- 1
- 2

Qualitative assessment of project impact magnitude in January 2019. Zero means no significant change compared to baseline year (2014)

Source: Stakeholder workshops

Territorial level: NUTS3 and LAU2 (version 2013)
 Source: EspoN CBC TIA, 2019
 Origin of data: Nordregio, 2019
 © UMS RIATE for administrative boundaries

The undertakings of the cross-border programme are spread across the natural, predominantly rural areas of Inner Scandinavia. Some variation in project intensity between regions and municipalities are linked to the prevailing natural conditions and how well they link to the the-

matic focus areas of the programme's natural heritage projects. Even more significant, however, is the variation caused by administrative factors. As recounted by interviewees, the activity and engagement of local and municipal authorities to support project causes and to improve collaboration with cross-border counterparts varies substantively based on available resources and previously existing connections. As a general remark, one interviewee noted that Norwegian local administration seems more actively and strongly engaged than the Swedish equivalent. The Norwegian decentralised administrative bodies are perceived by this interviewee to carry more autonomy and resolve to collaborate with the projects funded by the cross-border programme. Another factor, the interviewee continues, is that Swedish local authorities seem to be influenced more strongly than Norwegian counterparts by the structural power of industrial stakeholders in the area, who threaten to relocate, for example, power plant operations if their activities are inhibited by increased natural conservation efforts. In conclusion, the expert interviewee emphasised that collaboration between local and/or national authorities across the border continues to mainly be shaped as common initiatives, increased communication, and intercalibration in units of monitoring natural and cultural heritage conservation, while the actual management plans for conservation remain distinctly separate between the two countries.

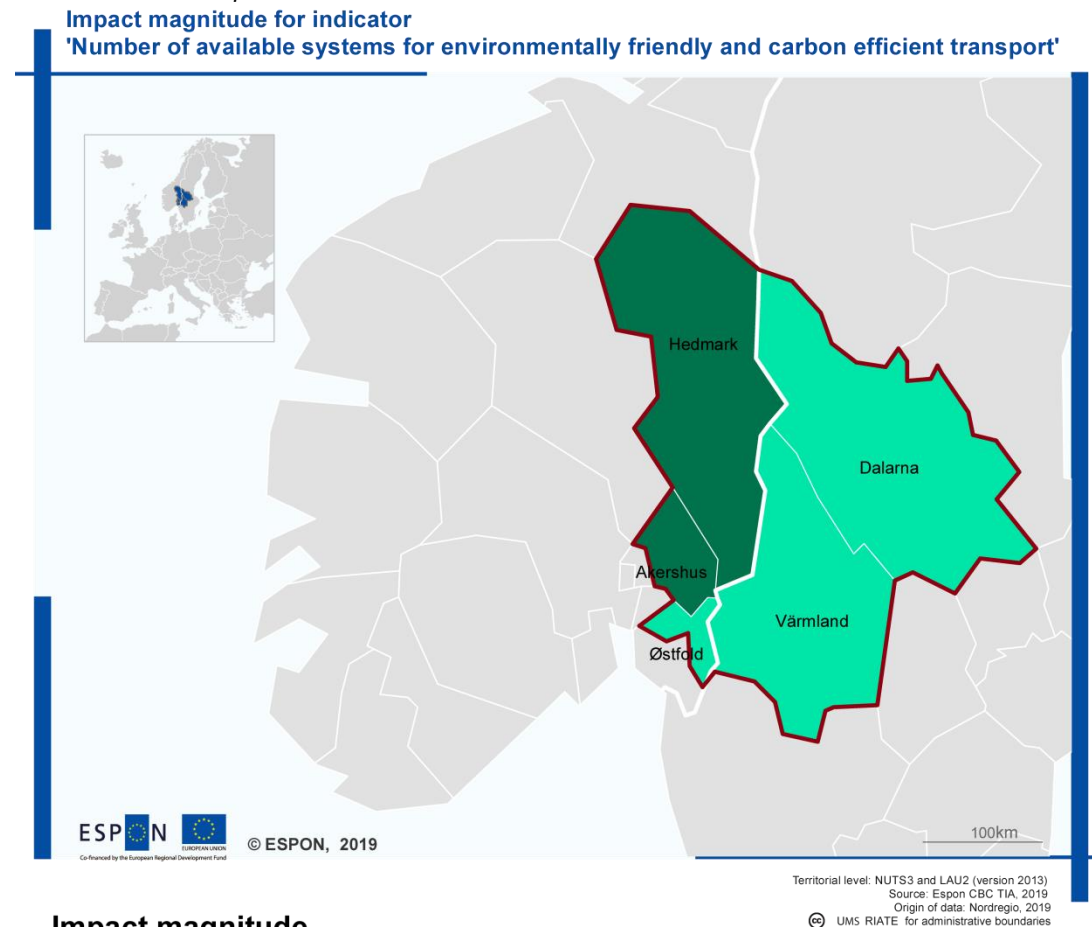
Specific Objective 5: Increase travel by cross-border public transport (TO7, PA4) and Specific Objective 6: Increase cross-border mobility with a focus on low-carbon transportation (TO7, PA4)

Transport was regarded as an important cross-border issue by interviewees due to problems of pollution, congestion and safety in the Inner Scandinavian region, however, the direct impact of the Sweden-Norway programme was regarded as relatively limited in this thematic objective. It was pointed out that cross-border collaboration is not easy to cultivate in this thematic field and that any major effects were more likely attributed to national level environmental transport tax schemes and incentives. In addition, the commitments of national government environmental departments towards meeting climate change goals, and supporting local councils in this process, were also identified as a significant factor in reducing pollution in the region.

While the programme has helped to foster the development of joint platforms for knowledge sharing on cross-border transport issues, interviewees stressed that different national level transport infrastructures and priorities make collaboration difficult and reduce the potential impact of the programme. A commitment to different types of energy regimes on either side of the Sweden-Norway border was considered as a major obstacle to collaboration. It was pointed out that there is not such a strong commitment to environmentally friendly transport on the Swedish side, whereas the Norwegian government has invested considerably in the number of charging stations, with the largest charging station in Europe located in Norway. One interviewee commented that more could be done on the Swedish side in relation to environmentally friendly transport, with biofuel industries helping to drive this process forward.

Until there is closer alignment in relation to energy and transport priorities on both sides of the border, further collaboration in this thematic area will be difficult.

Map 2.12: Impact Magnitude for indicator “Number of available systems for environmentally friendly and carbon efficient transport”



Impact magnitude

- 0
- 1
- 2

Qualitative assessment of project impact magnitude in January 2019. Zero means no significant change compared to baseline year (2014)

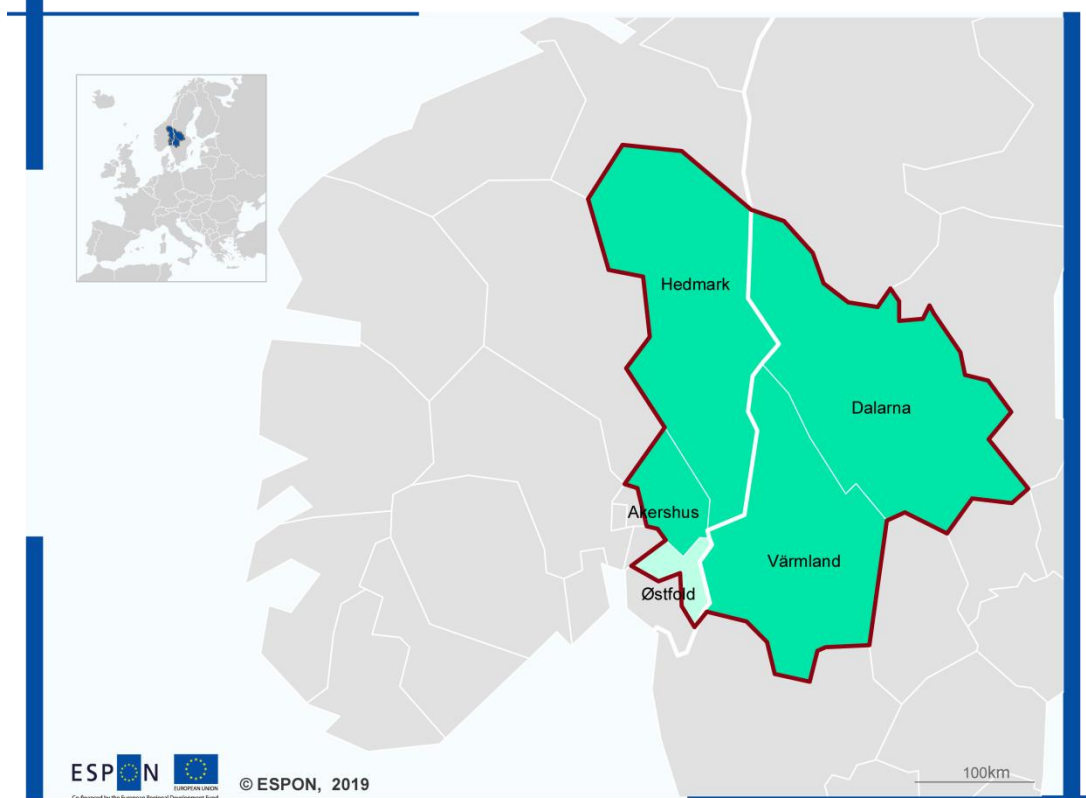
Source: Stakeholder workshops

The programme area has shown an upward trend in the number of environmentally friendly transport systems. Interviewees argued that the programme has contributed to this process indirectly through cross-border seminars that have enhanced knowledge on green transport, the feasibility of hydrogen transport and fossil free fuel transport best practices. One interviewee also underlined that the cross-border programme has given rise to very positive networking and collaboration between the management teams of different projects, with the potential to lead into new collaborations and sustainable transport systems and platforms. However, the most important contributing factor to an increase in environmentally friendly

transport in the region was attributed to national level tax incentive schemes, which encourage consumers in the region to buy electric cars to make financial savings. Consumers on the Norwegian side have embraced such incentives, which could be one reason in the reduction of greenhouse gas emissions in the region, but this could also be a result of local council level environmental initiatives. Very few people on the Swedish side purchase environmentally friendly vehicles as tax incentives are more modest and as the main car provider in the country, Volvo, do not yet produce an electric model. On the Norwegian side, upcoming financial reductions in the tax incentive scheme are predicted to have negative impacts on the number of electric car brought in the region and the inevitable downward trend in emissions that this could cause as a result.

Map 2.13: Impact Magnitude for indicator “Number of joint platforms for cross-border knowledge-sharing on transport infrastructures”

**Impact magnitude for indicator
'Number of joint platforms for cross-border knowledge-sharing on transport infrastructures'**



Impact magnitude

- 0
- 1
- 2

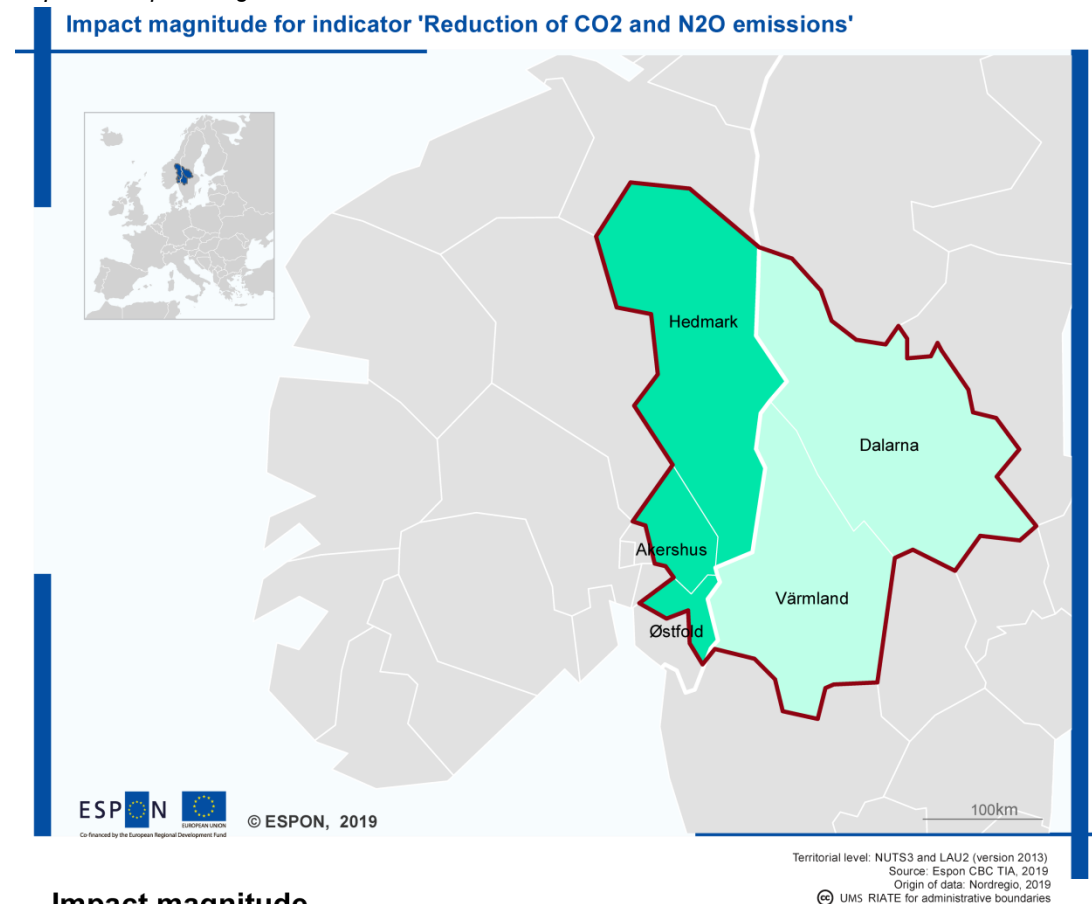
Qualitative assessment of project impact magnitude in January 2019. Zero means no significant change compared to baseline year (2014)

Source: Stakeholder workshops

Territorial level: NUTS3 and LAU2 (version 2013)
Source: EspoN CBC TIA, 2019
Origin of data: Nordregio, 2019
© UMS RIATE for administrative boundaries

Some important geographical differences were highlighted in this thematic objective area. Interviewees pointed to a strong urban-rural distinction in funding provision, with densely populated regions receiving more money as cities are leading the way in environmental transport reforms. Furthermore, the concern of regional organisations in relation to transport issues was considered important for regional differentiation. Hedmark county was particularly active in this area, whereas areas including Ostfold, Dalarna and Värmland were less involved in transport reforms. Limited resources and time was put forward as one reason for a lack of involvement from local administrations and stakeholders in rural areas. It was also noted that there was stronger collaboration across the border in the Southern region of Inner Scandinavia where existing networks meet regularly to discuss cross-border transport issues. The impact of the cross-border programme is, therefore, heavily dependent on the regional spread of existing networks and initiative-takers, and that these divergences have not been significantly counteracted by the measures supported by the Interreg programme.

Map 2.14: Impact Magnitude for indicator "Reduction of CO₂ and N₂O emissions"



Impact magnitude



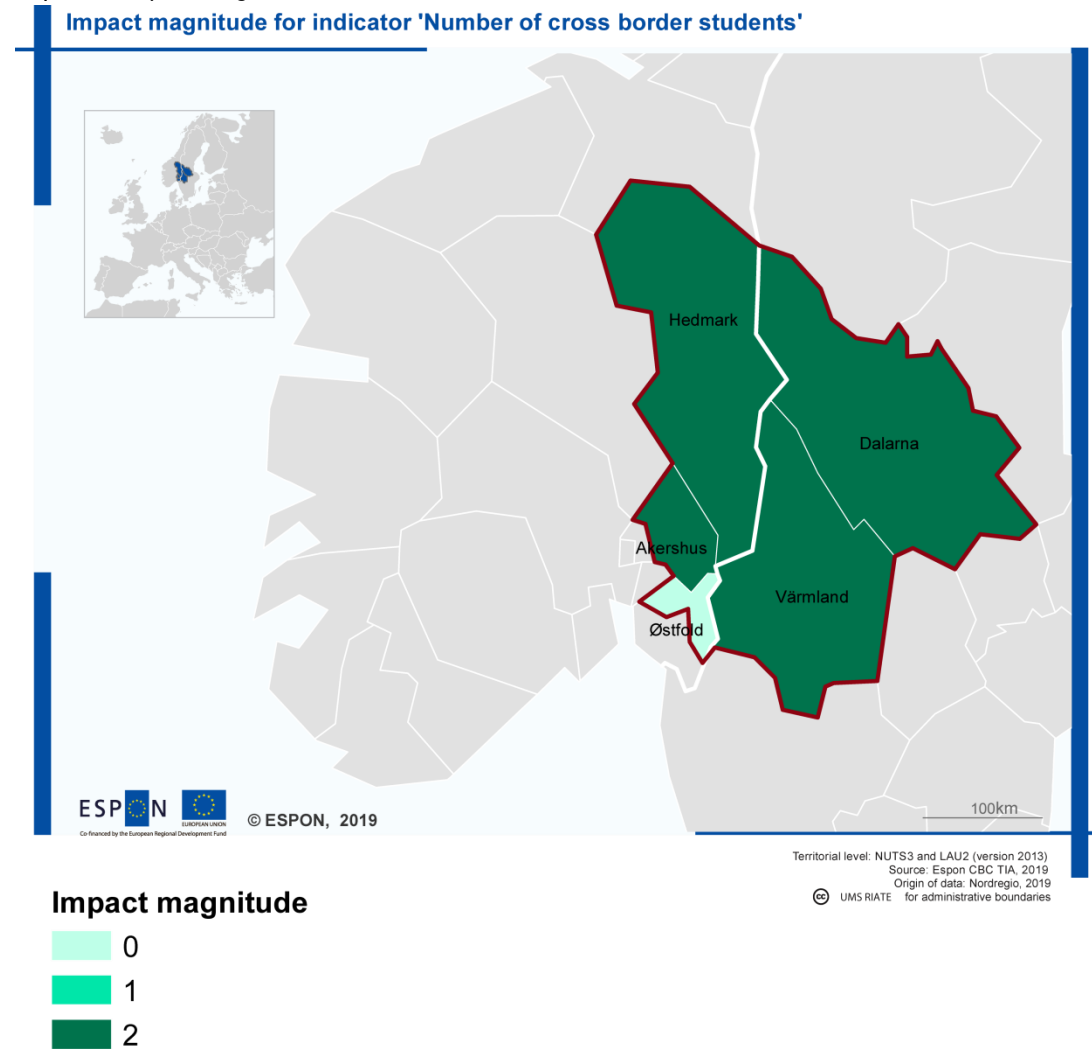
Qualitative assessment of project impact magnitude in January 2019. Zero means no significant change compared to baseline year (2014)

Source: Stakeholder workshops

Specific Objective 7: Increased cross-border labour mobility and training (TO8, PA5)

The Sweden-Norway programme makes a significant contribution in terms of enhancing labour mobility by encouraging the development of cross-border mobility schemes and studentships in emerging areas such as green innovation and the bioeconomy. Interview respondents noted that the programme can be considered an important source of any increases in cross-border labour mobility as this is an essential element within most of the projects in the programme area and as there are no national or local level initiatives that focus on promoting employment and education between regions. However, interviewees highlighted that any labour mobility increases that came through the Interreg programme are usually of a short-term nature, as workers or students returned to their home countries once project related jobs or educational courses had concluded.

Map 2.15: Impact Magnitude for indicator "Number of cross border students"

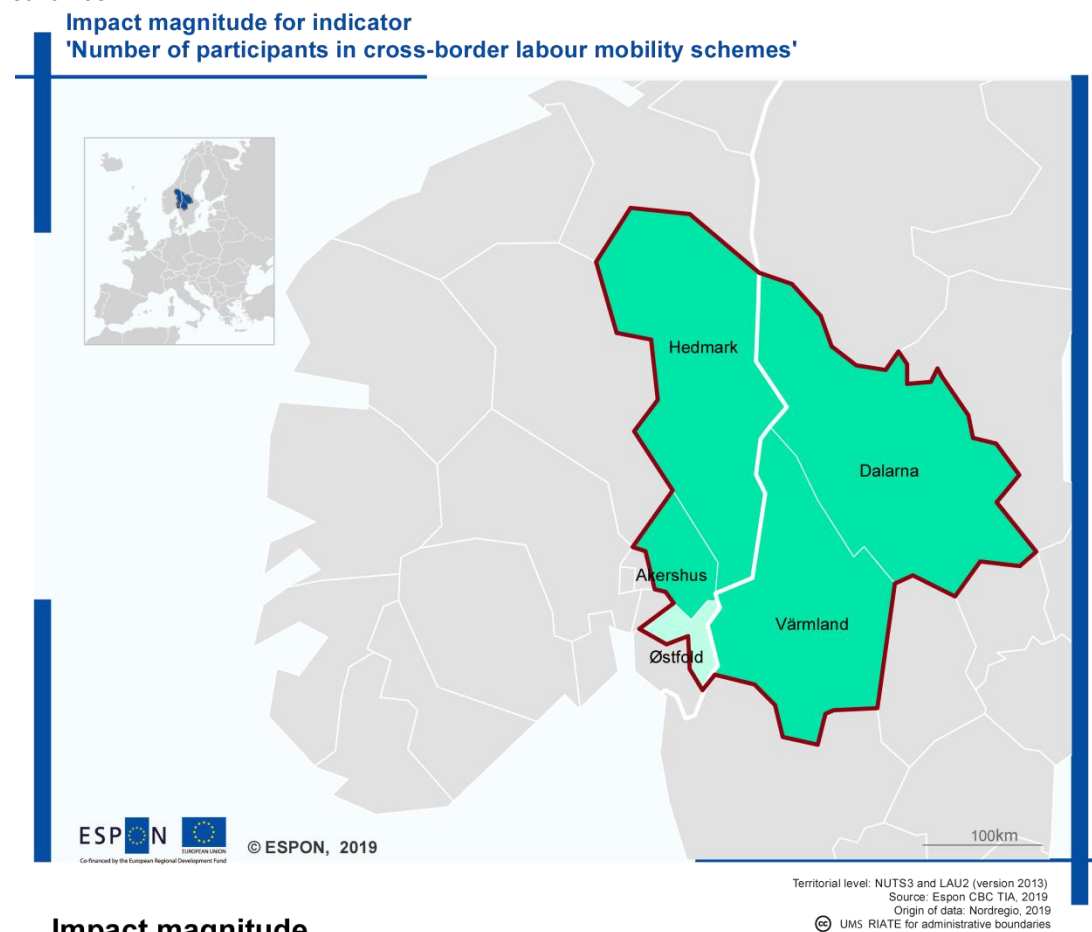


Qualitative assessment of project impact magnitude in January 2019. Zero means no significant change compared to baseline year (2014)

Source: Stakeholder workshops

Both indicators on the number of participants in cross border mobility schemes and number of cross-border students show an increase on expected results. The Interreg programme was noted as being particularly important in relation to fostering the cross-border mobility of students. One respondent noted that student involvement was prevalent in most cross-border projects during the 2014-2020 period. It was noted that this was the result of high levels of interaction and cooperation between higher education institutions in the programme area. Indeed, one interviewee pointed to the strong network between universities in the Hedmark, Värmland and Dalarna regions as the reason for this increase and that this network has been consolidated through involvement in Interreg cross-border activities.

Map 2.16: Impact Magnitude for indicator 'Number of participants in cross-border labour mobility schemes'



Impact magnitude

- 0
- 1
- 2

Qualitative assessment of project impact magnitude in January 2019. Zero means no significant change compared to baseline year (2014)

Source: Stakeholder workshops

Interview participants highlighted an urban-rural divide within the thematic objective of labour mobility. This is reflected in the spread of funding allocated to the regions of Hedmark, Värmland and Dalarna that have more diverse urban economies with strong higher education institutes. They noted that cross-border labour mobility was most likely to occur in areas of shared industrial strength between Sweden and Norway, such as forestry, eco-foods and the building sector. Labour mobility was most likely to occur in the cities and towns as more employment opportunities are available and there is also a stronger political commitment to enhance cooperation between urban nodes, but large geographic distances between cities makes this process difficult. In other words, the effect of the cross-border programme in enhancing and enabling labour mobility has been centred around the sectors and localities with the strongest agglomeration and existing cross-border connection. While the impact of Interreg support has been positive, recognising this impact needs to account for the regional and sector-specific variation and context.

2.6 Methodological commentary for the programme setup

The process of developing and implementing the territorial impact assessment highlighted some weaknesses in the methodological set-up adopted in the development of the Sweden-Norway programme for the 2014-2020 period. The challenges are outlined in more detail below and recommendations are made for improving the programme set-up methodology in future programming periods.

The identification of relevant and appropriate indicators for the intervention logics was difficult as the original result indicators outlined in the programme area document were extremely nebulous and did not link up well with the needs, measures and effects of the specific objectives. In addition, the result indicators in the programme document lacked baselines or clear measurement units. Discussions in the first workshop revealed that an intervention logic approach had not been used in the development of the programme indicators. Furthermore, regional thematic and national data experts were not involved in the selection of indicators and the identification of measurements and data gathering methods. The lack of an expert-led intervention logic process at the inception stage of the programme had implications on the quality of indicators selected and the data collection processes adopted.

Data availability and quality was a major challenge in relation to the results and output indicators of the programme. Managing authority representatives were unfamiliar with the programme area result indicators that had been included in the intervention logics and the research team was informed that there was no data available in relation to these results indicators. The main reason for this is that the methodological complexity of gathering this information was beyond the scope of the managing authority. In the programme area document, the national statistics offices of Sweden and Norway were noted as the primary sources of data on the results indicators. It soon became apparent after initial data searches by the research team that the national statistics offices were not gathering data on these results

indicators. Furthermore, checks on data availability, or the capacity of national statistics offices to gather this information, had not been conducted during the formulation of the programme result indicators. These issues highlight the importance of involving national and regional data experts at an early stage in the development of indicators and data gathering processes.

The data that was available on the output indicators was largely incomplete and had not been collected at NUTS 3 level. This problem highlights the importance of coordinating and determining the level of geographic resolution that data should be gathered at an early stage in the development of the programme area document. The low quality of output indicator data also exposes the need to raise stakeholder awareness of programme output indicators and effective data gathering procedures in cross-border projects. This need was particularly evident in the workshops, as the regional thematic experts that participated did not have extensive knowledge on some of the original indicators included in the programme document and raised doubts about the feasibility to gather data on them.

The lack of data availability was also evident during expert discussions on the alternative CBC indicators presented by the research team in the first workshop. The experts participating in the workshops lacked knowledge of potential data sources and data availability in relation to these indicators and expressed doubts that they would be able to provide a qualitative assessment of them. The final set of indicators was therefore partially reformulated to better fit the expertise and insight available among the workshop participants.

A final key challenge for the intervention logic methodology is that even in cases of high data availability it is extremely difficult to show a causal connection between programme interventions and national/regional impact and development trends. Workshop participants pointed out that result indicators cannot reflect the short-term impacts of the programme and can often only be assessed long after the programme ends. The qualitative assessments highlighted the problems of establishing a clear link between the programme and its impact, with workshop participants noting that the programme is usually just one factor, often a very small contributing factor, in explaining regional development trends. Workshop participants pointed out that result indicators, which often predominantly provide indirect impacts, are often too broad to capture the effect of programme interventions. They continued that increasing emphasis could be placed on selecting and improving the monitoring of relevant targeted output indicators as a reflection of short-term direct impact from the programme. Indeed, there is a need to focus on targeted indicators that can be linked to the programme's main aim of enhancing cross-border collaboration, rather than to broad indicators that are hard to link to the central cross-border element of the programme. In this regard, the list of common CBC indicators provides some good examples of targeted indicators with a cross-border focus that could be used in future programme periods.

During the workshops, expert participants highlighted some limitations in relation to specific indicators in their thematic areas and suggested alternative indicators that could be used in

future programme periods. These observations are outlined more below in relation to each specific objective area.

Specific Objective 1: Increase the R&D and innovation capabilities of organisations and enterprises (TO1, PA1)

The interviewees expressed approval of the general way that the intervention logic and indicators for TO Innovation had been structured by the case-study team. They pointed out, however, that measuring the long-term expansion of the innovation ecosystem is quite complex and that careful planning of indicators and monitoring methodology should be undertaken ahead of subsequent programme periods. Instead of counting the total number of clusters and networks, the interviewees noted that it could be more useful and informative to measure the number of stakeholders involved in the existing clusters, thus trying to capture the trends of how the innovation ecosystem and social networks expand and develop as a whole and in the long term. With regard to the indicator on new patents and trademarks, the interviewees noted that an alternative measure could be the number of new product types and ideas on a more general level than simply measuring patent and trademark registrations, as there is great cross-sector variation in the character of intellectual property and in whether or not new ideas are patented.

Specific Objective 2: Increase the competitiveness of enterprises (TO3, PA2) and Specific Objective 3: Increase the frequency of establishment in the programme area (TO3, PA2)

Overall, interviewees thought that the intervention logics and proposed indicators measured and reflected well the most recent developments for this thematic objective. Instead of merely focusing on companies cooperating across the border, they suggested including also collaborative initiatives between facilities of higher education and research, as these efforts directly support the development of the business environment. The monitoring of export efforts as well as the number of new enterprises seemed to the interviewees as suitable indicators that could be used also during subsequent programme periods.

Specific Objective 4: Increase the access to and engagement with the natural and cultural heritage of the border region while maintaining their status of conservation

There were many apparent shortcomings highlighted in relation to the chosen indicators for this thematic objective. At the time of inception of the cross-border programme, no guidelines or decisions were communicated on how to interpret and define in a cross-border harmonised way the units to be measured with relation to increased natural and cultural heritage protection and collaboration. This gives rise to lacking statistical records of how the output and impact of the projects develop over time and across the programme area. In order to alleviate these data gaps, national environment departments should be increasingly involved in the planning and execution of monitoring and data gathering, already before the inception of the programme period. Moreover, guided by general natural conservation discourse or, for example, legal instruments such as the European Water Framework Directive, many localities and

stakeholders in Inner Scandinavia have involved themselves in similar projects and initiatives to those funded by the Interreg cross-border programme without having any direct connection to the latter. This extensive range of alternative impact sources implies that, while the activities and output of individual projects can be monitored and analysed, it is impossible to link short-term programme or project level outputs to long-term overall impacts to comprehensively assess the share of directly Interreg-driven impact in natural and cultural heritage collaboration and conservation.

Specific Objective 5: Increase travel by cross-border public transport (TO7, PA4) and Specific Objective 6: Increase cross-border mobility with a focus on low-carbon transportation (TO7, PA4)

Interviewees noted that it was very difficult to assess the overall impact of the programme in relation to the existing transport indicators. They pointed out that some of the Commission CBC indicators might be more useful for future programmes, such as assessing the number of cross-border commuters, however, the emphasis should be on producing a more detailed analysis of transport patterns across borders focusing on different transport nodes, including the number of new cross-border transport links created in relation to bus and train routes. Finally, it was also suggested that the programme should focus on developing new cross border transport plans and recommendations and assess to what extent they have been implemented within regional political infrastructures.

Specific Objective 7: Increase cross-border labour mobility and training (TO8, PA5)

Interviewees noted that it was extremely difficult to find effective indicators to keep track of labour mobility across borders. The interventions of the Interreg programme were largely based on short term interactions and it is, therefore, not easy to assess impact over the long term in this thematic area. It was also noted that it would be difficult to assess and link the impact of programme activities to alternative indicators such as the number of cross-border commuters and employment levels in the region as other factors would most likely be the main cause of fluctuations in relation to these indicators.

Table 2.8 provides a list of alternative cross-border indicators that could be useful for measuring impact by specific objectives in future programme periods. The indicators come from the Commission’s CBC list (CBC) and alternative sources including suggestions from experts in the two workshops, other programme area documents and Commission/ESPON reports (A).

Table 2.8: Alternative Indicators List for Specific Objectives

Specific Objectives	Alternative Indicators
Specific Objective 1: Increase the R&D and innovation capabilities of organisations and enterprises (TO1, PA1)	Organizations cooperating 6-12 months after project completion (CBC) Joint strategies/action plans/pilot activities taken up by organizations after project completion (CBC) Number of tested prototypes (A) Number of new product development initiatives (incl. non-patentable sectors) (A) Percentage of R&D expenditure in regional GDP (A)

Specific Objectives	Alternative Indicators
	Number of connections/stakeholders involved in the cross-border innovation ecosystem (A) Number of people employed in R&D (A)
Specific Objective 2: Increase the competitiveness of enterprises (TO3, PA2) and specific Objective 3: Increase the frequency of establishment in the programme area (TO3, PA2)	Exports in the cross-border territory (CBC) Number of SMEs with cross-border businesses (CBC) Organizations cooperating 6-12 months after project completion (CBC) Joint strategies/action plans/pilot activities taken up by organizations after project completion (CBC) Survival rate of new enterprises (A)
Specific Objective 4: Increase the access to and engagement with the natural and cultural heritage of the border region while maintaining their status of conservation (TO6, PA3)	Environmental indicators (air pollution, water quality, land-use, biodiversity, share of renewable energy, number of cars per household). (CBC) Cross-border energy network connections compared to previous years (CBC) Number of cross-border energy infrastructure projects (CBC) Quality of cross-border cooperation between environment and culture organizations compared to previous years (CBC) Number/area of Natura 2000 sites (A) Number of overnight stays/tourists (A) Number of protected or restored units of natural and cultural heritage (species, cultural heritage sites etc.) (A)
Specific Objective 5: Increase travel by cross-border public transport (TO7, PA4) and Specific Objective 6: Increase cross-border mobility with a focus on low-carbon transportation (TO7, PA4)	Number of cross-border commuters (A) Potential accessibility of the cross-border territory by road/rail/air compared to previous years (CBC) Cross-border public transport connections compared to previous years (CBC) Quality of cross-border cooperation between public transport organizations compared to previous years (CBC) Number of cross-border transport infrastructure projects (CBC) Number of electric vehicles (A) Volume/proportion of rail and waterway freight transport (A) Volume/proportion of commuting by different sustainable transport methods (A)
Specific Objective 7: Increase cross-border labour mobility and training (TO8, PA5)	Access to employment services in neighboring country (CBC) Number of cross-border workers (CBC) Number of cross-border placements (CBC) Number of cross-border bi-diplomas (CBC) Employment in different sectors (CBC) Cross-border territory GDP/unemployment rates (CBC) Quality of cooperation between employment services/educational institutions compared to previous years (CBC)

The TIA has revealed some weaknesses in the programme-set up for the Sweden-Norway programme in relation to indicator development and measurements processes. In the formulation of future programmes, the managing authorities would benefit from conducting a robust expert-led intervention logic process at the programme inception stage if appropriate and measurable results and output indicators are to be developed. Indeed, managing authorities need to involve regional and national thematic/statistics experts at the earliest possible stage to ensure that measurable indicators are selected and appropriate data gathering and reporting procedures are developed. A quantitative-based ex-post TIA will have little value if there is no regionalised and comprehensive data available to make an evaluation, therefore, national statistics and data gathering experts should be involved in this process at an early stage guiding the indicator development and data gathering procedures. The complications

with quantitative methods of assessment and data availability suggest that managing authorities should explore a more balanced approach to impact assessment using both quantitative and qualitative indicators. Qualitative methods are a useful tool for ex-post TIAs, but careful thought is required at the outset of a programme period on the best mechanism available for gathering qualitative data.

2.7 Methodological commentary

The template and instructions provided within the case study handbook provided a clear and easily understandable methodology for developing and conducting a TIA of CBC programme areas. The guidelines were followed closely during the Sweden-Norway case study. This section outlines the main challenges and obstacles faced during the implementation of the TIA methodology and presents some suggestions for improving the existing process (section 2.7.1). This empirical assessment is followed by some broader reflections on the overall suitability of the methodology (section 2.7.2) and whether it can be applied in other programme areas (section 2.7.3). Finally, a number of recommendations are outlined for improving TIA processes which can be used by MA representatives and other stakeholders in the development of effective indicators for future programme periods.

2.7.1 TIA Process

The four-stage intervention logic process outlined in the case study handbook (needs-measures-effects-indicators) was largely intuitive and easy to follow, especially in relation to establishing the needs and measures within each intervention logic. Basing the needs section of the intervention logic on the specific objectives outlined in the programme document made sense as they are more focused and finely grained than the broader thematic objectives. Similarly, the proposed joint cross-border actions highlighted in the programme document and annual implementation reports were easy to adapt to establish the intervention logic measures.

The most difficult part of constructing the intervention logics was trying to interpret the main effects of the measures identified. It was not easy to ascertain from the programme documentation and ex-ante evaluations what the overall anticipated results and effects were, which raised concerns that this part of the process was left open to subjective misinterpretation from the research team. This meant that the effects needed to be carefully validated by the MA representatives and experts in the first workshop.

The process of identifying relevant and appropriate indicators was more complicated. The research team endeavoured to use the result indicators highlighted in the programme area document, but where these indicators were extremely vague, or did not clearly link up with the effects, potential backup indicators from the Commission CBC indicator list were added to the logics, so they could be discussed in the first workshop. Overall, the case study handbook instructions were easy to follow in relation to forming the intervention logics as the information

was readily available within the programme area documents, especially with regards to formulating the needs and measures. The main challenge was trying to accurately interpret the effects and find relevant and appropriate indicators to measure them. In this task, the Commission's CBC indicator list was helpful, but other sources could also be useful in this process, including results indicators from different programme area documents and Commission/ESPON projects reports.

The first workshop was organised to introduce the intervention logics to managing authority representatives and regional experts. Organising the workshop was problematic as regional government restructuring decreased the availability of managing authority contacts. Furthermore, no MA representatives or experts from the Swedish side of the border attended the workshop, giving rise to a geographic imbalance in the profile and expertise of the attendees.

Participants in the workshop were satisfied with the way that specific objectives had been blended together and that the research team had correctly interpreted the needs and measures of the programme area. The effects were also largely interpreted correctly, but there were one or two exceptions which required editing: For example, the MA highlighted that the anticipated effects with relation to the thematic objective of natural and cultural heritage related more to creating platforms for improved administrative collaboration across borders and decision-making authorities than to increasing tourism and accessibility. Likewise, the anticipated effects of labour mobility efforts were also amended to account more for inter-institutional cross-border collaboration among universities and other stakeholders than to simply measuring the volume of students or workers moving across the border.

The major discussion points in the first workshop surrounded the choice of indicators and data availability. The current managing authority representatives were unfamiliar with the result indicators that had been included in the intervention logics and drawn from the programme document. The research team was informed that there was no data available in relation to these results indicators due to the bureaucratic complexity of gathering this information, which was beyond the scope of the managing authority. The bureaucratic challenge of gathering data suggests that experts at national statistics offices can play an important role in the early stages of future programme periods by identifying indicators that are feasible to measure.

As there was no data available on the result indicators the research team provided a list of alternative indicators for discussion, including many from the common CBC indicators list. The participants regarded many of the CBC indicators as potentially useful, but they suggested that sufficient data would not be available for conducting a thorough assessment on them. Other common CBC indicators were adopted into the final intervention logics but with minor formulation changes to make sure the qualitative expert interviews had the capacity to provide an assessment of them (for example, instead of the number of cross-border bi-diplomas, the experts felt more comfortable providing an assessment of the trends in the numbers of cross-border students overall). In addition, participants commented that it was often not clear

whether an indicator proposed in the common CBC list was a result or an output indicator. The managing authority went on to suggest as a new focus for analysis a number of output indicators from the original programme document – on these output indicators the managing authority had gathered project-level data, and they held that many of them could be considered as results indicators. Ahead of upcoming programme periods, the distinction between results and output indicators is something that should be clarified by the Commission. Many participants argued that result indicators could only be assessed after the programme has been completed, whereas output indicators could provide an immediate flavour of the impact of the programme. Furthermore, participants also suggested there was a quantitative bias within the TIA methodology and proposed that more emphasis and equal weight should be given to qualitative data inputs in future assessments.

The structure of the first workshop as outlined in the case study handbook was very effective and produced the desired results in relation to refining and consolidating the intervention logics for the next stage of the assessment. The central weakness of the workshop, however, was that the regional experts present did not have an extensive knowledge of data or the availability of data sources. This impacted negatively on the case-study process, as the decision was then taken to focus predominantly on indicators drawn from the programme document itself, the only ones for which there was any project-level data available (this project-level data, too, turned out too limited and incomprehensive to use as a base for quantitative analysis). Had the lack of comprehensive data on any output or result indicators been clear earlier in the process or even immediately during the first workshop, the process could potentially have been shifted to seek a much broader and more extensive qualitative assessment and on finding more specific expertise on common CBC indicators, the lack of which prevented the case-study team from qualitative analysis on most common CBC indicators in the present study. The regional experts did contribute some alternative data sources and came up with some novel and interesting data gathering techniques, but most of them were beyond the time, resources and scope of the project. Future workshops would benefit greatly from having a representative from national statistics offices present whose knowledge and expertise of national and regional data availability would help inform and guide the process.

The central challenge for the methodology applied during the project was the availability of data. The research team conducted an overview of data availability in relation to the finalised list of indicators developed in the first workshop and the results were not positive. The programme document highlighted the national statistics offices of Sweden and Norway as source authorities providing data on result indicators. However, in the days following the first workshop it became apparent that NUTS3-level statistics on these indicators had neither been gathered nor was going to be gathered in either country. Any available general statistics (on, for example, patents or cross-border commuting) were outdated by several years and only had partial relevance to the result indicators. In addition, even had the general field of data been provided, in many cases the specific nature of the cross-border result indicators means that the data gathering process would have had to be purposely designed in coordination with

the managing authority in order to be relevant. For example, measuring cross-border commuting between regions in the programme area would require information both on the origin and destination regions of each cross-border commuter, and this level of detail is not provided by any current data-gathering efforts. It became apparent that although the list of CBC indicators includes many potentially useful and informative indicators, their usefulness is critically linked to how well they align with information recorded by traditional data-gathering institutions.

The case study handbook proposes the gathering of “exotic” data as a supporting data source in cases of gaps in traditional data recording. However, given the timeframe and budget of the present assessment, there was no feasible opportunity to expand efforts to gather quantitative data by such external sources, as this would have required contacting several different stakeholders in different regions for each indicator separately. Consequently, we were highly dependent on qualitative assessment conducted during the second workshop, not only as a supporting source of information but as the primary channel by which to achieve any assessment of the effects and impacts of the CBC programme. The lack of data availability was a major obstacle and corroborated the views of the first workshop participants that qualitative impact assessments would be an important tool in any TIA process.

The managing authority provided the research team with data they had collected on some of the output indicators outlined in the programme document, chosen during the first workshop as the most promising for delivering potential for any quantitative analysis to combine with strong qualitative assessments with expert stakeholders. However, in the days following the first workshop it became apparent that this data could not be used as a base for quantitative assessment: In many cases this data on project-specific outputs was incomplete as the projects were ongoing and data was not yet available. The spreadsheets provided an overview of project-level output and spending, the overall spending per Thematic Objective, and specified the regions in which each project had been active as well as how much spending each project had directed at each region. While the case-study team thus achieved regional detail on project-level output, there was still the crucial lack of general baseline statistics with which to conduct quantitative calculations. This problem highlights the importance of coordinating and determining the level of geographic resolution at which to gather data at an early stage in the development of the programme area document.

The second workshop was organised with regional thematic experts to conduct a qualitative assessment of the impact of the programme in relation to the final list of indicators. Given the lack of quantitative data available, the qualitative assessments were vitally important for assessing the overall impact of the programme. Experts from each thematic objective area were invited to the workshops and a one-hour interview was conducted in each area. Once again, no experts from the Swedish side of the border were able to attend. The Norwegian experts that did participate had a reasonable knowledge of developments on the Swedish side of the border, but a more balanced geographical composition would be beneficial in future work-

shops to ensure that the qualitative assessment is not too one sided. The structure of the second workshop in the case study handbook provided a useful guide for the research team. As a suggestion for the future, the handbook could benefit from highlighting some provisional interview questions to be used and focused on during the interview process. In general, the workshop approach was effective for conducting a qualitative assessment and yielded some important data regarding the overall impact of the programme, the geographical distribution of impact, and other factors that contributed to a positive or negative impact in the regions of the programme area. The qualitative workshop interview structure was effective in garnering the information required to conduct a net impact assessment of the indicators. The workshop also contributed significantly to providing a contextual narrative in relation to the nature of cross-border collaboration in the programme area. This contextual and nuanced analysis could not have been provided by quantitative data alone. While the workshop was very informative, a one-day workshop to cover all indicators was not temporally optimal, and one half-day workshop per thematic area would be recommended in the future. The decision for a one-day workshop schedule for this case study had to be taken due to time constraints and due to the long distances of travel caused to the expert stakeholders invited to the workshop.

The lack of quantitative data available made it impossible to conduct a statistical assessment of gross and net impact. This makes it difficult assess the suitability of the data mitigation strategies outlined in the case study handbook, or the data calculation methods suggested – we came close to a quantitative analysis of patents using the funding framework approach, but did not have updated figures of the general statistics that we would have required. The Impact Assessment Matrix (IAM) provides a clean structure for recording and presenting quantitative results, but it might be an unclear presentation format for stakeholders without a clear description of the calculation methods used to reach these figures. The qualitative assessment criteria in the IAM is also largely subjective interpretation from the researcher based on data gathered in the thematic interviews. The most effective way of presenting the impact assessment results would rather be to build a written narrative that blends the results of the quantitative and qualitative analysis using maps to illustrate the points being made.

2.7.2 Intervention logic

The intervention logics developed and applied during the ESPON TIA project represents a useful tool and workable methodology to help managing authorities develop programme indicators and assess the impact of CBC programmes. Managing authority representatives from the Sweden-Norway programme were enthusiastic about the intervention logic methodology adopted during the project, noting that they had learned a lot about the processes required for developing and measuring impact assessment indicators. An intervention logic approach had not been adopted at all during the programming phase and in the formulation of indicators for the current programme period, which was reflected in the bureaucratic difficulties faced in gathering data on the output and results indicators developed in the programme document. MA representatives commented that the TIA intervention logic approach would, therefore, be an

important tool to be used in the construction of impact assessment indicators for the upcoming programme period.

The fluid and adaptable nature of the intervention logic model makes it suitable for other CBC programmes, as it can be easily adjusted to meet the needs and specifics of each cross-border region and its objectives. However, the Sweden-Norway case study has exposed the limitations of the methodology as an ex-post tool of impact assessment. The bureaucratic complexity of gathering data on programme indicators means that an intervention logic methodology should be an ex-ante conditionality applied by managing authorities at the point of programme inception and initiation, as continuous coordination in data gathering is a crucial precondition for efficient ex-post quantitative assessment. Early application of the intervention logic model is particularly important in the identification of easily measurable indicators and considerations regarding data gathering and monitoring techniques. The ex-post application of the methodology within the case study without this continuity and ex-ante data coordination has proven difficult, as data has not been available or gathered in relation to relevant indicators. At the same time, selecting indicators just because data is available is not good practice if these indicators do not reflect the anticipated effects and results of the programme.

The application of the methodology has also exposed the inherent weakness of relying too much on quantitative data. Quantitative methods can play an important role in helping to build the impact assessment narrative, but if they are to be used and implemented effectively then the data gathering capacities and reporting procedures of the managing authorities should be carefully assessed in advance of the new programme period. There needs to be closer collaboration at the inception of a new programme between managing authority and national statistics offices to determine which result indicators are relevant to the programme area, if these indicators can be easily measured, at what level of regional geographic specificity they should be measured, and how the data gathering process should be conducted. Due to the highlighted complications with quantitative methods of assessment and data availability, managing authorities should explore a more balanced approach to impact assessment using both quantitative and qualitative methods. Such an approach was supported by workshop participants, who noted that future emphasis should be placed on exploring ways to improve and expand the use of qualitative assessment methods, such as the development of standardised interviews or surveys of stakeholders across different CBC programme areas. Workshop participants also argued that there could be a larger role for researchers in observing CBC projects over time to examine the nature of cross-border collaborations and assess the impact of the project, particularly in relation cross-border stakeholder interactions. Quantitative analysis can provide a valuable and informative addition to these methods, as long as their monitoring is planned out and executed systematically over the course of the programme period and in the few years following the conclusion of the programme projects.

A final key challenge for the intervention logic methodology is that even in the case of high data availability it is extremely difficult to show a causal connection between programme in-

terventions and national/regional impact and development trends. Workshop participants pointed out that result indicators cannot reflect the short-term impacts of the programme and can often only be assessed long after the programme ends. The qualitative assessments highlighted the problems of establishing a clear link between the programme and its impact, with workshop participants noting that the programme is usually just one factor, often a very small contributing factor, in explaining regional development trends. Workshop participants pointed out that result indicators are often too broad to capture the effect of programme interventions which often predominantly provide indirect impacts. They continued that increasing emphasis could be placed on selecting and improving the monitoring of relevant targeted output indicators as a reflection of short-term direct impact from the programme. Indeed, there is a need to focus on targeted indicators that can be linked to the programme's main aim of enhancing cross-border collaboration, rather than to broad indicators that are hard to link to the central cross-border element of the programme. In this regard, the list of common CBC indicators provides some good examples of targeted indicators with a cross-border focus that could be used in future programme periods.

2.7.3 Upscaling of the methodology

The TIA methodology developed and applied in this project is a helpful tool that can be easily used by managing authorities and other stakeholders to develop new CBC programmes and measure and assess their impact. The methodology is flexible and can be adapted to fit the different contexts and needs of any programme area. The application of TIA methodology in an assessment of the Inner Scandinavia region of the Sweden-Norway programme reveals that the TIA tool is most effective if it is implemented at the ex-ante inception stage of a new programme period. Ex-ante application is particularly important if quantitative assessments are to be effective as well-established data gathering procedures are essential for providing good quality data. The TIA methodology is also a useful for ex-post qualitative assessments of programme impact. In developing an impact assessment criteria for a new CBC programme, it is essential that managing authorities work in close collaboration with regional thematic experts and national statistics offices to identify and develop measurable indicators and streamlined procedures for gathering data. Furthermore, there should be an emphasis on using both quantitative and qualitative indicators if a balanced impact assessment narrative is to be created. Based on the main case study findings outlined above, the following recommendations are made for managing authorities and stakeholders in different CBC programme to aid the development and implementing of effective TIA processes in the future:

- The TIA intervention logic model should be applied ex-ante, at the inception stage of a new programme period, to help managing authorities identify the appropriate needs, measures, effects and indicators for each CBC area.
- The TIA intervention logic model should be developed in close collaboration with a balanced geographic composition of national and regional experts from every country in the CBC area.
- Experts from national statistics offices should be included from the outset in developing measurable output and results indicators.

- Manageable data collection and reporting procedures should be established through discussions with data gathering experts from national statistics offices.
- The feasibility of using and measuring the Commission's CBC indicators should be discussed with national statistics offices.
- The feasibility of using alternative indicators from other CBC programme areas and Commission/ESPON reports should be assessed.
- The suitable geographical resolution for data gathering should be decided and harmonized ex-ante across the programme area (e.g. NUTs 2 or NUTs 3 level).
- A workshop could be held with regional stakeholders on how to develop project-level indicators that link closely with the more general-level indicators in the programme document.
- Case-study teams and relevant authorities should endeavour to strike a balance between quantitative and qualitative impact assessment data.
- The possibility of developing standardized qualitative impact assessments techniques (e.g. thematic workshops, stakeholder interviews and surveys) should be explored.

There is potential to expand the role of researchers within projects to examine closely and over time the nature of cross-border collaboration and overall impact of projects.

3 Case study Romania – Bulgaria

3.1 Introduction

This document acts as a scientific report for the ex-post Territorial Impact Assessment procedure for the CBC Programme Interreg V-A Romania-Bulgaria within the ESPON TIA CBC project. As this TIA was conducted as a pilot testing a previously developed methodology, the purpose of the report is threefold:

- Brief politicians and policymakers about the results of the Territorial Impact Assessment
- Give extensive evidence for the Territorial Impact of the Programme
- Comment on the methodology applied and its upscalability to other programmes

For policymakers, an executive summary (section 3.2) is included in the report, giving an overview of the results in around 3.5 pages and informing about the main conclusions derived from the TIA. All this information is backed in detail by the technical summary of the TIA process (section 3.4) and by the comprehensive description of the territorial impact assessment (section 3.5).

This report is produced for a pilot case study within the ESPON TIA CBC project, therefore the methodology applied will be subject to changes based on the experiences gathered within the case study. Section 3.6 acts as the commentary part, where experiences and suggestions for the further methodological development are recorded. Furthermore, the project shall serve as an input to future CBC programmes regarding the indicators used and gathered to conduct a territorial impact assessment. Thus within section 3.7 suggestions for indicators to be collected in the upcoming programming period are recorded.

Disclaimer: as the methodology applied to produce evidence of the territorial impact of the Interreg V-A Romania-Bulgaria CBC programme includes expert workshops and bases various steps on expert knowledge and opinions. Several measures are undertaken to ensure sound and well justified results, however an element of subjectivity based on the participating experts is inherent to the process. The results are meant to be used for decision support only.

3.2 Executive summary

Title of the programme:	Interreg V-A Romania – Bulgaria
Version:	1.3
First year:	2014
Last year:	2020

The concept of a territorial impact assessment (TIA) for cross border programmes aims at showing the regional differentiation of the impact of a cross border cooperation (CBC) programme on the programme region. The results are based on the methodology of the ESPON TIA CBC project, which combines both quantitative data and qualitative expert assessments to produce evidence of the territorial distribution of impacts. In the course of the TIA, two expert workshops have been held on 13 December 2018 and on 10 January 2019 in Bucharest with participants from the Managing Authority and Joint Secretariat of the Programme, the

Joint Technical Secretariat of the Joint Operational Programme Black Sea Basin 2014-2020, Romanian General Inspectorate for Emergency Situations, General Inspectorate of Romanian Gendarmerie, County Councils, Gendarmerie and Inspectorate for Emergencies, etc. The input gathered from and expert discussions held in these workshops and the distribution of contracted financing split by county/district provided by MA have been translated into the present report by the authors from M&E Factory.

The overall strategic goal of the Interreg V-A Romania-Bulgaria Programme with budget of € 258,504,126 is “To bring together the people, communities and economies of the Romania-Bulgaria border region to participate in the joint development of a cooperative area, using its human, natural and environmental resources and advantages in a sustainable way”.

There are 3 main groups of beneficiaries under the programme:

- National (ministries/agencies and their regional structures, e.g. regional inspectorates), regional or local public authorities (e.g. counties/districts, municipalities, etc.)
- Public sector operators (e.g. universities, schools, museums, theatres, libraries, etc.)
- Non-governmental organizations (foundations, associations, chambers of commerce and industry, clusters, business/innovation support centers, etc.)

Presently, 156 projects are contracted under the 5 PAs, subject to TIA, of which 42 have been implemented till the end of 2018. With the exception of SO 2.2. “To enhance the sustainable management of the ecosystems from the cross-border area”, under which all funded projects have been finalised, all other specific objectives are at different stages of implementation. None of the infrastructure interventions (mainly under SO 1.1., SO 2.1. and SO 3.1.) is completed. Therefore, for the remaining SOs (except for SO 2.2.), the presented effects are rather sought or expected based on the distribution of financing, qualitatively assessed in a workshop setting/based on the opinions of local stakeholders or quantitatively measured, mainly based on the “funding framework” approach.

PA 1.²⁵ (A well connected region), SO 1.1.: Improve the planning, development and coordination of cross-border transport systems for better connections to TEN-T transport networks

The main undertakings under SO 1.1. are related to the construction/modernization of roads to improve the cross-border secondary and tertiary nodes connections to TEN-T infrastructure, elaboration of joint solutions and strategies, to reduce transportation time and to improve public mobility services and traffic safety. The main beneficiaries are territorial administrative units (RO) and municipalities/Road Infrastructure Agency (BG) – for infrastructure investments, as well as NGOs for “soft measures”. The main expected effect of this SO, qualitatively assessed by the indicator “Cross-border population served by modernized infrastructure leading to TEN-T”, is the improved cross-border transport with special emphasis on public transport at regional level. With the exception of four NUTS 3 regions (Olt and Călărași in

²⁵Here and for the remaining PAs, the information about contracted projects is updated as of 31 December 2018.

Romania, and Vratsa and Veliko Tarnovo in Bulgaria), all other counties and districts in both countries will equally benefit from the interventions under this SO. Currently, 11 infrastructure projects are in the process of implementation, to be completed in 2020/2021 and 2 have already been completed. Contracted funding under this SO (13 projects) till 31 December 2018 is € 83.5 million (ERDF, national and own contribution).

Also, at the moment, other projects are in the contracting phase.

PA 1. (A well connected region), SO 1.2.: Increase transport safety on waterways and maritime transport routes

The main undertakings under SO 1.2. are aimed at the elaboration of integrated plans and measures in order to improve the navigation conditions along the River Danube, as well as the development of joint co-ordinated strategies, tools and pilot applications. The main effect sought (quantitatively measured by the indicator “Share of the RO-BG CBC Danube length where safety of navigation has been improved”) is to improve the safety of navigation of the RO-BG section of the Danube river. The beneficiaries are a couple of municipalities (Ruse and Giurgiu), the Executive Agency “Maritime Administration” and the Romanian Naval Authority. Two projects are under implementation in this SO, to be completed in 2019 and in 2021, with an overall budget of around € 13 million (ERDF, national and own contribution). The outcomes of this SO will be applicable for the whole CBC territory.

Also, at the moment, one project is in the contracting phase.

PA 2. (A green region) SO 2.1.: To improve the sustainable use of natural heritage and resources and cultural heritage

The main undertakings under SO 2.1. include the elaboration of joint studies, strategies and management plans to preserve, develop and promote the cultural/natural heritage in the RO-BG region, development of common tourist products and services, as well as investments in tourist infrastructure and cultural monuments. Main beneficiaries are municipalities, public institutions, universities, museums, libraries and NGOs. The main effect will be the enhanced capacity to integrate natural and cultural heritage protection and development in cross-border socio-economic strategies and policies resulting in an increased number of “Tourist overnights in the cross-border region” (quantitatively assessed indicator for this SO). 66 projects have been contracted under this SO (out of which 1 project have been terminated) for around € 58 million (ERDF, national and own contribution). There is a pretty equal distribution of projects and beneficiaries throughout the whole CBC territory. Based on reported results from projects till the end of 2018, the net effect on the territory is estimated at around 2.1%.

Also, at the moment, other projects are in the contracting phase.

PA 2. (A green region) SO 2.2.: To enhance the sustainable management of the ecosystems from the cross-border area

The main undertakings under SO 2.2. include the exchange of information to reinforce the implementation of the EU environmental policies and biodiversity conservation measures,

protection of the ecosystems using classification, mapping and spatial planning, elaboration of studies, strategies and plans related to NATURA 2000 sites, joint designation and management of protected sites and species of the NATURA 2000 network. The main effect achieved under this SO, quantitatively measured by the indicator “NATURA 2000 sites from the cross-border area with management tools” is the upgraded cooperation and management capacity of NATURA 2000 sites in the cross border area. Two projects have been contracted and completed under this SO for a total amount of around € 1.3 million (ERDF, national and own contribution). The first one with 3 partners – NGOs from RO-BG, while the second one – in partnership between the National Environmental Guard (RO) and Regional Inspectorate of Environment and Water – Veliko Tarnovo (BG). The results of this SO are applicable for the whole CBC territory.

PA 3. (A safe region) SO 3.1.: To improve joint risk management in the cross-border area

The main undertakings under SO 3.1. comprise elaboration of common strategies for hazard management and risk prevention, establishment of joint partnerships for early warning and emergency response and elaboration of action plans for disaster resilience and mitigation. The main effect will be strengthened joint planning along with developed and implemented preventive and management actions for enhancing the low cross-border mitigation capacity, measured qualitatively by the indicator “Population benefiting from actions of risk management”. 23 projects have been contracted under this SO amounting to € 42 million (ERDF, national and own contribution). Beneficiaries include state institutions, regional and local authorities, public organisations and NGOs from all 15 NUTS 3 regions. The impacts are comparatively evenly distributed across the CBC region as differentiation can be made mainly based on disbursed funding.

PA 4. (A skilled and inclusive region) SO 4.1.: To encourage the integration of the cross-border area in terms of employment and labour mobility

The main undertakings under SO 4.1. include elaboration of joint strategies, plans and studies related to cross-border mobility, development of services in the fields of lifelong guidance and learning and vocational training, and exchange of good practices for a better integration in the labour market. The main effect sought is the achievement of an integrated cross-border labour market that relies on life-long learning, smart and inclusive networks with better availability of business, strategic and legal information. Beneficiaries are state institutions, regional and local authorities, public organisations and NGOs from all 15 NUTS 3 regions. 34 joint projects have been contracted under this SO amounting to € 17 million (ERDF, national and own contribution). The impacts, qualitatively assessed by the indicator “Population with access to joint employment initiatives”, are comparatively evenly distributed across the CBC region as differentiation can be made mainly based on disbursed funding.

PA 5. (An efficient region) SO 5.1.: To increase cooperation capacity and the efficiency of public institutions in a CBC context

The main undertakings under SO 5.1. include analysis and harmonization of the regulatory framework, strengthening of local/regional cross-border networks, development of cross border models for design, testing, up-scaling, comparison and evaluation of innovations in the fields of services of general interest, social services and public administration, raising the awareness regarding cross-border opportunities. Beneficiaries are state institutions, regional and local authorities, public organisations and NGOs. The main expected effects are increased institutional capacity to cooperate with other stakeholders by finding joint solutions to common problems and increased level of co-ordination of the public institutions in the cross-border area. The indicator selected for measuring the impacts of this SO “Level of cooperation between the public institutions in the cross-border area” is qualitatively assessed. With the exception of 2 counties in Romania (Mehedinți and Olt) and 1 district in Bulgaria (Pleven), which do not have funded projects under this SO, all other NUTS 3 regions will benefit from the implementation of this SO. 16 projects have been funded with total budget of € 12 million (ERDF, national and own contribution).

Also, at the moment, other projects are in the contracting phase.

TIA: Main Findings

- The TIA results indicate that the net impact of the programme is evident for all SOs, and more specifically for SO 1.2. “Increase transport safety on waterways and maritime transport routes” and SO 2.2. “To enhance the sustainable management of the ecosystems from the cross-border area” where it is the main funding source in the RO-BG CBC region
- There is comparatively equal distribution of funding among urban and rural areas in all 15 eligible NUTS 3 regions
- 3 counties in Romania (Constanța, Dolj and Giurgiu) and 3 districts in Bulgaria (Ruse, Pleven and Dobrich) will mostly benefit from the programme since they will absorb over two thirds of the respective budgets available for all five SOs
- The majority of the projects contracted under the programme are in process of implementation as a full evaluation of the results can be made at the end of 2020 or even 2021
- A major obstacle for the integrated development of the RO-BG region is the River Danube, which divides both countries throughout almost the entire length of the border between the two countries. Only the Romanian county of Constanta has a land border with the Bulgarian districts of Silistra and Dobrich. The remaining districts have to rely on transport connections determined by the two Danube river bridges and a limited number of ferryboat links, mainly used for freight traffic. Therefore, the implementation of PA 1. “A well connected region” and more specifically SO 1.1. “Improve the planning, development and coordination of cross-border transport systems for better connections to TEN-T transport networks” will mostly contribute to the integrated development of the RO-BG area

3.3 Initial programme assessment findings

3.3.1 Context and programme area description

The Interreg V-A Romania-Bulgaria Programme covers a total of 15 NUTS 3 units in both countries: 7 counties in Romania (Mehedinti, Dolj, Olt, Teleorman, Giurgiu, Calarasi, Constanta) and 8 districts in Bulgaria (Vidin, Vratsa, Montana, Plevna, Veliko Tarnovo, Ruse, Silistra, Dobrich).

Map 3.1: Eligible area of the Interreg V-A Romania-Bulgaria Programme



Source: Interreg V-A Romania-Bulgaria Programme

The main challenge, which at the same time is a great asset for the cross-border development is the River Danube, dividing both countries for as long as 470 km. There are only 2 bridges linking the cross-border territory – at Ruse-Giurgiu and Vidin-Calafat at a distance of around 300 km between both harbour towns.

Territory

The eligible area of the programme represents 19.8% of the surface of the two countries (69,285 km²); 57.75% of the area belongs to Romania and 43.25% – to Bulgaria. The border between the two countries is 610 km long.

Population

The inhabitants of the cross-border region have been 4,284 thousand people in 2017 (16% of the total population of Romania and Bulgaria), compared to 4,420 thousand in 2014, i.e. they have decreased by around 136,000 people. The population density has also reduced from 62.2 inhabitants per km² in 2014 to 60.0 in 2016.

Economic development

The 7 counties in Romania are located in the following NUTS 2 regions: Sud-Vest Oltenia (Mehedinti, Dolj, Olt), Sud-Muntenia (Teleorman, Giurgiu, Calarasi) and Sud-Est region (Constanta). In 2016, the GDP per capita (expressed in terms of purchasing power standards, PPS) of all 3 regions is equal or below 50% from the EU average: Sud-Vest Oltenia (42%), Sud-Muntenia (46%) and Sud-Est (50%).

In Bulgaria, 4 of the districts in the cross-border region (Vidin, Vratsa, Montana and Pleven) are located in the least developed NUTS 2 region in the whole EU – Severozapaden (North-western) with GDP per capita (in PPS) of only 29% from the EU average (2016). Three of the other districts (Veliko Tarnovo, Ruse and Silistra) are located in Severen tsentralen (North Central) NUTS 2 region, which is number 3 from the bottom (34% from the EU average), while Dobrich is located in Severoiztochen NUTS 2 region (Northeastern), which is number six from the bottom with GDP per capita (in PPS) of 39%.

For the Romanian regions there is a slight improvement in 2016 compared to 2013 (between 1 and 3 percentage points), while the upgrade for the Bulgarian regions is more moderate (0-2 percentage points for the same period). The cumulative GDP of all 8 Bulgarian districts in 2016 has been 12.5% (€ 6 billion) from the national GDP, while for the 7 Romanian counties (2015) it has been 11.8% (€ 18.9 billion) from the total for the country.

Employment

Over the past few years there has been significant increase of employment in the cross-border region, following the general trend of improved economic environment both in Romania and Bulgaria. Unemployment rate in the seven Romanian counties has varied from 3.1% in Constanta county up to 8.8% in Teleorman county (October 2018), compared to an average of 4.0% in Romania for the same period. For Bulgaria, the average unemployment rate in 2017 has been 6.2% and only the districts of Veliko Tarnovo (4.6%) and Ruse (5.8%) have rates below the average. For the remaining 6 Bulgarian districts, unemployment rates vary between 6.5% for Dobrich district up to 19.3% for Vidin district.

Transport

The cross-border region in both countries suffers from significant underfunding for rehabilitation and modernisation of the road network. Although significant investments have been made in recent years, in the general case the share of roads in good condition is far from satisfactory. The heavy freight traffic, especially through the 2 river crossings (Vidin-Calafat and Ruse-Giurgiu) represents an additional challenge for the quality and safety of transport connections.

Natural and cultural heritage

The RO-BG border region is favoured by a number of natural and cultural heritage opportunities. The NATURA 2000 network is well presented on both sides, incl. the Persina Nature Park (covering part of Pleven and Veliko Tarnovo districts in BG). The Black sea resorts lo-

cated in the county of Constanța (RO) and in Dobrich district (BG) provide a combination of summer tourism opportunities and varied cultural attractions, thus generating around 80% of all overnight stays in the eligible area of the programme. Additional investments are required for the rehabilitation, socialization and promotion of many cultural sites, especially ones which are outside the main cities and routes. The tourist potential of the Danube river is still largely underused.

Environment and risk management

The environmental situation in the RO-BG region is improving although in the past there have been cases of cross-border air pollution. This is mainly a result of the reduced industrial activity in many of the main urban centers along the border. Over the past few years a number of disastrous events have reiterated the need for better planning, coordination and infrastructure investment in order to prevent the local population and the economy from floods, forest fires and other climate-related hazards.

3.3.2 Programme framework characterisation

Based on the main identified challenges and the lessons learnt from the previous programming period, the Interreg V-A Romania-Bulgaria Programme has defined 6 Priority Axes (PAs), *incl. PA 6. Technical assistance*, focused on 5 Thematic Objectives (TOs), 7 Investment Priorities (IPs) and 8 Specific Objectives (SOs). The overall budget of the programme is € 258,504,126 (of which € 215,745,513 is provided by the ERDF). The projects (PA 1-5) are financed: 85% ERDF, 13% state (Romania and Bulgaria) contribution and 2% own contribution.

The programme's overall strategic goal is *“To bring together the people, communities and economies of the Romania-Bulgaria border region to participate in the joint development of a cooperative area, using its human, natural and environmental resources and advantages in a sustainable way”*.

Table 3.1: Overview of the investment strategy of the programme

Priority Axes	Thematic Objectives (TOs)	Investment Priorities (IPs)	Specific Objectives (SOs)	Budget, EUR (ERDF & national funding)
1. A well connected region	TO 7	IP 7b	SO 1.1	96,450,936
		IP 7c	SO 1.2	
2. A green region	TO 6	IP 6c	SO 2.1	63,454,564
		IP 6d	SO 2.2	
3. A safe region	TO 5	IP 5b	SO 3.1	48,225,468
4. A skilled and inclusive region	TO 8	IP 8e	SO 4.1	17,767,279
5. An efficient region	TO 11	IP 11b	SO 5.1	12,690,913
6. Technical assistance	-	-	SO 6	19,914,966
TOTAL				258,504,126

Source: Interreg V-A Romania-Bulgaria Programme

Till the end of 2018, 3 calls for proposals have been launched and 156 projects have been contracted amounting to € 226.8 million. Already 42 projects amounting to around € 35.0 million have been finalised.

An outline of the specific objectives within the respective priority axes is presented below.

- *Specific objective 1.1.:* Improve the planning, development and coordination of cross-border transport systems for better connections to TEN-T transport networks
- *Priority Axis 1:* A well connected region (TO 7, IP 7b)

Brief justification: there is a significant gap in the accessibility between the peripheral rural regions and the regional economic centres. The accessibility to TEN-T infrastructures for the main urban centres is far better than for the small/medium sized cities, especially the ones situated along the Danube river

Main change sought: modernized/upgraded existing infrastructure and constructed new, flexible and improved ones by connecting the secondary and tertiary nodes in the eligible area to the TEN-T infrastructure, including multimodal nodes; improved cross-border transport with special emphasis on public transport at regional level

Activities undertaken: elaboration of joint solutions and strategies in order to connect secondary and tertiary nodes to TEN-T infrastructure, to reduce transportation time and to improve public mobility services; construction/modernization of road infrastructure to improve the cross-border secondary and tertiary nodes connections to TEN-T infrastructure

Types of beneficiaries: national, county and municipal public authorities, public infrastructure administrators and providers, national or county/district/municipal non-government organisations, etc.

Funding: € 69,038,564.00²⁶ (contracted € 70,980,080.16²⁷; 102.8%)

- *Specific objective 1.2.:* Increase transport safety on waterways and maritime transport routes
- *Priority Axis 1:* A well connected region (TO 7, IP 7c)

Brief justification: there is low level of intermodal links at cross-border and Danube level (insufficient seaport infrastructures), which requires solutions for increasing the accessibility of the territory, improving its environmental status and the sustainability of the Danube transport potential (incl. for enhancing the cross-border tourism)

Main change sought: improved Danube inland waterway navigation in the cross-border region

Activities undertaken: elaboration of integrated plans and measures in order to improve the navigation conditions; development of joint co-ordinated strategies, tools and pilot applications; works to improve freight and passenger river and sea transport

²⁶ ERDF support only (here and for the remaining specific objectives).

²⁷ Till 31 December 2018 (ERDF support only) – here and for the remaining specific objectives

Types of beneficiaries: national institutions (e.g. Bulgarian Executive Agency "Maritime Administration" and Romanian Naval Authority), counties and local public authorities (municipalities)

Funding: € 12,944,731.00 (contracted € 11,092,139.53; 85.7%)

- *Specific objective 2.1.:* To improve the sustainable use of natural heritage and resources and cultural heritage
- *Priority Axis 2:* A green region (TO 6, IP 6c)

Brief justification: the CBC area benefits from unique natural and cultural heritage. However, it is subject to a variety of anthropogenic and natural pressures as industry or climate change. Their consequences are harmful to the whole area since the interaction of landscapes and the continuity of habitats and ecosystems highlight the ecological unity of the region

Main change sought: enhanced capacity to integrate natural and cultural heritage protection in cross-border socio-economic development strategies and policies; promoted and prevented natural and cultural heritage from spoiling

Activities undertaken: elaboration of joint studies, strategies and management plans to preserve, develop and promote the cultural/natural heritage; development of common tourist products and services based on the sustainable joint utilization of the cultural/natural heritage; investments in joint and sustainable tourist infrastructure and cultural monuments

Types of beneficiaries: public institutions (counties, districts and municipalities), NGOs (associations, foundations, business centres, etc.), universities and colleges, museums, public libraries, chambers of commerce (including associations of SMEs)

Funding: € 32,361,827.00 (contracted € 49,693,271.89; 153.6%)

- *Specific objective 2.2.:* To enhance the sustainable management of the ecosystems from the cross-border area
- *Priority Axis 2:* A green region (TO 6, IP 6d)

Brief justification: the CBC region is exposed to many environmental risks, as the mitigation of their negative effects especially on agriculture and tourism requires urgent and specific measures

Main change sought: upgraded green infrastructure and rehabilitated degraded ecosystems (eroded and/or exhausted soils, unstable riverbanks, etc.); restored cross-border ecosystem, improved status of endangered species and their habitats and decreased negative consequences from Invasive Alien Species²⁸

Activities undertaken: exchange of information to reinforce the implementation of the EU environmental policies and biodiversity conservation measures; protection of the ecosystems using classification, mapping and spatial planning; elaboration of studies, strategies and plans

²⁸ Invasive Alien Species = animals and plants that are introduced accidentally or deliberately into a natural environment where they are not normally found, with serious negative consequences for their new environment.

related to NATURA 2000 sites; joint designation and management of protected sites and species of the NATURA 2000 network; investments in green infrastructure and purchase of equipment for protecting, preserving and monitoring the ecosystems

Types of beneficiaries: national, county/district nature protection agencies and bodies, NGOs involved in nature protection

Funding: € 21,574,552.00 (contracted € 1,207,858.36; 5.6%)

- Specific objective 3.1.: To improve joint risk management in the cross-border area
- Priority Axis 3: A safe region (TO 5, IP 5b)

Brief justification: the CBC area has low adaptive capacity to climate change, while being, at the same time, the most exposed area in the two countries subject to droughts, floods, erosion or landslides. This can lead to human losses and has detrimental effects on the development of the region, more specifically regarding its accessibility, tourism or agriculture

Main change sought: strengthened joint planning along with the development and implementation of preventive and management actions in order to enhance the low cross-border mitigation capacity

Activities undertaken: elaboration of common strategies for hazard management and risk prevention; establishment of joint partnerships for early warning and emergency response; elaboration of action plans for disaster resilience and mitigation; introduction of integrated and common standards for the urban planning and risk management; purchase of equipment aimed at monitoring the environmental parameters, for hazard management and disaster resilience; implementation of awareness raising campaigns on the hazards and risks and on the measures for their mitigation, management and reduction; exchange of experiences

Types of beneficiaries: national, district/county and municipal institutions (municipalities and communes) in charge of managing emergency situations, NGOs, Red Cross, universities and R&D organizations involved in research on different risk factors (industrial pollution, local effects of climate change, etc.)

Funding: € 40,991,647.00 (contracted € 35,890,603.81; 87.6%)

- *Specific objective 4.1.:* To encourage the integration of the cross-border area in terms of employment and labour mobility
- Priority Axis 4: A skilled and inclusive region (TO 8, IP 8e)

Brief justification: the cross-border area suffers from high rates of unemployment, low wages and structural brain drain. At the same time, the cross-border labour market is rather underdeveloped

Main change sought: integrated labour market that relies on life-long training, smart and inclusive networks with better availability of business, strategic and legal information; lowered employment barriers between the two sides of the border, between the education system and employers, and between the workers and companies

Activities undertaken: elaboration of joint strategies, plans and studies related to cross-border mobility; development of services in the fields of lifelong guidance and learning and vocational training; exchange of good practices for a better integration in the labour market; development of infrastructure directly linked to increase labour mobility; establishment of cross border business incubators and virtual incubators

Types of beneficiaries: local public authorities (public policy, economic and social prerogatives, public services providers), educational organizations (universities, colleges, Bulgarian Academy of Sciences), training providers (for the provision of cross-border relevant skills and competencies), clusters and NGOs, especially business associations from both sides of the border (for the support of SMEs and self-employment in the cross-border area), chambers of commerce

Funding: € 15,102,186.00 (contracted € 14,742,240.88; 97.6%)

- *Specific objective 5.1.:* To increase cooperation capacity and the efficiency of public institutions in a CBC context
- *Priority Axis 5:* An efficient region (TO 11, IP 11b)

Brief justification: the local public authorities in the cross-border region are often considered by the general public as bureaucratic, opaque and reluctant to supporting civil society initiatives

Main change sought: increased institutional capacity to cooperate with other stakeholders by finding joint solutions to common problems; reinforced the existing and created new cross-border cooperation networks and promoted initiatives on cooperation between stakeholders

Activities undertaken: analysis and harmonization of the regulatory framework; strengthening of local/regional cross-border networks; development of cross border models for design, testing, up-scaling, comparison and evaluation of innovations in the fields of services of general interest, social services and public administration; raising the awareness regarding cross-border opportunities; development of common structures, systems and tools

Types of beneficiaries: national (e.g. Romanian and Bulgarian Ministries of Tourism), local public administration (e.g. county councils, district administrations, municipalities, etc.), public institutions with key sectorial competencies (e.g. Bulgarian Executive Agency “Maritime Administration” and Romanian Naval Authority), colleges and schools, NGOs with activities relevant for the cross-border area (e.g. NGOs delivering public interest services in the cross-border area: healthcare, old-age care, child-care, transportation services for disabled, other services for people with socio-economic difficulties, etc), deconcentrated bodies of public institutions like: employment agencies, education inspectorates, etc.

Funding: € 10,787,276.00 (contracted € 10,433,169.52; 96.7%)

Based on data from MA of the programme (updated till the end of 2018), breakdown is made for contracted projects by category of intervention (PA and SO) and by NUTS 3 level.

Table 3.2: Project allocations (in EUR) per PAs, SOs and NUTS 3 regions in Romania (end of 2018) – total funding (ERDF, national and own contribution)

PAs/SOs	Region 1: RO413 (Mehedinți)	Region 2: RO411 (Dolj)	Region 3: RO414 (Olt)	Region 4: RO317 (Teleorman)	Region 5: RO314 (Giurgiu)	Region 6: RO312 (Călărași)	Region 7: RO223 (Constanța)
PA 1	5,057,755.02	9,508,593.28	0.00	6,626,088.19	14,387,408.11	0.00	16,223,371.39
SO 1.1.	5,057,755.02	9,508,593.28	0.00	6,626,088.19	11,642,196.91	0.00	13,577,611.10
SO 1.2.	0.00	0.00	0.00	0.00	2,745,211.20	0.00	2,645,760.29
PA 2	650,646.26	6,664,657.34	1,140,129.45	5,057,833.49	931,069.83	3,046,829.05	8,968,423.57
SO 2.1.	526,456.14	6,664,657.34	1,140,129.45	5,057,833.49	931,069.83	3,046,829.05	8,968,423.57
SO 2.2	124,190.12	0.00	0.00	0.00	0.00	0.00	0.00
PA 3	1,887,280.08	4,031,939.43	416,251.99	494,702.29	3,808,222.86	4,290,449.90	420,844.85
PA 4	771,224.47	3,252,496.17	455,139.74	455,139.41	694,092.59	1,417,927.16	1,892,721.19
PA 5	0.00	860,241.77	0.00	854,493.02	540,971.30	1,485,937.06	2,676,714.68
TOTAL	8,366,905.83	24,317,927.99	2,011,521.18	13,488,256.40	20,361,764.69	10,241,143.17	30,182,075.68

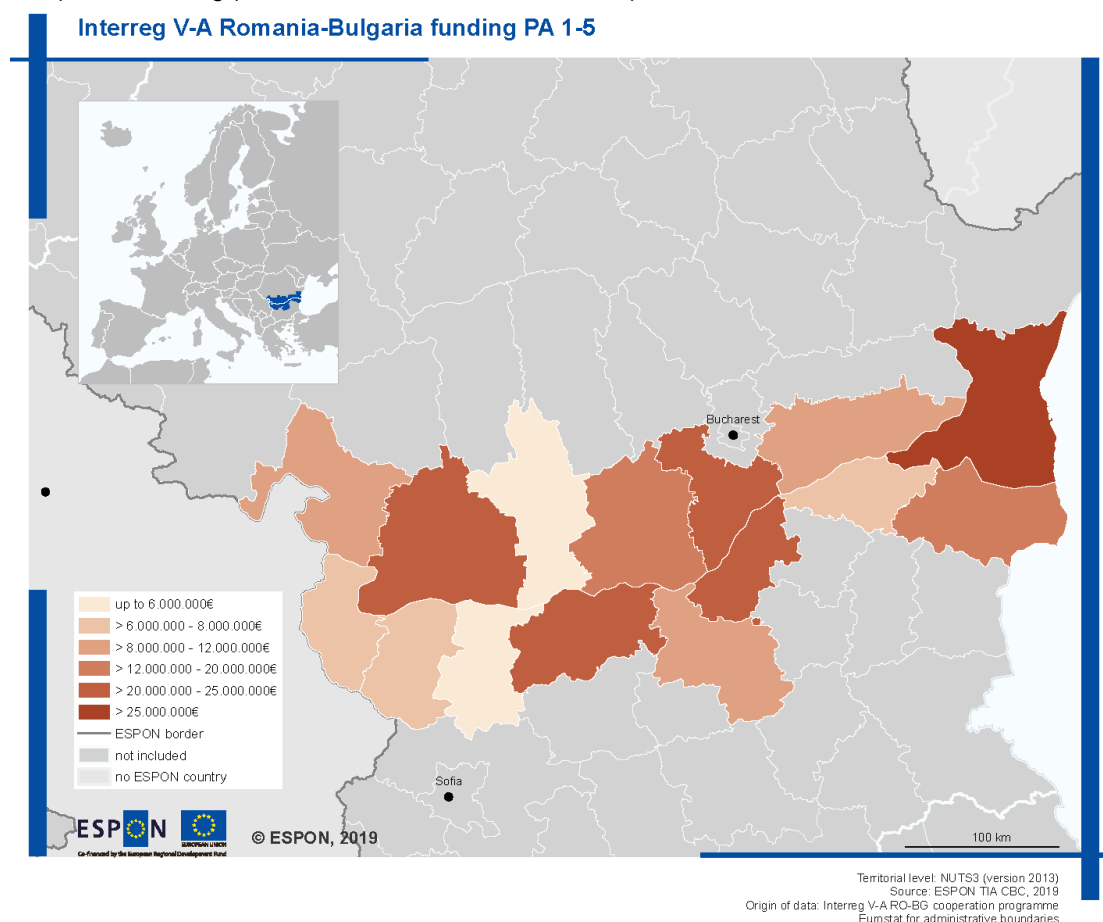
Source: MA of the programme

Table 3.3: Project allocations (in EUR) per PAs, SOs and NUTS 3 regions in Bulgaria (end of 2018) – total funding (ERDF, national and own contribution)

PAs/SOs	Region 1: BG311 (Vidin)	Region 2: BG312 (Montana)	Region 3: BG313 (Vratsa)	Region 4: BG314 (Pleven)	Region 5: BG321 (Veliko Tarnovo)	Region 6: BG323 (Ruse)	Region 7: BG325 (Silistra)	Region 8: BG332 (Dobrich)
PA 1	388,857.26	2,989,587.64	0.00	12,926,743.99	0.00	17,991,430.63	3,062,351.04	7,182,955.64
SO 1.1.	388,857.26	2,989,587.64	0.00	12,926,743.99	0.00	10,332,826.19	3,062,351.04	7,182,955.64
SO 1.2.	0.00	0.00	0.00	0.00	0.00	7,658,604.44	0.00	0.00
PA 2	3,817,888.20	2,939,038.16	1,323,013.42	8,243,767.63	4,173,807.77	3,448,945.52	2,510,701.81	4,487,680.63
SO 2.1.	3,683,886.80	2,939,038.16	1,323,013.42	8,243,767.63	3,933,444.80	3,448,945.52	2,510,701.81	4,487,680.63
SO 2.2	134,001.40	0.00	0.00	0.00	240,362.97	0.00	0.00	0.00
PA 3	986,563.25	495,334.90	3,584,398.67	1,865,183.97	2,026,073.20	1,104,152.56	589,784.10	409,374.45
PA 4	1,235,645.30	100,308.22	88,359.86	710,090.07	1,888,653.39	1,238,491.64	564,391.96	1,311,316.73
PA 5	164,326.60	99,803.19	713,616.94	0.00	979,200.16	618,509.61	455,076.71	1,161,274.73
TOTAL	6,593,280.61	6,624,072.11	5,709,388.89	23,745,785.66	9,067,734.52	24,401,529.96	7,182,305.62	14,552,602.18

Source: MA of the programme

Map 3.2: Project allocations (in EUR) per PAs and NUTS 3 regions in Romania and Bulgaria (end of 2018) – total funding (ERDF, national and own contribution)



3.3.3 Additional funding instruments

The programme takes into account the principles of coherence and complementarities with other European Structural and Investment Funds (ESIF) as well as with other relevant EU policies, national funding and with the European Investment Bank (EIB). The programme is implemented in accordance with the principles of subsidiarity and proportionality and in a complementary and coordinated way with all available instruments in order to avoid the funding of activities that can overlap with projects activities financed by other funds.

According to the selected priorities, a coordination mechanism is considered with regards to EU funding instruments, such as the European Regional Development Fund, the European Social Fund, the LIFE programme, the Connecting Europe Facility, the Erasmus+ programme, national funding programmes and EIB instruments. More specifically, at priority axis level synergies with the ESIF and other EU instruments are sought, as follows:

- Priority Axis 1 “A well connected region”: Connecting Europe Facility
- Priority Axis 2 (“A green region”) and 3 (“A safe region”): LIFE, European Agriculture Fund for Rural Development and the European Maritime and Fisheries Fund
- Priority Axis 4 “A skilled and inclusive region”: Erasmus+ programme

Other cooperation programmes which finance one or more of the interventions under the PAs of the Interreg V-A Romania-Bulgaria Programme, are the following:

- Danube Transnational Programme (all 5 PAs; all NUTS 3 regions are eligible)
- Black Sea Basin Programme 2014-2020 (PA 2 and PA 3; eligible NUTS 3 regions: Constanta county in Romania and Dobrich district in Bulgaria)
- Interreg Europe 2014-2020 Programme (PA 3; all NUTS 3 regions are eligible)
- INTERREG Balkan-Mediterranean 2014-2020 Programme (PA 3; only the 8 Bulgarian NUTS 3 regions are eligible)
- Interreg-IPA CBC Romania-Serbia programme (PA 1, PA 2, PA 3 and PA 4; only Mehedinti county is eligible)
- Interreg IPA-CBC Bulgaria-Serbia Programme (PA 2, PA 3 and PA 4; only Vidin and Montana districts are eligible)

At national level, funding for activities related to the modernization of roads leading to the TEN-T network (PA 1), development of the cultural and natural heritage & green infrastructure/NATURA 2000 (PA 2), improvement of risk management (PA 3), encouragement of employment and labour mobility (PA 4), and enhancement of the efficiency of public institutions (PA 5) comes from a variety of sources (both ESIF-funded and from public budget/own contribution).

Romania:

- Regional Operational Programme (PA 1 and PA 2)
- Operational Programme for Large Infrastructure (PA 1, PA 2 and PA 3)
- Human Capital Operational Programme (PA 4)
- Operational Programme “Administrative Capacity” (PA 5)
- State budget, county budgets & municipal budgets (all PAs)
- Private investments/own contribution (mostly PA 2 and PA 4)

Bulgaria:

- Operational programme “Transport and Transport Infrastructure” (PA 1)
- Operational programme “Regions in Growth” (PA 1 and PA 2)
- Operational programme “Environment” (PA 3)
- Operational programme “Human Resources Development” (PA 4)
- Operational programme “Good Governance” (PA 5)
- State budget, municipal budgets (all PAs)
- Private investments/own contribution (mostly PA 2 and PA 4)

3.4 TIA Process

The territorial impact assessment process leans on desk research as well as on expert input in a workshop setting. The systemic picture of the programme functioning (Intervention logic), the indicator selection, the net impact determination as well as the conclusions are never attributed to one method alone, but are always the result of a joint effort. The core element of the process is the Impact Assessment Matrix (IAM) which is presented in section 3.4.3. In this section, the working steps are described which are undertaken to produce the evidence of the territorial impact. The elaboration of the impacts and the conclusions derived thereof are presented in the following section 3.5.

3.4.1 Selection of TOs and TIA area

The current analysis takes into consideration all 7 SOs (2 SOs for PA 1 and PA 2, and 1 SO for the remaining PAs from PA 3 to PA 5) as well as the whole TIA area (7 counties in Romania and 8 districts in Bulgaria).

Table 3.4: Overview of the financial allocations under the respective PAs (1-5) and SOs

Priority Axes	TOs	SOs	Estimated total budget, EUR (ERDF & national funding)	Total contracted, EUR (ERDF & national funding)	Share contracted
1. A well connected region	TO 7	SO 1.1	81,221,840.59	83,505,976.74	102.8%
		SO 1.2	15,229,095.41	13,049,575.93	85.7%
Total PA 1			96,450,936.00	96,555,552.67	100.1%
2. A green region	TO 6	SO 2.1	38,072,737.93	58,462,673.37	153.6%
		SO 2.2	25,381,826.07	1,421,009.83	5.6%
Total PA 2			63,454,564.00	59,883,683.20	94.4%
3. A safe region	TO 5	SO 3.1	48,225,468.00	42,224,239.99	87.6%
4. A skilled and inclusive region	TO 8	SO 4.1	17,767,279.00	17,343,812.89	97.6%
5. An efficient region	TO 11	SO 5.1	12,690,913.00	12,274,317.19	96.7%
TOTAL			238,589,160.00	228,281,605.94	95.7%

Source: Interreg V-A Romania-Bulgaria Programme and current status of projects implementation (www.interregrobg.eu/en/projects/projects.html, 3 January 2019)

3.4.2 Finalized intervention logic

The intervention logic represents the systemic picture of how the programme functions in the programme area. The *needs* identified for the regions are tackled by *measures* funded through the programme. These measures have *effects* on the region, which are depicted via *indicators* in a territorial impact assessment. The indicators are either

- result indicators applied by the programme itself – marked (R)
- common CBC indicators as provided by the methodological handbook – marked (C)
- additional indicators developed by each case study tailored to the programme – marked (A)

The intervention logic is a chain establishing a logical and coherent link between the programme, the effects on the regions and the indicators measuring these effects. It is the necessary basis for all further assessments made.

Table 3.5: SO 1.1. (PA 1): Improve the planning, development and coordination of cross-border transport systems for better connections to TEN-T transport networks

Needs	Measures	Effects	Indicators
Improvement of the transport accessibility between Romania and Bulgaria by connecting secondary and tertiary nodes to TEN-T infrastructure	Joint projects for improving the cross-border secondary and tertiary nodes connections to the TEN-T infrastructure through action-based solutions, management plans, strategies, feasibility studies, environment impact assessments, etc., related to works projects for public infrastructure	Improved quality of the road network	(R) Cross-border population served by modernized infrastructure leading to TEN-T, number

Table 3.6: SO 1.2. (PA 1): Increase transport safety on waterways and maritime transport routes

Needs	Measures	Effects	Indicators
Improvement of the Danube river navigation safety for freight and passenger traffic in the cross-border area	Joint projects for elaboration of plans, strategies, tools and pilot applications, and investments (infrastructure and equipment) in upgrading the freight and passenger traffic	Increased passenger and freight transport traffic in the cross-border section of the Danube river	(R) Share of the RO-BG CBC Danube length where safety of navigation has been improved, %

Table 3.7: SO 2.1. (PA 2): To improve the sustainable use of natural heritage and resources and cultural heritage

Needs	Measures	Effects	Indicators
Preservation, promotion and utilisation of the potential of the natural and cultural heritage as a basis for sustainable development of tourism	Joint projects for elaboration of studies, strategies, management plans, and investments in tourist infrastructure, development and promotion of common tourist products and services (e.g. cultural events with cross-border dimension)	Increased natural and cultural attractiveness of the cross-border region	(R) Tourist overnights in the cross-border region, number

Table 3.8: SO 2.2. (PA 2): To enhance the sustainable management of the ecosystems from the cross-border area

Needs	Measures	Effects	Indicators
Preservation of biodiversity for effective protection and restoration of the ecosystem with focus on NATURA 2000 sites	Joint projects for development of strategic documents, management plans and actions, and investments in green infrastructure for protected sites and species of NATURA 2000 network	Improved protection and conservation status of natural habitats with focus on NATURA 2000 sites	(R) NATURA 2000 sites from the cross-border area with management tools, number

Table 3.9: SO 3.1. (PA 3): To improve joint risk management in the cross-border area

Needs	Measures	Effects	Indicators
Improvement of the cross-border disaster risk prevention and management	Joint projects for elaboration of strategies, action plans and awareness raising campaigns for hazard management, risk prevention, disaster resilience and mitigation, and investments in the risk management of emergency situations	Increased efficiency of reactions in cases of emergency situations caused by natural and anthropic disasters	(A) Population benefiting from actions of risk management, number

Table 3.10: SO 4.1. (PA 4): To encourage the integration of the cross-border area in terms of employment and labour mobility

Needs	Measures	Effects	Indicators
Integration of the cross-border labour market and improved mobility of workers	Joint projects for cross-border employment initiatives, education and training, and investments in infrastructure directly linked to labour mobility	Upgraded workforce skills adapted to the cross-border economic resources and potential	(R) Population with access to joint employment initiatives, number

Table 3.11: SO 5.1. (PA 5): To increase cooperation capacity and the efficiency of public institutions in a CBC context

Needs	Measures	Effects	Indicators
Enhancement of public governance mechanisms in the cross-border region	Joint projects for the development and delivery of more efficient, adaptable and tailor-made policies and services in the cross-border region	Increased level of cooperation between institutions delivering public services within the cross-border area	(R/A) Level of cooperation between the public institutions in the cross-border area

3.4.3 Indicators

3.4.3.1 Indicator data

A long list of 58 indicators (programme-based, common CBC and additional ones) has been created for measuring the programme effects, which has been shortened to 7 based on several iterations during the 2 workshops held in Bucharest. Some examples of indicators, which have not been selected are the following:

- For SO 1.1. (PA 1) – indicator “Number of traffic accidents in the cross-border region” has been considered; however, it has been agreed on that traffic incidents are not directly linked to the improved quality of the road network (expected effect) but depend on many other factors, which cannot result from the programme interventions (e.g. bad weather, personal driving preferences, alcohol abuse, etc.)
- For SO 2.1. (PA 2), indicators “Revenues from nights spent”, “Number of accommodation establishments” and “Number of bed places” have been discussed; similarly, although there is sufficient statistical information, the results measured by those indicators cannot be directly linked to the programme effect (increased natural and cultural attractiveness of the cross-border region)
- For SO 4.1. (PA 4), indicator “Cross-border territory unemployment rate” has seemed very suitable; likewise, the employment opportunities are dependent on a broad spectrum of external conditions and cannot be directly stemming out from the targeted effect (upgraded workforce skills adapted to the cross-border economic resources and potential)

Therefore, the final list of 7 indicators linked to the effects in the intervention logic of the programme has been seen by the workshop participants as best fitting its impacts. Those indicators have been populated with quantitative data wherever possible. It has been aimed to obtain data for the baseline year as close as possible to 2014, and for the reference year as close as possible to the current year (2017 or 2018, for which information has been available). In this way, quantitative data for 3 indicators has been collected. For 4 indicators, no quantitative data has been available so a qualitative assessment in an expert workshop has been conducted. The metadata for these indicators is provided in the following tables. However, the qualitative assessment was finally based on the distribution of contracted funding by county/district.

Table 3.12: Indicators

Name	Source	Baseline Year (T0)	Reference Year (T1)	Assessment method	Common CBC Indicator (Y/N)
1. (R) Cross-border population served by modernized infrastructure leading to TEN-T, number	Project reports	2014	2018	Qualitative	N
2. (R) Share of the RO-BG CBC Danube length where safety of navigation has been improved, %	Project reports, Romanian Naval Authority, Executive Agency for Exploration and Maintenance of the Danube river	2014	2018	Quantitative	N
3. (R) Tourist overnights in the cross-border region, number	Project reports National Statistical Institutes	2014	2017	Quantitative	N
4. (R) NATURA 2000 sites from the cross-border area with management tools, number	Project reports, Ministries of Environment	2014	2018	Quantitative	N
5. (A) Population benefiting from actions of risk management, number	Project reports	2014	2018	Qualitative	N
6. (R) Population with access to joint employment initiatives, number	Project reports, Ministries of Labour	2014	2018	Qualitative	N
7. (R/A) Level of cooperation between the public institutions in the cross-border area	Programme reports	2014	2018	Qualitative	N

Source: Consortium, 2019

During the 2 workshops, all common CBC indicators have been reviewed in an attempt to select indicators from any of the three groups (European Integration, Regional Competitiveness, Cross Border Cohesion), which might have been used in the TIA exercise. The list of indicators has been shared with the workshop participants and their use has been explained.

Potentially suitable indicators for SO 1.1. (PA 1), which have been reviewed, have been:

- Potential accessibility of the cross-border territory by road compared to previous years (European Integration)
- Cross-border public transport connections (compared to previous years) (Regional Competitiveness)
- The number of cross-border infrastructure projects in the sectors of traffic (Cross Border Cohesion)

For SO 2.2. (PA 2):

- Environmental indicators (air pollution, water, land-use, biodiversity)

For SO 4.1. (PA 4):

- Access to employment services in the neighbouring country
- Number of cross-border workers
- Number of cross-border placements
- Access to digital systems of/for cross-border workers, employers and citizens

For SO 5.1. (PA 5):

- RCR 79 – Joint strategies/action plans taken up by organisations at/after project completion

- The development of the cross-border governance system
- The quality of cross-border cooperation of institutions providing public services
- RCR 83 – Persons covered by signed joint agreements
- RCR 86 – Stakeholders/institutions with enhanced cooperation capacity beyond national borders

None of the above mentioned, potentially applicable indicators has been selected, however, due to the lack of reliable information (sources of information), which could have been used to populate them with data for the analysis, especially at NUTS 3 level. The general definitions of the indicators have been unclear to the workshop participants due to the lack of specificity. Therefore, they have been reviewed but not taken into account. In addition, the already selected 7 indicators have been seen as best fitting the performance framework of the programme. More specific clarifications on why the common CBC indicators mentioned above have not been used are provided below:

- *Indicator “Potential accessibility of the cross-border territory by road compared to previous years”*. In order to evaluate the indicator quantitatively, there needs to be a definition of “accessibility” and a measurement unit; the term “potential” is not clear (compared to real?). Also, geographical dimension (accessibility – from where to where); having in mind that the cross-border territory (a very broad definition) covers a very large area, the accessibility of its different NUTS 3 regions might significantly vary, especially as regards mountainous locations/river crossings, etc. The indicator intends to measure the current status compared to “previous years” – there is ambiguity regarding the duration (starting point) of “previous years” (i.e. baseline value)
- *Indicator “Cross-border public transport connections (compared to previous years)”*. The indicator needs to be substantiated with a definition of “transport connections”, e.g. road, rail, air, river, etc. Some transport links may develop over time, while others deteriorate based on market conditions. At the same time, the general connectivity of the territory may improve
- *Indicator “The number of cross-border infrastructure projects in the sectors of traffic”*. A very good output indicator; however, without specific reference to results; definitions/examples of “infrastructure projects” and “sectors of traffic” need to be developed
- *Indicator “Environmental indicators (air pollution, water, land-use, biodiversity)”*. A very good indicator but difficult to measure at NUTS 3 level. Definition of each of the sub-indicators “air pollution, water, land-use, biodiversity” needs to be provided in order to ensure comparison amongst regions
- *Indicator “Access to employment services in the neighbouring country”*. Two definitions need to be provided in order for the indicator to be properly used: “access” and “employment services”
- *Indicator “Number of cross-border workers”*. A well-defined output indicator but difficult to use in the RO-BG context due to lack of reliable statistical information
- *Indicator “Number of cross-border placements”*. A definition of “placements” (also short-term/long-term/seasonal workers) is needed for the correct use of this output indicator
- *Indicator “Access to digital systems off/for cross-border workers, employers and citizens”*. A definition of “digital systems” is needed since virtually all online based applications and web sites are “digital systems”. Explanation of the meaning of “access” would be suitable in this case, as well as precision of the target group – “workers, employers and citizens” comprises virtually the whole population of the region (more specificity is needed)

- *Indicator “RCR 79 – Joint strategies/action plans taken up by organisations at/after project completion”*. A very general output indicator, which needs to be clarified in the following directions: a definition of “taken up” (and how this is proved) would be suitable compared to “implemented”; in case only a few of the measures/actions are “taken up” based on prioritisation/available funding, would this mean the whole programming document has been “taken up”?; some of the strategic documents are medium- to long-term, i.e. actual results from their implementation might be observed in 5 to 10 years, i.e. far after the completion of the respective programming period
- *Indicator “The development of the cross-border governance system”*. Several definitions might be needed to better specify the indicator: “development” and “governance system”; in the general case, “cross-border governance” is not possible according to the national legislations, especially in the RO-BG case; “coordination” is possible, however, difficult to quantify/specify
- *Indicator “The quality of cross-border cooperation of institutions providing public services”*. This indicator seems very similar to the abovementioned one, i.e. it requires more specificity. As mentioned by the workshop participants, a more precise definition (instead of “public services”) would be “services of general interest”, which can be provided by the state or public sector (e.g. NGOs). They can be differentiated in 3 categories following the EU definitions²⁹: services of general economic interest, non-economic services and social services of general interest
- *Indicator “RCR 83 – Persons covered by signed joint agreements”*. A good output indicator, which needs to be substantiated by actions pertaining to the agreements (incl. budget for their implementation) and results expected/achieved
- *Indicator “RCR 86 – Stakeholders/institutions with enhanced cooperation capacity beyond national borders”*. A very similar indicator to the two already mentioned above “The development of the cross-border governance system” and “The quality of cross-border cooperation of institutions providing public services”; definition of “capacity” needs to be provided (financial, human resource or else) in order for the indicator to be better targeted and useful

Qualitative evaluation of all abovementioned indicators would be somewhat possible but only at programme level. Having in mind that the objective is to differentiate impacts amongst the NUTS 3 territories, it would be difficult to give an impression of the territorial distribution of impacts and their magnitude. Additional methodological guidelines would be needed in this regard. Otherwise, subjective opinions might not be correct in all cases when the result of each intervention measured by the respective indicator is not obvious. At the same time, most of the indicators lack specificity which would be needed in the decision-making process.

3.4.3.2 Net impact determination

The indicator data obtained as described above represents a gross value, thus an assessment of how big the net contribution of the programme for each indicator value has been has been conducted. Based on the varying nature of the indicators, different approaches have been applied as provided by the methodological handbook of the ESPON TIA CBC project. It should be taken into account that at the moment of development of the TIA (end of 2018-

²⁹ https://ec.europa.eu/info/topics/single-market/services-general-interest_en

beginning of 2019) just 26.9% of all projects funded by the CBC programme have been finalised, which have reported implementation of their respective indicators.

Table 3.13: Status of contracted and completed projects (end of 2018) under the Interreg V-A Romania-Bulgaria Programme

Priority axis/Specific objective	No. of contracted projects	Value, EUR*	No. of finalised projects	Value, EUR*
PA 1. A well connected region				
SO 1.1. Improve the planning, development and coordination of cross-border transport systems for better connections to TEN-T transport networks	13	83,505,976.74	2	2,190,851.45
SO 1.2. Increase transport safety on waterways and maritime transport routes	2	13,049,575.93	0	0
PA 2. A green region				
SO 2.1. To improve the sustainable use of natural heritage and resources and cultural heritage	66**	58,462,673.37	14	9,918,483.44
SO 2.2. To enhance the sustainable management of the ecosystems from the cross-border area	2	1,421,009.83	2	1,421,009.83
PA 3. A safe region				
SO 3.1. To improve joint risk management in the cross-border area	23	42,224,239.99	6	14,564,534.91
PA 4. A skilled and inclusive region				
SO 4.1. To encourage the integration of the cross-border area in terms of employment and labour mobility	34	17,343,812.89	14	5,886,982.36
PA 5. An efficient region				
SO 5.1. To increase cooperation capacity and the efficiency of public institutions in a CBC context	16	12,274,317.19	4	1,009,590.20
TOTAL	156	228,281,605.94	42	34,991,452.19

Source: MA of the Interreg V-A Romania-Bulgaria Programme

Notes: * ERDF (85%), national (13%) and own (2%) contribution

** Incl. one project, which has been terminated amounting to € 1,297,423.74

More specifically, the methods of assessment of the gross and net impacts for the proposed 7 indicators is presented below:

(1) (R) Cross-border population served by modernized infrastructure leading to TEN-T, number (PA 1, SO 1.1.)

This is an original result indicator of the programme, described as “number of inhabitants living within 2 km of a road eligible through the cross-border programme”. It is directly linked to the length of modernized roads through project interventions compared to the upgrade of road infrastructure funded by other sources (e.g. state or municipal budgets).

Since none of the projects related to works for road infrastructure modernization has been completed till the end of 2018 (no results have been reported yet in order to populate the indicator with data), qualitative measurement during the 2 workshops has been made. It has been based on an analysis of the number/value, expected effects from the contracted projects

under this SO in the respective NUTS 3 regions and their impact on the territory. In some cases, the positive impact can be not only roads modernization but development of joint mechanisms for supporting intermodal connections, establishment of a network of electrical bicycles throughout the CBC area, etc.. Generally, the development of the traffic infrastructure has been seen as a major prerequisite for improving the living conditions of the citizens in the region and a catalyst for enhanced economic activity.

Since measurement is mainly based on the distribution of funding, for counties/districts where the magnitude is "0", no projects have been contracted till the end of 2018, i.e. no net impact can be reported. For those territorial units, it needs to be taken into consideration that spill-over effects to these counties/districts can occur even though the investment took place in another county/district. They are, however, difficult for quantification at this stage.

Although there is fragmentary statistical information on both sides of the border about the length of modernised/upgraded roads funded through other sources, it is difficult to calculate the gross/net effect quantitatively.

(2) (R) Share of the RO-BG CBC Danube length where safety of navigation has been improved, % (PA 1, SO 1.2.)

The CBC programme is a major funding source for improvement of the safety of navigation along the RO-BG section of the Danube river in the current programming period. There are also other ongoing or scheduled (to be implemented) projects (to be) funded by the Romanian Large Infrastructure Programme, the Connecting Europe Facility, the Danube Transnational Programme, etc., related to works or studies for improvement of the Danube inland waterways. They, however, have a different set of indicators, which cannot be directly transposed and used for comparison with the current indicator used for establishing the net impact of the interventions under the Interreg V-A Romania-Bulgaria Programme.

The baseline value of the indicator (2014) is 1.29%. Since none of the 2 contracted projects funded by the Interreg V-A Romania-Bulgaria Programme under this SO has been finalized till the end of 2018, the Value T1 (2018) remains the same (1.29%).

The net impact is calculated based on the expectation that the result indicator of 101.83% (declared to be achieved by the 2 projects) will be implemented (2021). According to the MA, both projects are going according to plan and this assumption is realistic. The impact cannot be differentiated among NUTS 3 regions since the whole eligible cross-border territory shall benefit from the project results.

(3) (R) Tourist overnights in the cross-border region, number (PA 2, SO 2.1.)

The gross impact of the indicator represents the ratio between the increased number of tourist overnight stays at NUTS 3 level in the CBC region in 2017 compared to 2014, based on official data provided by the RO-BG statistical offices. The net impact is calculated through the ratio of reported number of tourist overnights in the CBC region (declared by project benefi-

ciaries in their reports till the end of 2018) – 38,523 to the overall number of increased tourist overnights in the 15 NUTS 3 regions covered by the programme (2017).

Regional distribution of net impacts cannot be made for a couple of reasons: 1) only part of the projects (finalized or ongoing) have reported results till the moment of TIA; in many cases, they comprise partners from 2, 3 or even 4 different NUTS 3 regions, 2) the result indicators are reported at project level rather than per partner, i.e. it is not possible to differentiate the share of increased overnight stays in the respective counties or districts compared to the total.

Having in mind that beneficiaries under the programme are public institutions, universities, museums and NGOs, rather than accommodation establishments providing primary data, there are some reserves about the precision of actual results. In the case of public beneficiaries (e.g. municipalities) information might be based on the collected local tax on tourist overnight stays.

(4) (R) NATURA 2000 sites from the cross-border area with management tools, number (PA 2, SO 2.2.)

The baseline value of this indicator in the programme, referring to jointly developed/aligned management tools (2014) is 2. The gross impact is calculated as the total number of jointly developed/aligned management tools of NATURA 2000 sites (7, reported by the 2 project beneficiaries in their final reports of completed projects) is divided to the baseline value. The net impact is estimated to be 100% based on the assumption shared by the workshop participants that no other common NATURA 2000 management tools have been developed through other funding sources during the same period.

(5) Population benefiting from actions of risk management, number (PA 3, SO 3.1.)

The majority of the projects are yet in process of implementation, especially ones related to infrastructure interventions. Therefore, qualitative analysis has been made during the workshops to estimate the net impact of already funded projects on the NUTS 3 regions from both sides of the border assuming that they will all be completed successfully. The gross impacts can hardly be quantified since a variety of funding mechanisms (ESIF-funded operational programmes, national budgets, regional/local funding) are applied for remedying the consequences of disastrous events (floods, landslides or forest fires), many of which on an ad hoc basis, and for improving the risk management of emergency situations.

Assessment has been made by the stakeholders of the needs of the respective regions and how (to what extent) the undergoing programme interventions will produce the planned effects. The programme focus has been analysed taking into account the available funding at NUTS 3 level, which can contribute to achieving the desired results.

(6) (R) Population with access to joint employment initiatives, number (PA 4, SO 4.1.)

Analysis has been made during the workshops to estimate the net impact of already funded projects in the NUTS 3 regions from both sides of the border assuming that they will all be completed successfully (many of them are still in progress). The CBC programme is the main instrument supporting joint initiatives for promoting cross-border employment and labour mobility. Due to the difficult accessibility between both countries because of the limited connectivity, the implemented and ongoing projects have been assessed qualitatively due to the lack of sufficiently credible statistical information for a quantitative assessment. Points, which have been considered in the process have been: perceived level of integration of the cross-border labour markets and impact of funded interventions on workers' mobility between and across borders, compared to the results from other actions in the CBC region, financing similar projects, contributing to the gross impact.

(7) (R/A) Level of cooperation between the public institutions in the cross-border area (PA 5, SO 5.1.)

Qualitative assessment has been made during the workshops to estimate the impact of already funded projects on the NUTS 3 regions from both sides of the border assuming that they will all be completed successfully. The analysis has focused on several issues – how (to what extent) the interventions will contribute to the expected effect of this SO, what would be the expected outcomes and results, whether there are alternative sources of funding for the same activities and what is their impact.

Since the programme is the main instrument for enhancing the bilateral cooperation, it has been estimated that the net and gross impacts from the funded projects and activities have very similar values.

For counties/districts where the magnitude is "0", no projects have been contracted till the end of 2018, i.e. no net impact can be reported.

3.4.3.3 Impact Assessment Matrix

The results of each working step of the TIA process have been fed into the Impact Assessment Matrix (IAM), representing the combined input of the case study team as well as the experts taking part in the TIA workshops. The IAM provides a comprehensive overview of those working step results and is the basis on which the textual impact assessment in the following section is formulated.

Table 3.14: Impact Assessment Matrix

Indicator	Assessment method	Nature of Impact – ROMANIA	Mehedinți	Dolj	Olt	Teleorman	Giurgiu	Călărași	Constanța	
1. (R) Cross-border population served by modernized infrastructure leading to TEN-T, number	Quantitative	Value T0								
		Value T1								
		Gross impact								
		Net impact calculation method								
		Net impact								
	Qualitative	Magnitude (0-2)		1	2	0	1	2	0	2
		Direction against baseline		Positive	Positive	Neutral	Positive	Positive	Neutral	Positive
		Temporal distribution (short/medium/long term)		Short-term						
		Justification, notes:	Original result indicator of the programme, described as “number of inhabitants living within 2 km of a road eligible through the cross-border programme”. Since no reliable official statistical data can be collected about the gross impact, qualitative assessment is performed based on expert opinions in a workshop setting. Analysis has been made of the expected magnitude of effects from the contracted projects under this SO in the respective NUTS 3 regions and their impact on the territory. In some cases, the positive impact, in addition to roads modernization, has been the development of joint mechanisms for supporting intermodal connections, establishment of a network of electrical bicycles throughout the CBC area, etc. For NUTS 3 regions where the magnitude is “0”, no projects have been contracted till the end of 2018, i.e. no net impact can be reported.							

Indicator	Assessment method	Nature of Impact – BULGARIA	Vidin	Montana	Vratsa	Pleven	Veliko Tarnovo	Ruse	Silistra	Dobrich	
1. (R) Cross-border population served by modernized infrastructure leading to TEN-T, number		Value T0									
		Value T1									
	Quantitative	Gross impact									
		Net impact calculation method									
		Net impact									
	Qualitative	Magnitude (0-2)	1	1	0	2	0	2	1	2	
		Direction against baseline	Positive	Positive	Neutral	Positive	Neutral	Positive	Positive	Positive	
		Temporal distribution (short/medium/long term)	Short-term								
		Justification, notes	Original result indicator of the programme, described as “number of inhabitants living within 2 km of a road eligible through the cross-border programme”. Since no reliable official statistical data can be collected about the gross impact, qualitative assessment is performed based on expert opinions in a workshop setting. Analysis has been made of the expected magnitude of effects from the contracted projects under this SO in the respective NUTS 3 regions and their impact on the territory. In some cases, the positive impact, in addition to roads modernization, has been the development of joint mechanisms for supporting intermodal connections, establishment of a network of electrical bicycles throughout the CBC area, etc. For NUTS 3 regions where the magnitude is “0”, no projects have been contracted till the end of 2018, i.e. no net impact can be reported.								

Indicator	Assessment method	Nature of Impact – ROMANIA	Mehedinți	Dolj	Olt	Teleorman	Giurgiu	Călărași	Constanța	
2. (R) Share of the RO-BG CBC Danube length where safety of navigation has been improved, %		Value T0 (2014)					1.29%			
		Value T1 (2018)					1.29%			
	Quantitative	Gross impact	-	-	-	-	-	-	-	
		Net impact calculation method	"funding framework" approach							
		Net impact	7,893.8% (expected)							
	Qualitative	Magnitude (0-2)								
		Direction against baseline								
		Temporal distribution (short/medium/long term)	Medium term							
		Justification, notes	Original result indicator of the programme. The baseline value of the indicator (2014) is 1.29%. Since none of the 2 contracted projects under this SO has been finalized till the end of 2018, the Value T1 (2018) remains the same (1.29%). The net impact is calculated based on the expectation that the result indicator of 101.83% (declared to be achieved by the 2 projects) will be implemented (2021): 101.83% (indicator to be achieved)/1.29% (current status) = 78,938 times increase = 7,893.8%. According to the MA, both projects are going according to plan so the assumption that they will be successfully finalized is realistic. The impact cannot be differentiated among NUTS 3 regions since the whole eligible cross-border territory shall benefit from the project results. Although there are similar interventions under other funding sources targeting improvement of the Danube inland waterways (e.g. the Romanian Large Infrastructure Programme, the Connecting Europe Facility, the Danube Transnational Programme, etc.), able to contribute to the gross impact, those projects rely on a different set of indicators, which cannot be directly transposed and used for comparison with the current indicator. Thus, they have not been taken into consideration for establishment of the gross, respectively the net impact.							

Indicator	Assessment method	Nature of Impact – BULGARIA	Vidin	Montana	Vratsa	Pleven	Veliko Tarnovo	Ruse	Silistra	Dobrich	
2. (R) Share of the RO-BG CBC Danube length where safety of navigation has been improved, %		Value T0 (2014)					1.29%				
		Value T1 (2018)					1.29%				
	Quantitative	Gross impact	-	-	-	-	-	-	-	-	
		Net impact calculation method	"funding framework" approach								
		Net impact	7,893.8% (expected)								
	Qualitative	Magnitude (0-2)									
		Direction against baseline									
		Temporal distribution (short/medium/long term)	Medium term								
		Justification, notes	Original result indicator of the programme. The baseline value of the indicator (2014) is 1.29%. Since none of the 2 contracted projects under this SO has been finalized till the end of 2018, the Value T1 (2018) remains the same (1.29%). The net impact is calculated based on the expectation that the result indicator of 101.83% (declared to be achieved by the 2 projects) will be implemented (2021): 101.83% (indicator to be achieved)/1.29% (current status) = 78,938 times increase = 7,893.8%. According to the MA, both projects are going according to plan so the assumption that they will be successfully finalized is realistic. The impact cannot be differentiated among NUTS 3 regions since the whole eligible cross-border territory shall benefit from the project results. Although there are similar interventions under other funding sources targeting improvement of the Danube inland waterways (e.g. the Romanian Large Infrastructure Programme, the Connecting Europe Facility, the Danube Transnational Programme, etc.), able to contribute to the gross impact, those projects rely on a different set of indicators, which cannot be directly transposed and used for comparison with the current indicator. Thus, they have not been taken into consideration for establishment of the gross, respectively the net impact.								

Indicator	Assessment method	Nature of Impact – ROMANIA	Mehedinți	Dolj	Olt	Teleorman	Giurgiu	Călărași	Constanța		
3. (R) Tourist overnights in the cross-border region, number		Value T0 (2014)	112,185	161,652	68,761	24,336	41,906	35,495	3,616,980		
		Value T1 (2017)	229,574	223,094	78,540	18,695	54,107	51,810	4,729,186		
		Gross impact	104.6%	38.0%	14.2%	-23.2%	29.1%	46.0%	30.7%		
		Net impact calculation method	The gross impact of the indicator represents the ratio between the increased number of tourist overnight stays at NUTS 3 level in the CBC region in 2017 compared to 2014, based on official data provided by the RO-BG statistical offices (Value T1/Value T0 minus 1). The net impact is calculated by the ratio of reported number of tourist overnights in the CBC region declared by project beneficiaries in their reports (R) till the end of 2018 (38,523) to the overall number of increased tourist overnights (I) in the 15 NUTS 3 regions covered by the programme in 2017 (1,855,059): R/I, presented in percentage points. Regional differentiation at NUTS 3 level is not possible due to the fact that results are reported only at project level (one project comprises partners from 2, 3 or sometimes even 4 NUTS 3 regions).								
		Quantitative									
			Net impact	2.1%							
		Qualitative	Magnitude (0-2)								
		Direction against baseline									
		Temporal distribution (short/medium/long term)							Short-term		
		Justification, notes	Original result indicator of the programme well describing the gross and net effects of the outcomes of the specific objective. Well populated with statistical information from a reliable source at NUTS 3 level.								

Indicator	Assessment method	Nature of Impact – BULGARIA	Vidin	Montana	Vratsa	Pleven	Veliko Tarnovo	Ruse	Silistra	Dobrich	
3. (R) Tourist overnights in the cross-border region, number		Value T0 (2014)	46,478	63,096	80,576	87,331	267,452	133,966	32,735	1,794,550	
		Value T1 (2017)	57,283	62,747	92,402	79,728	337,706	143,433	26,556	2,237,697	
		Gross impact	23.2%	-0.6%	14.7%	-8.7%	26.3%	7.1%	-18.9%	24.7%	
		Net impact calculation method	The gross impact of the indicator represents the ratio between the increased number of tourist overnight stays at NUTS 3 level in the CBC region in 2017 compared to 2014, based on official data provided by the RO-BG statistical offices (Value T1/Value T0 minus 1). The net impact is calculated by the ratio of reported number of tourist overnights in the CBC region declared by project beneficiaries in their reports (R) till the end of 2018 (38,523) to the overall number of increased tourist overnights (I) in the 15 NUTS 3 regions covered by the programme in 2017 (1,855,059): R/I, presented in percentage points. Regional differentiation at NUTS 3 level is not possible due to the fact that results are reported only at project level (one project comprises partners from 2, 3 or sometimes even 4 NUTS 3 regions).								
		Net impact	2.1%								
		Magnitude (0-2)									
		Direction against baseline									
		Temporal distribution (short/medium/long term)	Short-term								
		Justification, notes	Original result indicator of the programme well describing the gross and net effects of the outcomes of the specific objective. Well populated with statistical information from a reliable source at NUTS 3 level.								

Indicator	Assessment method	Nature of Impact – ROMANIA	Mehedinți	Dolj	Olt	Teleorman	Giurgiu	Călărași	Constanța	
4. (R) NATURA 2000 sites from the cross-border area with management tools, number		Value T0 (2014)				2				
		Value T1 (2018)				7				
	Quantitative	Gross impact				350%				
		Net impact calculation method				"funding framework" approach				
		Net impact				100%				
	Qualitative		Magnitude (0-2)							
			Direction against baseline							
			Temporal distribution (short/medium/long term)				Short-term			
		Justification, notes	Slightly modified original result indicator of the programme relevant for assessing the outcomes of implemented measures and their effects. The impacts are based on 2 implemented projects under the programme, which have covered the whole eligible area. Gross impact = Value T1/Value T0. The net impact is estimated to be 100% based on the assumption shared by the workshop participants that no other common NATURA 2000 management tools have been developed through other funding sources during the same period.							

Indicator	Assessment method	Nature of Impact – BULGARIA	Vidin	Montana	Vratsa	Pleven	Veliko Tarnovo	Ruse	Silistra	Dobrich	
4. (R) NATURA 2000 sites from the cross-border area with management tools, number		Value T0 (2014)					2				
		Value T1 (2018)					7				
	Quantitative	Gross impact					350%				
		Net impact calculation method						"funding framework" approach			
		Net impact					100%				
	Qualitative		Magnitude (0-2)								
			Direction against baseline								
			Temporal distribution (short/medium/long term)						Short-term		
			Justification, notes	Slightly modified original result indicator of the programme relevant for assessing the outcomes of implemented measures and their effects. The impacts are based on 2 implemented projects under the programme, which have covered the whole eligible area. Gross impact = Value T1/Value T0. The net impact is estimated to be 100% based on the assumption shared by the workshop participants that no other common NATURA 2000 management tools have been developed through other funding sources during the same period.							

Indicator	Assessment method	Nature of Impact – ROMANIA	Mehedinți	Dolj	Olt	Teleorman	Giurgiu	Călărași	Constanța	
5. (A) Population benefiting from actions of risk management, number		Value T0								
		Value T1								
	Quantitative	Gross impact								
		Net impact calculation method								
		Net impact								
	Qualitative	Magnitude (0-2)	1	2	1	1	2	2	1	
		Direction against baseline	Positive	Positive	Positive	Positive	Positive	Positive	Positive	
		Temporal distribution (short/medium/long term)	Short-term							
		Justification, notes	Additional indicator related to a set of output indicators of the programme, able to evaluate the impact and effects of the interventions. Qualitative assessment has been made by the programme stakeholders in a workshop setting. The needs of the respective regions have been analysed and how (to what extent) the undergoing programme interventions will produce the planned effects. The programme focus has been analysed taking into account the available funding at NUTS 3 level, which can contribute to achieving the desired results.							

Indicator	Assessment method	Nature of Impact – BULGARIA	Vidin	Montana	Vratsa	Pleven	Veliko Tarnovo	Ruse	Silistra	Dobrich	
5. (A) Population benefiting from actions of risk management, number		Value T0									
		Value T1									
	Quantitative	Gross impact									
		Net impact calculation method									
		Net impact									
	Qualitative	Magnitude (0-2)	1	1	2	2	2	1	1	1	
		Direction against baseline	Positive	Positive	Positive	Positive	Positive	Positive	Positive	Positive	
		Temporal distribution (short/medium/long term)	Short-term								
		Justification, notes	Additional indicator related to a set of output indicators of the programme, able to evaluate the impact and effects of the interventions. Qualitative assessment has been made by the programme stakeholders in a workshop setting. The needs of the respective regions have been analysed and how (to what extent) the undergoing programme interventions will produce the planned effects. The programme focus has been analysed taking into account the available funding at NUTS 3 level, which can contribute to achieving the desired results.								

Indicator	Assessment method	Nature of Impact – ROMANIA	Mehedinți	Dolj	Olt	Teleorman	Giurgiu	Călărași	Constanța	
6. (R) Population with access to joint employment initiatives, number		Value T0								
		Value T1								
	Quantitative	Gross impact								
		Net impact calculation method								
		Net impact								
	Qualitative	Magnitude (0-2)	1	2	1	1	1	2	2	
		Direction against baseline	Positive	Positive	Positive	Positive	Positive	Positive	Positive	
		Temporal distribution (short/medium/long term)								
		Justification, notes	Original result indicator of the programme relevant for assessing the outcomes of implemented measures and their effects. Qualitative assessment has been made by the programme stakeholders in a workshop setting. Analysis has been made of the perceived level of integration of the cross-border labour markets and the magnitude of impact of funded interventions on workers' mobility between and across borders, compared to the results from other actions in the CBC region, financing similar projects.							

Indicator	Assessment method	Nature of Impact – BULGARIA	Vidin	Montana	Vratsa	Pleven	Veliko Tarnovo	Ruse	Silistra	Dobrich	
6. (R) Population with access to joint employment initiatives, number		Value T0									
		Value T1									
	Quantitative	Gross impact									
		Net impact calculation method									
		Net impact									
	Qualitative	Magnitude (0-2)	2	1	1	1	2	2	1	2	
		Direction against baseline	Positive	Positive	Positive	Positive	Positive	Positive	Positive	Positive	
		Temporal distribution (short/medium/long term)	Short-term								
		Justification, notes	Original result indicator of the programme relevant for assessing the outcomes of implemented measures and their effects. Qualitative assessment has been made by the programme stakeholders in a workshop setting. Analysis has been made of the perceived level of integration of the cross-border labour markets and the magnitude of impact of funded interventions on workers' mobility between and across borders, compared to the results from other actions in the CBC region, financing similar projects.								

Indicator	Assessment method	Nature of Impact – ROMANIA	Mehedinți	Dolj	Olt	Teleorman	Giurgiu	Călărași	Constanța	
7. (R/A) Level of cooperation between the public institutions in the cross-border area		Value T0								
		Value T1								
	Quantitative	Gross impact								
		Net impact calculation method								
		Net impact								
	Qualitative	Magnitude (0-2)	0	1	0	1	1	2	2	
		Direction against baseline	Neutral	Positive	Neutral	Positive	Positive	Positive	Positive	
		Temporal distribution (short/medium/long term)	Short-term							
		Justification, notes	Modified programme result indicator able to better assess the outcomes of implemented measures and their effects. Qualitative assessment has been made by the programme stakeholders in a workshop setting. The analysis has focused on several issues – how (to what extent) the interventions will contribute to the expected effect of this SO, what would be the expected outcomes and results, whether there are alternative sources of funding for the same activities and what is their impact. For NUTS 3 regions where the magnitude is “0”, no projects have been contracted till the end of 2018, i.e. no net impact can be reported.							

Indicator	Assessment method	Nature of Impact – BULGARIA	Vidin	Montana	Vratsa	Pleven	Veliko Tarnovo	Ruse	Silistra	Dobrich	
7. (R/A) Level of cooperation between the public institutions in the cross-border area		Value T0									
		Value T1									
	Quantitative	Gross impact									
		Net impact calculation method									
		Net impact									
	Qualitative	Magnitude (0-2)	1	1	2	0	2	2	1	2	
		Direction against baseline	Positive	Positive	Positive	Neutral	Positive	Positive	Positive	Positive	
		Temporal distribution (short/medium/long term)	Short-term								
		Justification, notes	Modified programme result indicator able to better assess the outcomes of implemented measures and their effects. Qualitative assessment has been made by the programme stakeholders in a workshop setting. The analysis has focused on several issues – how (to what extent) the interventions will contribute to the expected effect of this SO, what would be the expected outcomes and results, whether there are alternative sources of funding for the same activities and what is their impact. For NUTS 3 regions where the magnitude is “0”, no projects have been contracted till the end of 2018, i.e. no net impact can be reported.								

3.5 Territorial Impact Assessment

3.5.1 Summary of main findings

The Interreg V-A Romania-Bulgaria Programme focuses on providing targeted support in 5 thematic areas:

- Promoting sustainable road and river transport and removing bottlenecks in key network infrastructures by providing a link to the TEN-T network (PA 1, TO 7)
- Preserving and protecting the natural and cultural heritage and the environment (especially Natura 2000) (PA 2, TO 6)
- Promoting risk prevention and management related to the mitigation of floods and forest fires and supporting the mechanisms for early warning and emergency response (PA 3, TO 5)
- Promoting sustainable and quality employment as well as establishing the base for labour mobility (PA 4, TO 8)
- Enhancing the institutional capacity of organisations providing services of public interest and the efficiency of the public administration (PA 5, TO 11)

For some of the eligible interventions included in the programme, it is the main funding source for the CBC region during the 2014-2020 period, e.g. PA 2's SO 2.2. "To enhance the sustainable management of the ecosystems from the cross-border area", PA 4's, SO 4.1. "To encourage the integration of the cross-border area in terms of employment and labour mobility", and PA 5's, SO 5.1. "To increase cooperation capacity and the efficiency of public institutions in a CBC context".

For others, it is a complementary source of funding, e.g. for PA 1 (SO 1.1. and SO 1.2.), PA 2 (SO 2.1.), and PA 3 (SO 3.1.) since additional EU-funded, national and regional investment is poured into the region or is planned for the upgrade of the road infrastructure, inland waterways, tourism/natural attractiveness and risk management (climate change mitigation).

At the specific objective level, the programme has balanced impacts across the eligible territory. The largest share of the funding goes for improvement of the transport links (PA 1, SO 1.1. and SO 1.2.) and for enhancement of the tourist and natural resources potential of the region (PA 2, SO 2.1. and SO 2.2.). However, this is not directly linked to the magnitude of expected impacts on the respective regions since a large portion of the investments under PA 1 and PA 2 is allocated to a small number of infrastructure projects.

Based on the analysis and the outcomes of the stakeholder workshops, the TIA of the RO-BG programme indicates that the different NUTS 3 regions in the cross-border area will benefit to a different extent from the undertaken interventions within the 7 specific objectives of the programme. There are two exceptions – SO 1.2. and SO 2.2., whose positive effects will cover the whole eligible area. All RO counties and BG districts will achieve:

- Increased passenger and freight transport traffic in the cross-border section of the Danube river based on improved transport safety of the waterway transport routes
- Improved protection and conservation status of natural habitats and NATURA 2000 sites due to newly introduced sustainable management tools

For the remaining 5 SOs, the following Romanian counties will be most positively affected by the programme:

- Constanța, Dolj and Giurgiu

A common feature can be identified between Constanța and Dolj counties – they are the most economically developed NUTS 3 regions on the RO side of the border. Giurgiu is also a good performer. It has a direct link via bridge with Ruse district (BG) and borders Ilfov county, which is surrounding the economic center of Romania – the capital city of Bucharest.

The 3 counties have balanced project budget allocations within all 5 PAs of the programme (close to 70% of all available funding for RO partners, excluding ones outside the eligible area, e.g. Bucharest and Ilfov) and a large number of projects by individual beneficiaries located in those territorial units.

Should all contracted projects under the programme be completed successfully, the respective territories will benefit from improved TEN-T connectivity, upgraded use of resources related to the natural and cultural heritage, increased risk management potential, sustainable employment and labour mobility services, and enhanced capacity of the public institutions in a cross-border setting.

The Bulgarian districts which will receive the most significant positive impacts from the interventions under the 5 SOs of the programme (except SO 1.2. and SO 2.2.), are:

- Ruse, Pleven and Dobrich

Ruse is the most economically developed region among the 8 BG districts eligible under the programme and has a direct transport connection by bridge with RO (Giurgiu county). Pleven and Dobrich are also among the top performers in terms of GDP.

The 3 Bulgarian districts will benefit from over two thirds of the financial support dedicated to project beneficiaries among the BG NUTS 3 regions (excluding the funding that is allocated to beneficiaries outside the programme area, e.g. Sofia capital and Sofia district). There is one specific, however, as Pleven district will not be taking advantage from the actions under PA 5 related to increasing the cooperation capacity and the efficiency of public institutions in the CBC context.

Therefore, the major scope of positive impacts for the 3 regions will comprise better connectivity to the TEN-T transport networks, sustainable use of natural and cultural heritage and resources, increased risk management options and enhanced employment and labour mobility potential.

In Romania, lesser effects will be observed in the counties of Mehedinți, Olt, Teleorman and Călărași, while in Bulgaria – in the districts of Vidin, Montana, Vratsa, Veliko Tarnovo and Silistra. The main reasons for this can be attributed to the smaller administrative or financial capacity of the project beneficiaries for the implementation of the projects, having in mind the requirement for 2% own contribution. Other reasons have also been taken into consideration, namely:

- The county of Mehedinți (RO) and the districts of Vidin, Montana and Vratsa (BG) have access to additional funding opportunities for similar interventions through the RO/BG-Serbia CBC programme
- Veliko Tarnovo district (BG) has a narrow border with the Danube river (Romania, respectively) and has prioritised the funding of its projects from the national operational programmes and other sources

3.5.2 Impact on the regions

The outcomes of the Territorial Impact Assessment of the 15 NUTS 3 regions can be described as follows:

PA 1, SO 1.1. Improve the planning, development and coordination of cross-border transport systems for better connections to TEN-T transport networks

SO 1.1. comprises some soft projects (e.g. introduction of measures for optimization of the freight and passenger transport) but mostly it focuses on infrastructure development interventions (modernisation of roads). The quality of the road infrastructure has been seen by the workshop participants as the key element in the social and economic development of the cross-border region. Since the focus of this SO is to upgrade the connections leading to the TEN-T transport networks, the most significant impacts will be observed upon the completion of the planned infrastructure interventions (currently, in process of implementation). One major element of the planned improvements that has been regarded, has been the modernized of the horizontal marking and vertical signaling, often missing or insufficient, which can significantly improve traffic safety.

As can be judged from the funding of contracted projects in the respective NUTS 3 regions, with the exception of the counties of Olt and Călărași (Romania), and Vratsa and Veliko Tarnovo (Bulgaria), all of the remaining 11 NUTS 3 territorial units will be to a different extent positively impacted by the Programme. The interventions are comparatively equally allocated to smaller and larger municipalities in the eligible region.

The most significant impacts from the implementation of this SO shall be the following:

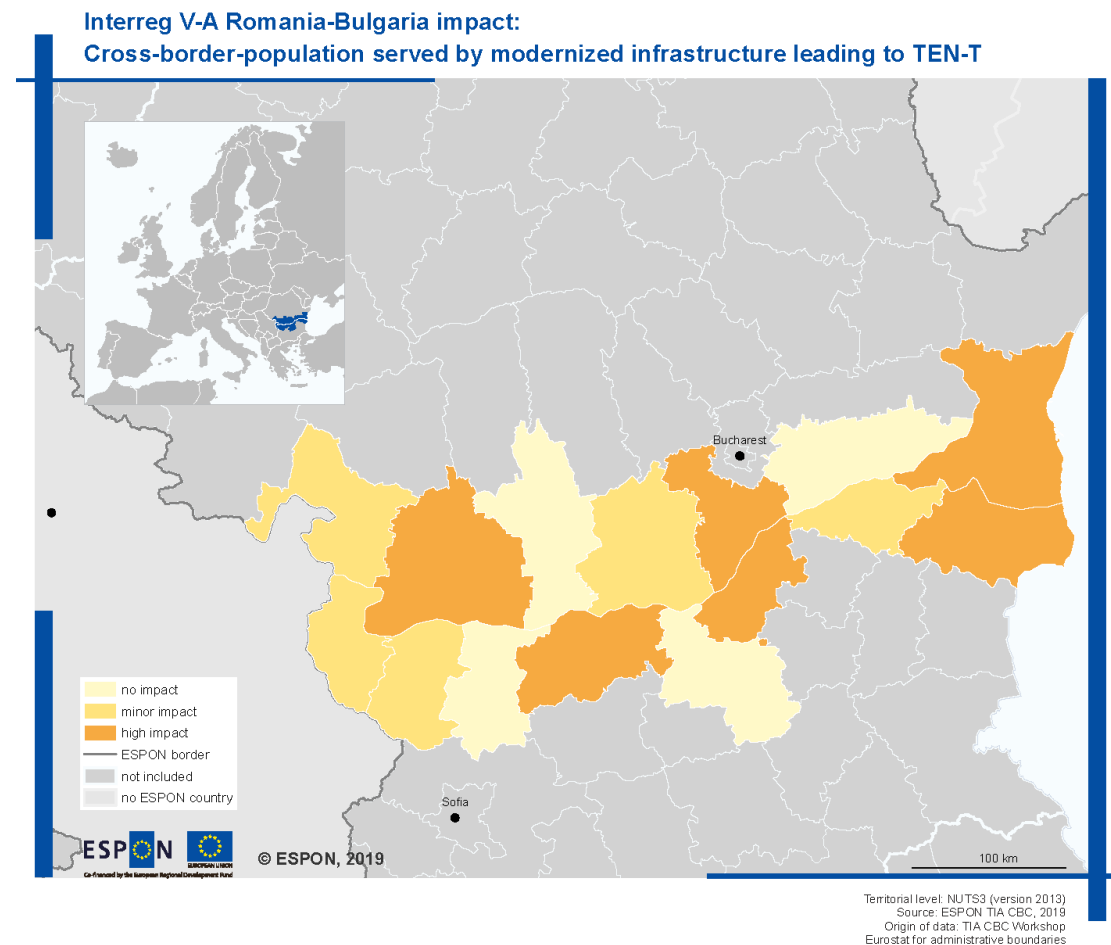
- Improved planning, development and coordination of the CBC transport system
- Modernised connections with the TEN-T network in the CBC area
- Developed tertiary nodes
- Increased traffic safety based on awareness raising campaigns

For measuring the net impact of the indicator (“Cross-border population served by modernized infrastructure leading to TEN-T”) best reflecting the main result of this SO, qualitative

assessment has been made due to the lack of coherent statistical information at this stage of TIA for the quantitative effects (both gross and net).

It should be noted that there are many additional sources of funding for the upgrade of the primary and secondary road infrastructure in the CBC region coming from the operational programmes, state and local budgets. Therefore, the impacts of this SO are notable mainly in specific territorial units, which cannot have an alternative access to funding.

Map 3.3: Net impact for indicator “Cross-border population served by modernized infrastructure leading to TEN-T”



PA 1, SO 1.2. Increase transport safety on waterways and maritime transport routes

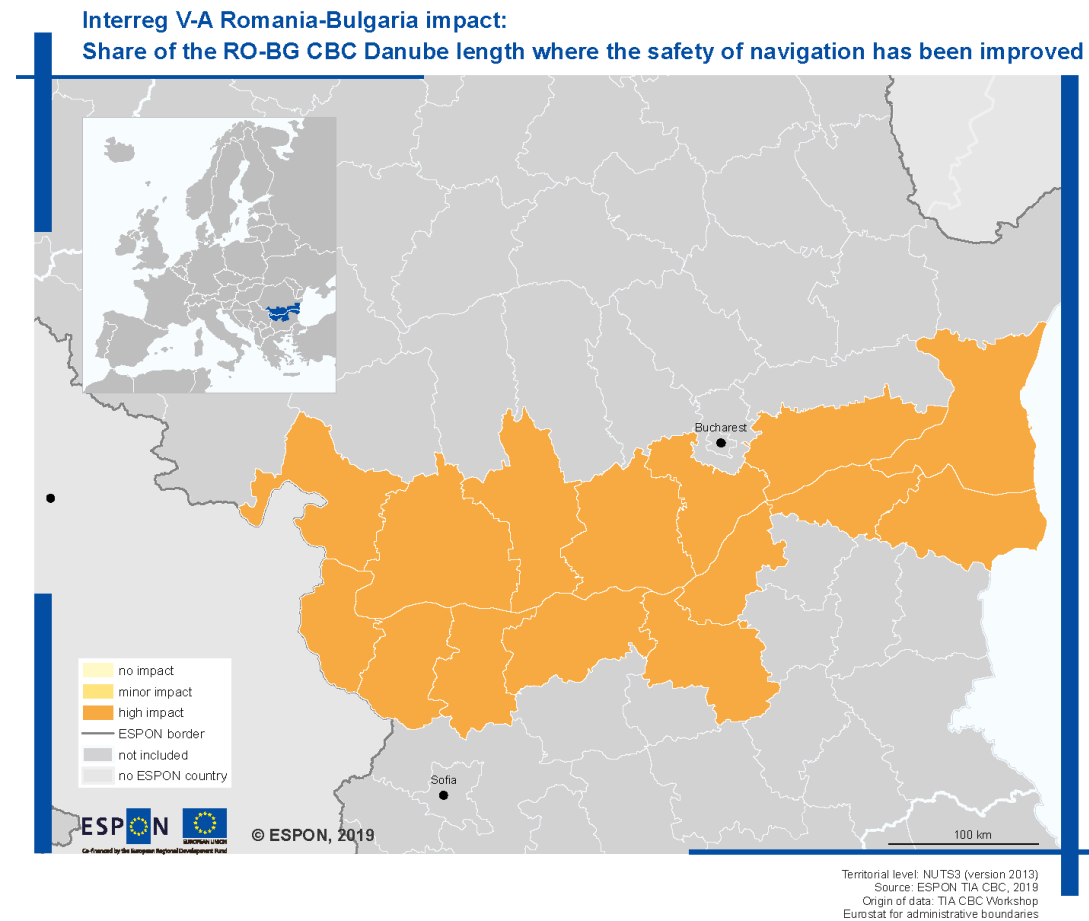
The River Danube (Pan-European Transport Corridor VII) is the natural border between Romania and Bulgaria. It has significant potential for enhancing the passenger and transport traffic within the region based on implemented measures for improving its navigability.

The two projects funded under this SO (to be completed in 2019 and 2021, respectively) will have the following main result:

- Increased transport safety and navigation on the waterways in the CBC region.

“Funding framework” approach has been applied for assessing the quantitative effects from the implementation of this SO based on the indicator “Share of the RO-BG CBC Danube length where safety of navigation has been improved”. Both contracted projects are expected to have a significant overall positive impact on the whole programme territory. They cannot be differentiated at NUTS 3 level since the envisaged activities target to bring positive change to the whole region.

Map 3.4: Net impact for indicator “Share of the RO-BG CBC Danube length where safety of navigation has been improved”



PA 2, SO 2.1. To improve the sustainable use of natural heritage and resources and cultural heritage

This specific objective funds both “soft” and infrastructure projects, e.g. development of joint tourist products and services (incl. reconstruction and exhibition of tourist sites), introduction of travel guide services, web-based digitalized content and information, etc. The development and sustainable use of natural and cultural heritage and resources are among the key factors for the development and promotion of a joint cross-border tourist product. There is a pretty uniform distribution of projects among the NUTS 3 regions on the CBC territory. At the moment of conduction of TIA, only “soft” projects have been finalized, which have shown visible results.

The two regions in Romania and Bulgaria (Constanța and Dobrich) providing extensive options for Black Sea summer tourism have also been taking an advantage of the funding under this SO by implementing projects for over € 13.4 million (22.7% of the overall contracted amounts).

The positive impacts from the implementation of this SO can be visible throughout the whole eligible territory, such as:

- Achieved sustainable use of sites of cultural heritage in the cross-border area
- Developed and promoted new models of viable and heritage-friendly economic activities and integrated tourist products
- Introduced innovative and interactive IT solutions for the provision of tourist services
- Developed niche tourist products, such as fishing, green and healthy tourism, culinary activities, topical activities (reproduction of military uniforms, edged weapons and fire arms replicas), etc.

This is the SO which has the largest number and variety of beneficiaries – public institutions, universities, museums, non-government organisations, etc. The indicator that best reflects the impacts of this SO (“Tourist overnights in the cross-border region”) has been assessed quantitatively owing to the well-developed and reliable statistical framework. However, it cannot be presented at NUTS 3 level due to the fact that information about overnight stays resulting from project interventions is collected only at project level.

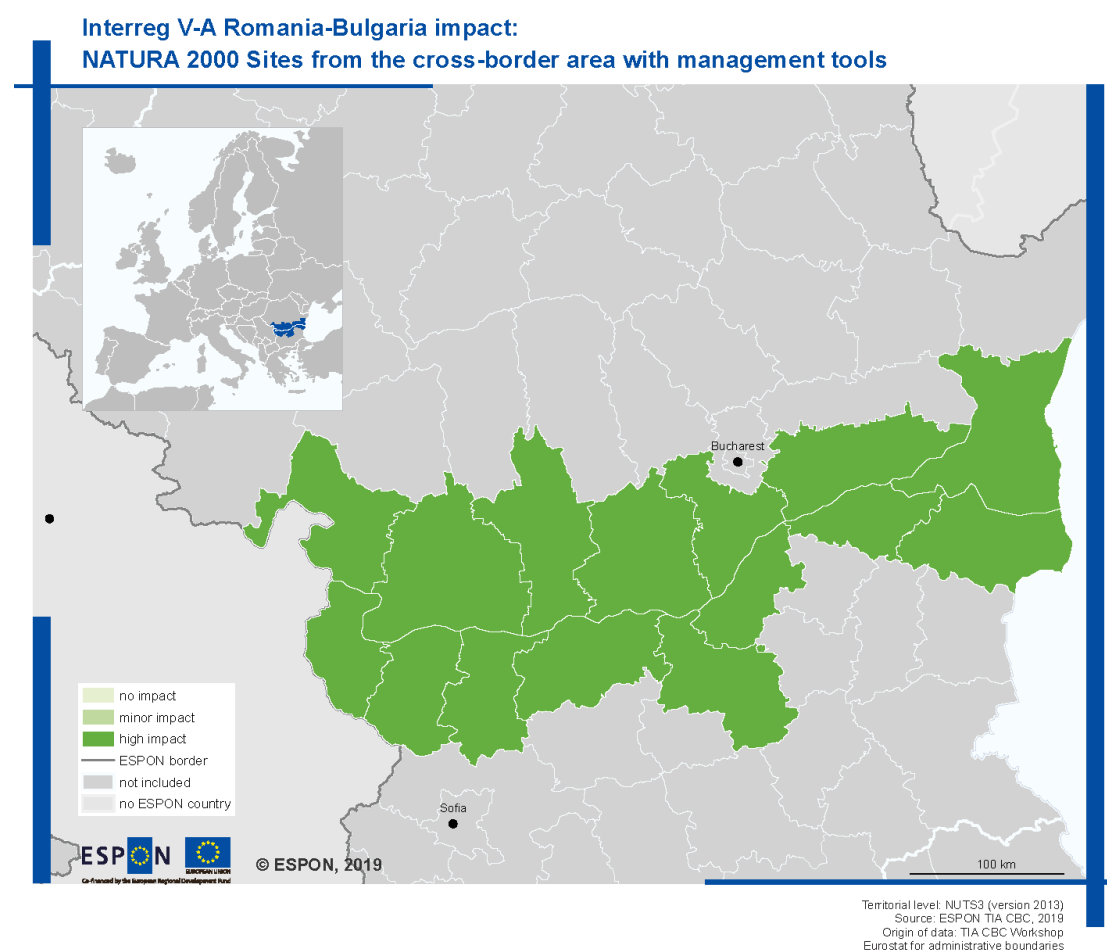
PA 2, SO 2.2. To enhance the sustainable management of the ecosystems from the cross-border area

The specific objective represents a major tool for improving the management capacity of NATURA 2000 sites in the cross-border area. This is the only SO which has been completed in the time frame of TIA, based on the two already implemented projects. Their impacts have been the following:

- Informed population of the target area about the wild life in protected areas
- Engaged people in concrete actions for protection of the environment in towns and Natura 2000 protected areas
- Promoted and strengthened partnership between the border environment communities to sustainably manage the ecosystems in zones of the Natura 2000 network

The selected indicator “NATURA 2000 sites from the cross-border area with management tools” assessing the results of this SO is measured quantitatively based on the “funding framework” approach. Due to the fact that the two completed projects have been targeting the whole eligible CBC area, the positive impact cannot be differentiated at NUTS 3 level.

Map 3.5: Net impact for indicator “NATURA 2000 sites from the cross-border area with management tools”



PA 3, SO 3.1. To improve joint risk management in the cross-border area

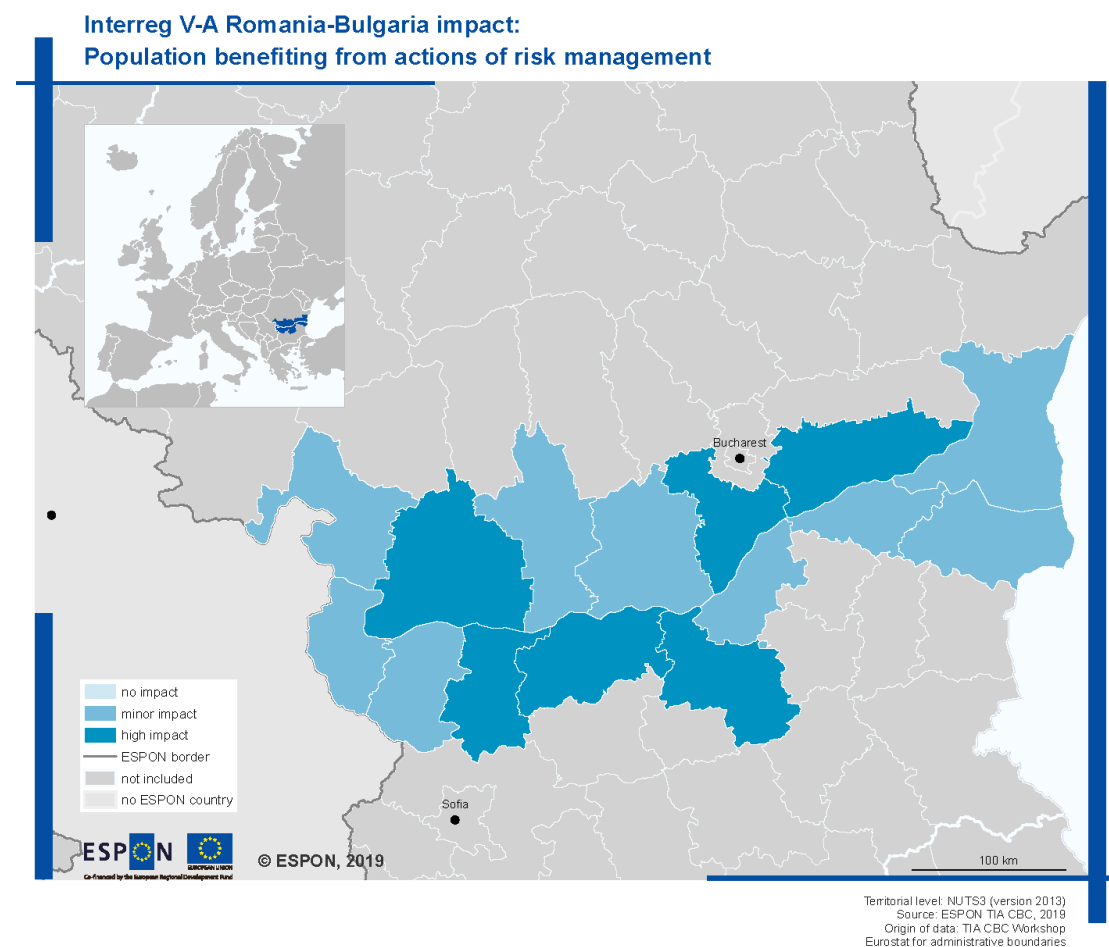
The cross-border programme is not the main funding source for enhancing risk management in both countries where significant amounts of additional resources are channelled through the national budgets or under other operational programmes in the direction of risk mitigation (mainly infrastructure activities). However, as shared by the workshop participants, the CBC programme provides a targeted approach for specific cases and funds soft measures, such as promotion of volunteering, awareness raising for risk prevention, establishment of efficient reaction and interoperability for emergency response (creation of joint rapid intervention forces), etc. A number of projects are still in process of implementation, under which specialized equipment will be supplied and which will significantly improve the emergency response capacity of the cross-border region.

All 15 NUTS 3 regions will be equally positively impacted by the implementation of projects funded under this SO since the outcomes can easily be transferred elsewhere when a need arises. This is supported by the fact that a couple of projects have been implemented in partnership between the National Research and Development Institute for Materials Physics (RO), the General Inspectorate of Romanian Police, the Bulgarian Ministry of Interior (Direc-

torate General Fire Safety and Civil Protection), the Romanian Ministry of Internal Affairs (General Inspectorate for Emergency Situations). Although the project beneficiaries have been located outside of the programme area (Bucharest, Ilfov and Sofia, respectively), the project outcomes and results have been applicable for the whole CBC territory.

Qualitative assessment has been made of the indicator “Population benefiting from actions of risk management” selected for measuring the impacts of this SO, since no statistical data has been available. The most visible effects from the interventions at NUTS 3 level will be in the counties of Dolj, Giurgiu and Călărași in Romania, and in the districts of Vratsa, Pleven and Veliko Tarnovo in Bulgaria.

Map 3.6: Net impact for indicator “Population benefiting from actions of risk management”



PA 4, SO 4.1. To encourage the integration of the cross-border area in terms of employment and labour mobility

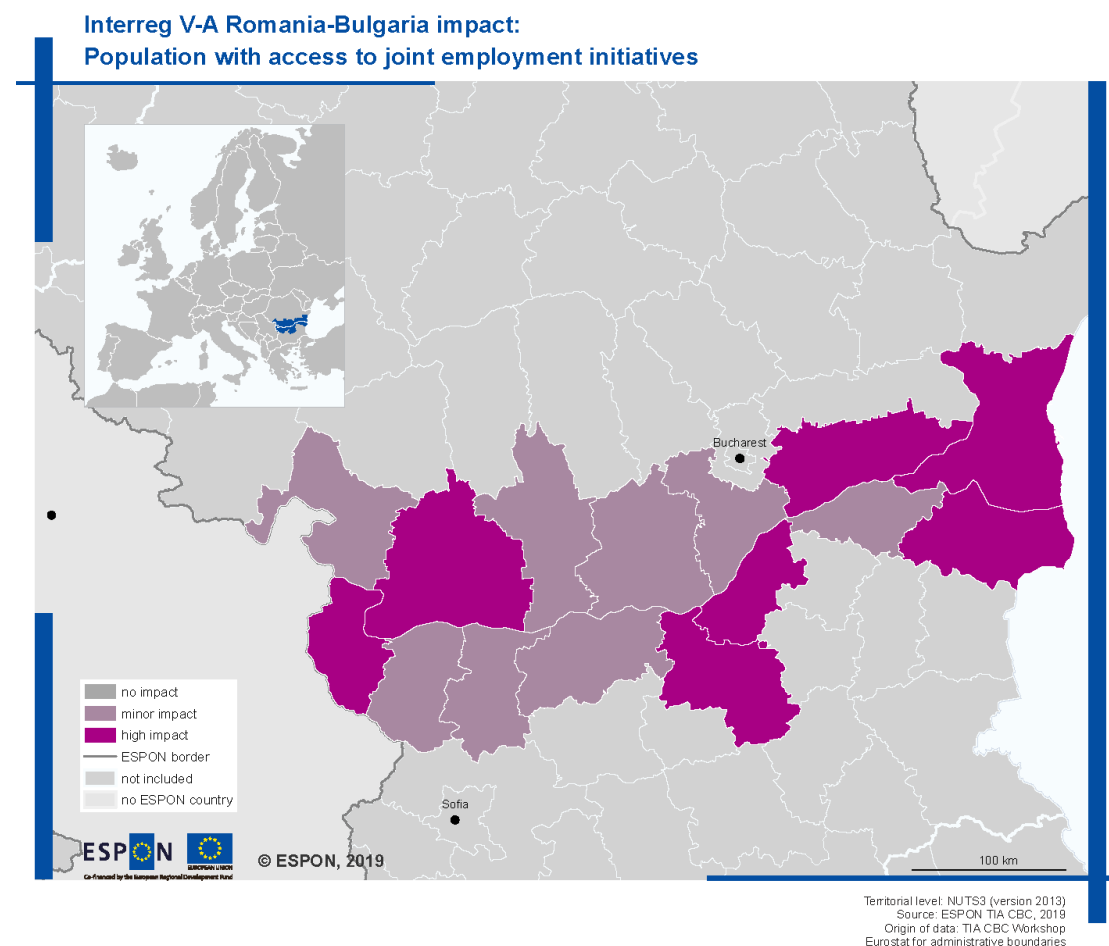
The national budgets and ESIF-funded programmes in both countries provide significant support for the development of the employment and labour mobility in the respective areas. However, they are focusing on national policies and plans for vocational training of workers, reduction of intraregional disparities in the labour market and increase of employment opportunities. This SO provides targeted support for institutions in the cross-border area in assessing

the needs, demand and supply on the CBC labour market for developing tailor-made solutions, The list of project beneficiaries is quite diverse, incl. territorial administrative units, chambers of commerce, agencies for economic development, educational establishments, innovation centers, etc., from the whole cross-border area.

All counties and districts in the border region will benefit from the SOs' implementation based on the indicator "Population with access to joint employment initiatives". It is assessed qualitatively due to the lack of sufficient or coherent statistical information able to quantify the effects at NUTS 3 level.

Having in mind the higher unemployment rate on the Bulgarian side of the cross-border region, it is seen that the interventions will have higher impact on the Bulgarian municipalities. At NUTS 3 level, most benefitted from the undertaken interventions will be the counties of Dolj, Călărași and Constanța in Romania, and the districts of Vidin, Veliko Tarnovo, Ruse and Dobrich in Bulgaria.

Map 3.7: Net impact for indicator "Population with access to joint employment initiatives"



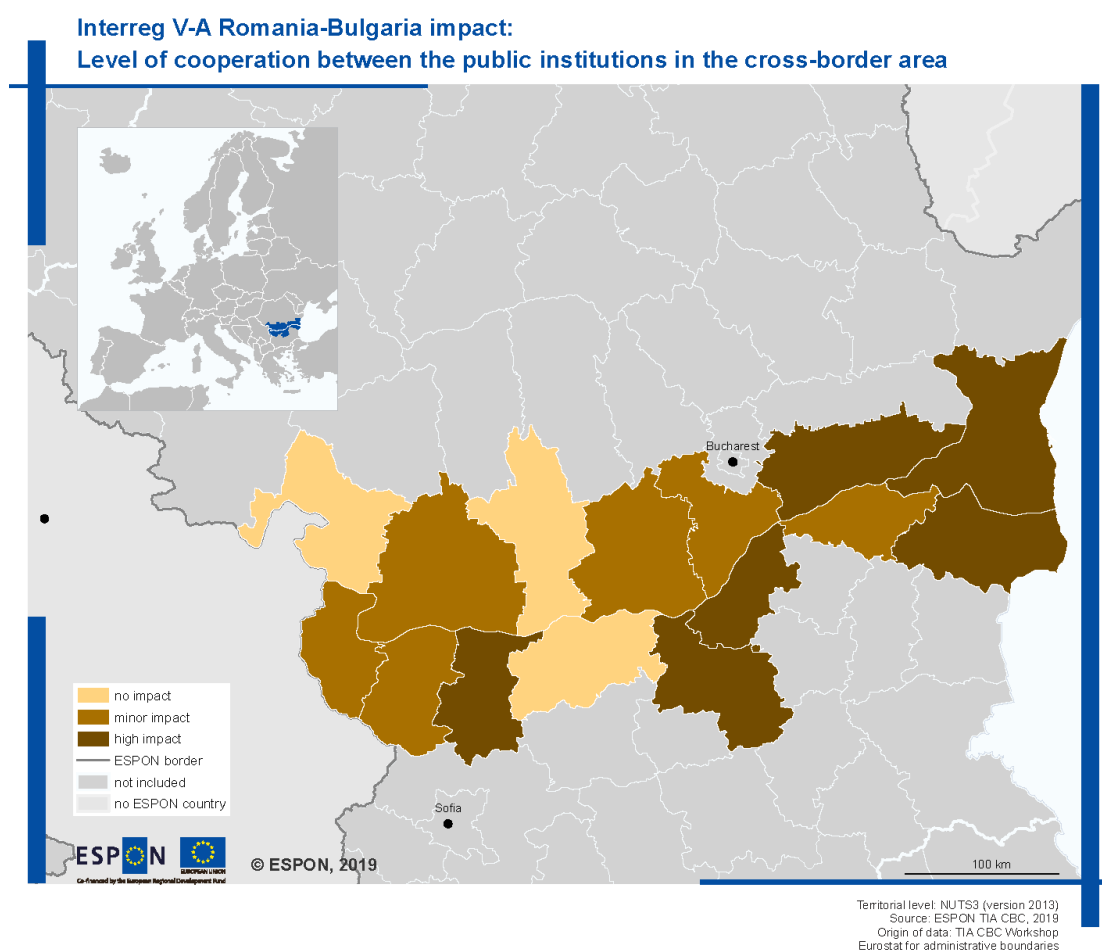
PA 5, SO 5.1. To increase cooperation capacity and the efficiency of public institutions in a CBC context

There are some initiatives and funding instruments both in Romania and Bulgaria (incl. via direct EU-funded programmes) for the upgrade of the public administration and of other stakeholders providing public services (e.g. non-government organisations). However, this SO provides the main instrument for enhancing the bilateral cooperation and for creating links and networks which can be sustainable in the long run. Its impacts can be assessed only qualitatively by the indicator “Level of cooperation between the public institutions in the cross-border area”.

Based on discussions during the workshops and interviews with local stakeholders, the effects of this SO will be stronger in 2 counties on the Romanian side (Călărași and Constanța) and in 4 districts (Vratsa, Veliko Tarnovo, Ruse and Dobrich) on the Bulgarian side of the CBC territory. In 3 of the NUTS 3 regions (Mehedinți and Olt in Romania, and Pleven in Bulgaria) no projects are funded, i.e. they will least benefit from capacity building actions and institutional capacity measures.

Wherever possible to make a regional differentiation at NUTS 3 level, the most significant effects from the implementation of the SOs within the programme will be in the counties of Constanța and Călărași in Romania and in the districts of Dobrich and Veliko Tarnovo in Bulgaria.

Map 3.8: Net impact for indicator “Level of cooperation between the public institutions in the cross-border area”



3.6 Methodological commentary for the programme set-up

The design of the Interreg V-A Romania-Bulgaria Programme is based on a needs analysis of the situation implemented during its programming phase and taking into account the outcomes of the first programming period for Romania and Bulgaria (2007-2013), after both countries' accession to the EU in 2007. Therefore, based on the experience gained, it has focused on several major areas, with a lot of room for improvement in both countries.

While preparing for the next programming period, it would be recommended for the TIA to be implemented in an ex-ante context based on an updated IAM. This will assist the selection of interventions that would generate the most visible net effects from the programme in the respective NUTS 3 regions.

This project may be seen as a capacity building exercise in view of refinement of the intervention logic of the programme, as well as for the determination of the scope and magnitude of the net effects that might be expected as a result of the different interventions.

More specifically, a proposal is made for the indicators. Currently, almost all data sources for their population with numbers are the “Progress reports”. The lack of external verifiable sources of information limits to a large extent the objective assessment of the actual effects

from the programme interventions. It is proposed to identify external organisations, preferably national ones, which generate primary or process secondary statistical data at NUTS 3 level, which can provide independent information for the outputs and/or results of the different investment priorities. These institutions (e.g. national statistical offices, ministries and agencies) need to be engaged as early as the programming phase and make a commitment for supplying the MA with timely information, at least once an year, for the whole 2021-2027 period. They have to also provide data for the baseline value of the baseline year (2020).

3.7 Methodological commentary

3.7.1 TIA Process

The templates provided have been pretty useful as well as the instructions in the handbook have been clear. Time wise, the structure of the process has been pretty tight, especially in view of the time to develop the methodological approach, to organise the workshops, to collect/process the data for the indicators and subsequently – to make the assessment.

Since no travel, accommodation & per diem expenses have been envisaged for the BG/RO workshop participants, this has limited their participation. Therefore, due to financial reasons no representatives of Bulgarian institutions, incl. from the Ministry of Regional Development and Public Works, the National Authority of the Programme (“Territorial cooperation management” Directorate), have been able to participate in any of the workshops.

The outcome of the reconstruction of the intervention logic (needs – measures – effects – indicators) has shown that the result indicators of the Interreg V-A Romania-Bulgaria Programme have been pretty well designed to measure effects of the interventions, since only as an exception additional indicators have been selected.

The time schedule of projects implementation under the respective PAs/SOs of the programme is different. Therefore, a more realistic evaluation of the gross/net effects of the interventions on the programme area can be made as follows:

- PA 1 (SO 1.1. and 1.2.) – the majority of the currently contracted infrastructure projects will be completed till the end of 2021; therefore, an evaluation of the net impact of the programme can be made at the end of this year
- PA 2 (SO 2.1.) – most of the projects will be completed by the end of 2020, while some will be finalized in 2021; a more thorough assessment of the effects can be done at the end of 2020-2021
- PA 2 (SO 2.2.) – both contracted projects have been completed till the end of 2018; therefore, the presented territorial impact assessment is final for this SO
- PA 3 (SO 3.1.) – most of the projects will be finalized in 2020-2021; realistically, the data gathered at the end of 2021 can be used in the assessment process
- PA 4 (SO 4.1.) – the large majority of the projects will be implemented till the end of 2019, when it would be the reasonable time to make the final assessment
- PA 5 (SO 5.1.) – most of the projects are ongoing, to be completed till the end of 2019

From a methodological point of view, several difficulties have been encountered in the process of TIA with regards to the indicators:

- The Interreg V-A Romania-Bulgaria Programme, and possibly other CBC programmes as well, collects information about output and result indicators only at project level (e.g. one project with 2, 3 or more partners from different eligible CBC regions has one set of indicators that are reported/achieved). Therefore, it is difficult to collect data about the indicators included in TIA at NUTS 3 level from project reports, unless in the future such a provision is applied for the programme, e.g. each partner has an individual set of output/results indicators, which are then aggregated at project level
- For the majority of reported indicators at project level, there are not objectively verifiable external sources of information, which can be used to determine actual impact/effect
- In some cases there is a discrepancy of the type of information collected by Romanian and Bulgarian statistical authorities, e.g. for some indicators there is sufficient and reliable information on the Romanian side, while the case is not the same for the Bulgarian side and vice versa

As regards the proposed methods for net impact calculation, the following comments can be made:

- Although useful as a method, the “small scale counterfactual” approach/“small scale counterfactual analysis” can be reasonably applied at NUTS 3 level only in the case when there is a sufficient representation/participation of experts from each NUTS 3 region able to provide justified opinions on the impact of the interventions (target group – experts from regions where interventions have been realised and control group – representatives of locations where there are no funded projects in the respective PA or SO). In cases, such as the Interreg V-A Romania-Bulgaria Programme where 15 NUTS 3 regions have to be studied, a much more detailed methodology has to be developed and time spent in order to make a full-fledged analysis, incl. structured interviews based on already developed hypotheses about the net effects of the programme, focus groups, etc.
- The “funding framework” approach has an inherent deficit related to the availability of information about determining the gross effects on the target territory for the respective indicator. Since the variety of sources of funding (e.g. ESIF programme or project-based, national, regional and local) can hardly be covered, there is the risk to omit important sources of funding, which can change the whole picture and lead to incorrect conclusions
- Regarding the “qualitative assessment” approach, it might be useful to consider a wider scale for determining the magnitude (currently 0-2). An option is to have a 5-digit scale, e.g. “0” – no impact, “1” – weak impact, “2” – average impact, “3” – strong impact and “4” – very strong impact

3.7.2 Intervention logic

The intervention logic tool as applied in the TIA is suitable for CBC programmes as this is probably the best and well-known method for establishing the cause and effect relationship and suitable for a discussion in an expert group.

The establishment of meta-logic due to the different structure of CBC programmes would certainly be very useful.

The Common CBC indicators might be applied in the context of TIA only in the case when metadata and methodology for the collection of information for them is developed (e.g. data description, sector coverage, statistical unit, measurement unit, etc.) and objectively verifiable

information (year-on-year) is available at NUTS 3 level. This has not been available for the Interreg V-A Romania-Bulgaria Programme.

Otherwise, although seemingly useful, the Common CBC indicators are difficult to populate with numbers as a prerequisite for determining the gross/net effect on the respective region. In the best case scenario, for all proposed indicators there should be a unified data base – either at EU (e.g. Eurostat) or national level (for all EU-members) in order for them to be able to collect and process comparable information. Also, it would be reasonable for this database to have already been established rather than creating a new one. Although national statistical authorities collect a plethora of information, they process it in a standardised way and are reluctant to generate new data sets, unless being paid for this.

Some quantitative indicators, such as for example the “environmental indicators” are very suitable for determining effects but only at country/national level. It is not possible to measure them at NUTS 2, let alone at NUTS 3 level. Other qualitative indicators, such as “quality of cross-border cooperation” or “access to employment services in the neighbouring country” have to be determined based on an interview/assessment among a reasonably large number of respondents in order for them to be meaningful, which would require additional time and resources. A third set of indicators are composite, e.g. “duration and cost of recognition of professional qualifications” – it would be best to have straightforward indicators to avoid complications.

3.7.3 Upscaling of the methodology

As an overall conclusion, the methodology can be applied for any CBC programme with the respective modifications, reflecting the SOs of each programme and ways of measuring the respective result indicators. Here, it should be noted, that based on the needs and level of economic development of the respective regions, some programmes may give more focus on infrastructure development, while others – on increasing the competitiveness, innovation, economic development and integration of the territory, i.e. they would have a wider variety of instruments for integration and cohesion.

No specific changes in the common indicators can be suggested at this point before a thorough review of the existing indicators is made in view of their specificity, data availability and methodology for collection (meta data).

The communication of results needs to clearly outline the difficulties in the collection of information, the prerequisite for a sound analysis, such as:

- The data availability at NUTS 3 level is scarce for the majority of the indicators in order to determine the gross, respectively, the net effect quantitatively
- There is a time lag between the dates of publishing of information from national or EU statistical sources and the information about indicators collected from the Programme. For example, while the CBC Programme can produce results on projects implementation at least once every six months, the official statistics provides data with 1 or 2 years delay, e.g. in the beginning of 2019 data is published only till the end of 2017 (in some cases even till the end of 2016)

- The collection of information about the result indicators from the implementation of the CBC programmes is done at project level rather than at partner's/NUTS 3 level, i.e. a number of approximations have to be made, which may not be entirely correct
- Lacks sufficient information in order to apply the “funding framework” approach for net impact determination in cases when “small scale counterfactual” approach or qualitative assessments are not applicable. If such is applied, there needs to be reliable information on all funding sources for the respective NUTS 3 region (for supplying data on all indicators covered), which may include, among all the following:
 - EU funding – direct programmes funded by the European Commission, transnational/trans-regional programmes, CBC programmes, national operational programmes, etc.
 - National funding – from the state budget (through the Government, ministries, state agencies and other public bodies)
 - Regional and local funding – from the regional/municipal administrations, depending on each country's division and administrative regulations
 - Private funding, etc.

4 Case study Spain – Portugal

4.1 Introduction

This document acts as a scientific report for the ex-post Territorial Impact Assessment procedure for the CBC Programme POCTEP within the ESPON TIA CBC project. The subject of the case study was a sub-area of POCTEP, notably the Galicia-Norte Portugal area. As this TIA was conducted as a pilot testing a previously developed methodology, the purpose of the report is threefold:

- Brief politicians and policymakers about the results of the Territorial Impact Assessment
- Give extensive evidence for the Territorial Impact of the Programme
- Comment on the methodology applied and its potential for upscaling to other programmes.

For policymakers, an executive summary (section 4.2) is included in the report, giving an overview of the results in around 4 pages and informing about the main conclusions derived from the TIA. All this information is backed in detail by the technical summary of the TIA process (section 4.4) and by the comprehensive description of the territorial impact assessment (section 4.5).

This report is produced for a pilot case study within the ESPON TIA CBC project, therefore the methodology applied will be subject to changes based on the experiences gathered within the case study. Section 4.6 acts as the commentary part, where experiences and suggestions for the further methodological development are recorded. Furthermore, the project shall serve as an input to future CBC programmes regarding the indicators used and gathered to conduct a territorial impact assessment. Thus within section 4.6 suggestions for indicators to be collected in the upcoming programming period are recorded.

Disclaimer: as the methodology applied to produce evidence of the territorial impact of the POCTEP CBC programme includes expert workshops and bases various steps on expert knowledge and opinions. Several measures are undertaken to ensure sound and well justified results, however an element of subjectivity based on the participating experts is inherent to the process. The results are meant to be used for decision support only.

4.2 Executive summary

Title of the programme:	INTERREG VA – Spain Portugal (POCTEP)
Version:	v7
First year:	2014
Last year:	2020

The concept of a Territorial Impact Assessment (TIA) for cross border programmes aims at showing the regional differentiation of the impact of a Cross Border Cooperation (CBC) programme on the programme region. The results are based on the methodology of the ESPON

TIA CBC project, which combines both quantitative data and qualitative expert assessments to produce evidence of the territorial distribution of impacts. In the course of the TIA, two expert workshops have been held on the 3rd December 2018 in Valença do Minho and on the 10th of January 2019 in Valença do Minho with participants inter alia from the regional and provincial administrations, regional associations and agencies like the innovation agency or the public water agency, the EGTC Galicia-Norte Portugal. The input gathered from programme authorities and expert discussions held in these workshops have been translated into the present report by the authors from Red2Red.

TIA POCTEP programme: Specific Objectives (SO) and main findings per SO

The CBC programme Spain Portugal (POCTEP) covers all the Spanish Portuguese border and is composed of 11 Specific Objectives (SO). Given the pilot nature and timescale of this study, a sub-area of this cooperation space has been selected for the TIA, notably the Galicia-North Portugal (GNP) cooperation area. In addition, five of the SOs have been selected for the impact assessment, following and analysis of programme documentation and consultation with stakeholders at the first workshop. The rationale for this selection was based on an assessment of the relative financial weight of each SO in the overall programme, an analysis of the diagnosis of the programme area to identify the most pressing needs addressed by each SO in the GNP area. This selection was revised and validated by programme stakeholders at the first expert workshop.

Specific Objective 1B – Improve the participation of the business sector in innovation processes and R+D+i activities closer to the market (TO1, IP 1.B)

This SO aims to address the reduced capacity of enterprises to innovate and to promote technology transfer and the innovative capacity of the regional economies. The promotion of R+D+i is one of the key pillars of POCTEP with almost one third of programme resources dedicated to this priority axis. In the GNP cooperation area, 6 projects have been approved in the first call for proposals, with a total cost of € 17.1 million covering the creation of a cross-border innovation system, a network of research centres, integrated management and valorisation of regional production and natural ecosystems, industrial innovation and the development of sectoral smart technologies. The performance of enterprises in terms of investing in new products and processes and introducing innovation and the creation of enterprise support services have evolved positively in the GNP cooperation area since the beginning of the programming period. However, it is not so evident the extent to which this is due to POCTEP since there are other programmes in the area under other EU Funds which offer more resources to have an impact in this area. POCTEP is expected to have played a role in promoting collaboration, for instance between enterprises and research centres. This will become more evident as the programme progresses and more information becomes available. The

current indicator in this field reveals that the regions benefiting most from such cooperation are Porto (metropolitan area) and Ave in North Portugal and Ourense in Galicia³⁰.

Specific Objective 3A – Improve the necessary and favourable conditions for the appearance of new business initiatives (TO3, IP 3.A)

The GNP area is characterised by limited entrepreneurship and difficulties for enterprise growth, notably due to access to finance. This SO aims to address these issues as well as reinforce innovation in enterprises and thus combat unemployment and promote competitiveness of the cross-border economy. The programme has supported 4 projects in the GNP area in the first call for proposals for a total of € 6.8 million, covering the promotion of the social economy, the creation of cross-border networks (entrepreneurship for young people and business models for the circular economy), development of an international methodology for the incubation of new ideas in agri-food micro-enterprises. The only quantitative indicator that is populated for the moment shows only 1 service for enterprise development created or supported. This underestimates the effect of the programme which has played an important role in bringing companies into contact with each other and networking. The extent of their cross-border development however remains to be seen given that the participation of enterprises in POCTEP is new in this programming period. Stakeholders estimate that the net contribution of POCTEP to enterprise creation is small compared to other programmes (especially ERDF and ESF) which include more targeted measures and more funding available to this end.

Specific objective 6C – Protect and enhance cultural and natural heritage as an economic base of the cross-border region (TO6, IP 6.C)

This SO aims to create networks of natural and cultural spaces promote tourism and preserve rehabilitate and value cultural and natural heritage. Coordinated management and joint offer of products are at the heart of the six projects supported in the first call for proposals, with a total of € 16.8 million. These projects focus on tourism development based on shared/common natural and cultural resources, through inter alia joint management initiatives, common valorisation and optimisation of these resources, common information systems and a cross-border cooperation network. Although the protection and rehabilitation of natural and cultural heritage is influenced more by other programmes (mainly ERDF and EAFRD), the production of joint products related to cultural and natural heritage is attributable to a significant extent to POCTEP, which focuses mainly on bringing actors together to enhance their heritage through joint approaches. The only quantitative indicator that can be populated at this stage, "Increase in the number of foreseen visits to areas and attractions belonging to subsidised cultural and natural heritage", presents a very positive evolution. At territorial NUTS3 level, the impact is by far higher in the Pontevedra region in Galicia, mainly due to the

³⁰ The indicators in the whole document should be interpreted with caution since it is not evident if the impacts/results are reported according to the location of the headquarters of the lead partner of the project or according to the real location where the actions/activities and therefore impacts take place.

popularity of the *Santiago de Compostela route*. It is followed by Ourense and A Coruña, also in Galicia. The North Portuguese regions of Alto Minho, Porto (metropolitan area), Tâmega e Sousa, Douro, Terras de Trás-os-Montes also score well but lagging behind the Galicia regions. However, the net impact of POCTEP when applying the “funding framework” approach becomes significantly smaller in these territories (only about 1.4% of the gross impact).

Specific Objective 6F – Increase the levels of efficiency in the use of natural resources to contribute to the development of the green economy in the cooperation area (TO6, IP 6.F)

With the overall aim to improve the efficiency in the use of natural resources, this SO aims to improve spatial management in the use of soil, to improve the conservation of wetlands and fluvial ecosystems and water resources and to promote efficient management of waste. Currently 8 projects from the first call for proposals are under implementation, with a total value of € 11.5 million. They focus on one hand on urban areas through smart development of an urban system, and on the other hand on water and waste management as well as environmental sustainability of forest resources (creation of carbon sink). The only quantitative indicator populated so far is the “Number of tools for cross-border management of natural resources” and has achieved a value of one, which cannot help reach any conclusions about the impact of the programme in this respect. Programme stakeholders consider that a more pertinent indicator is the “improved management of natural resources and although it presents a positive trend (assessed qualitatively based on a Likert scale), the net impact of POCTEP is very small, representing an estimated 5% of all Funds available. At territorial level, POCTEP has had a direct impact on the management of water resources along the Rio Minho (Lugo, Ourense and Alto Minho). The ERDF plays a more important role for the management of natural resources, especially in North Portugal. However, the value added of POCTEP stems from the opportunities offered for coordination in the management of natural resources across the border, while it is also important to assess the effects of this coordination at a later stage, when the programme is more advanced or completed, since these impacts take time to become evident.

Specific objective 11B – Strengthen cross-border cooperation strategies between the different agents operating in the territory (TO 11, IP 11.B)

This SO aims to overcome any existing limitations or barriers for cross-border cooperation and promote the rapprochement of cross-border areas through joint management and shared use of all the resources of the territory. With 11 projects under the first call for proposals with a total value of € 16.3 million, POCTEP capitalises on existing cross-border structures and makes a real difference in terms of consolidating them and creating common management tools, strategies and networks and innovative instruments for the joint development of the cross-border space in GNP. It is in this SO that the impact of POCTEP is most notable compared to other interventions. It has contributed to the improvement of institutional structures for cooperation and the development of the cross-border governance system.

TIA: Summary of main findings

The TIA results indicate that POCTEP has a significant impact on the development and improvement of cross-border structures and governance system. Its main value added stems from the creation, maintenance and further development of cross-border structures while instilling a cooperation culture across institutions in the cooperation territory. There are no territorial differences in this respect, since these effects apply to the whole GNP cooperation area.

In terms of Specific Objectives, “Strengthening cross-border cooperation strategies between the different agents operating in the territory” is the one with the lower financial allocation but with the highest net impact. This is because this SO encompasses the value added of POCTEP in terms of strengthening and developing cross-border institutional structures and governance.

Amongst the other SOs, “Protecting and enhancing cultural and natural heritage as an economic base of the cross-border region” has a small but important net impact, especially in terms of developing joint products and joint approaches for the protection, promotion and management of natural and cultural heritage. Likewise, the most significant impact of the SO “Increasing the levels of efficiency in the use of natural resources to contribute to the development of the green economy in the cooperation area” is creating the conditions for better management of natural resources through coordination mechanisms and tools and the development of common solutions to common problems like water and waste management.

The other SOs (“Improve the necessary and favourable conditions for the appearance of new business initiatives” and “Improve the participation of the business sector in innovation processes and R+D+i activities closer to the market”) present a small net impact at the moment since the POCTEP funds in these fields are much lower than those of other programmes that are more targeted to entrepreneurship and innovation. However, it needs to be stressed again that POCTEP plays an important role in terms of creating the conditions for business development and innovation by bringing enterprises, research centres and other regional stakeholders together to learn from each other experiences and therefore produce common new knowledge and cooperate to improve competitiveness. For this reason, a qualitative assessment based on focus groups, expert opinions and methods such as multi-criteria analysis or similar, may be pertinent to this end.

It has not been possible to reach meaningful conclusions in terms of net impacts at smaller territorial levels than the GNP area as a whole, due to: a) the interim stage of programme implementation and therefore limited data and information available, b) the lack of sufficient time for organising stakeholder workshops with adequate representativeness (territorial units of analysis, sectors), c) the limited participation of stakeholders with an overview of programme implementation (MA, Secretariat) due again to the tight timeframe.

4.3 Initial programme assessment findings

4.3.1 Context and programme area description³¹

The POCTEP cooperation space encompasses 17 NUTS3 areas of Spain and Portugal along their common border of 1,234 kilometres. These areas represent almost a third (27.1%) of the Spanish and Portuguese territory. There is a long tradition of cooperation due to long-term historic, cultural, political and socio-economic links.

For the purposes of this study, a sub-area of this cooperation space has been selected, notably the Galicia-North of Portugal (GNP) area (see also section 4.4.1). The regions and provinces covered are depicted in the table below.

Table 4.1: Regions and Provinces of the Galicia-North of Portugal area

NUTS2 regions	NUTS3 territory	Adjacent territory NUT3
Galicia	Ourense, Pontevedra	A Coruña, Lugo
North of Portugal	Minho-Lima, Cávado, Alto Tras-os-Montes	Ave, Tâmega, Grande Porto, Douro

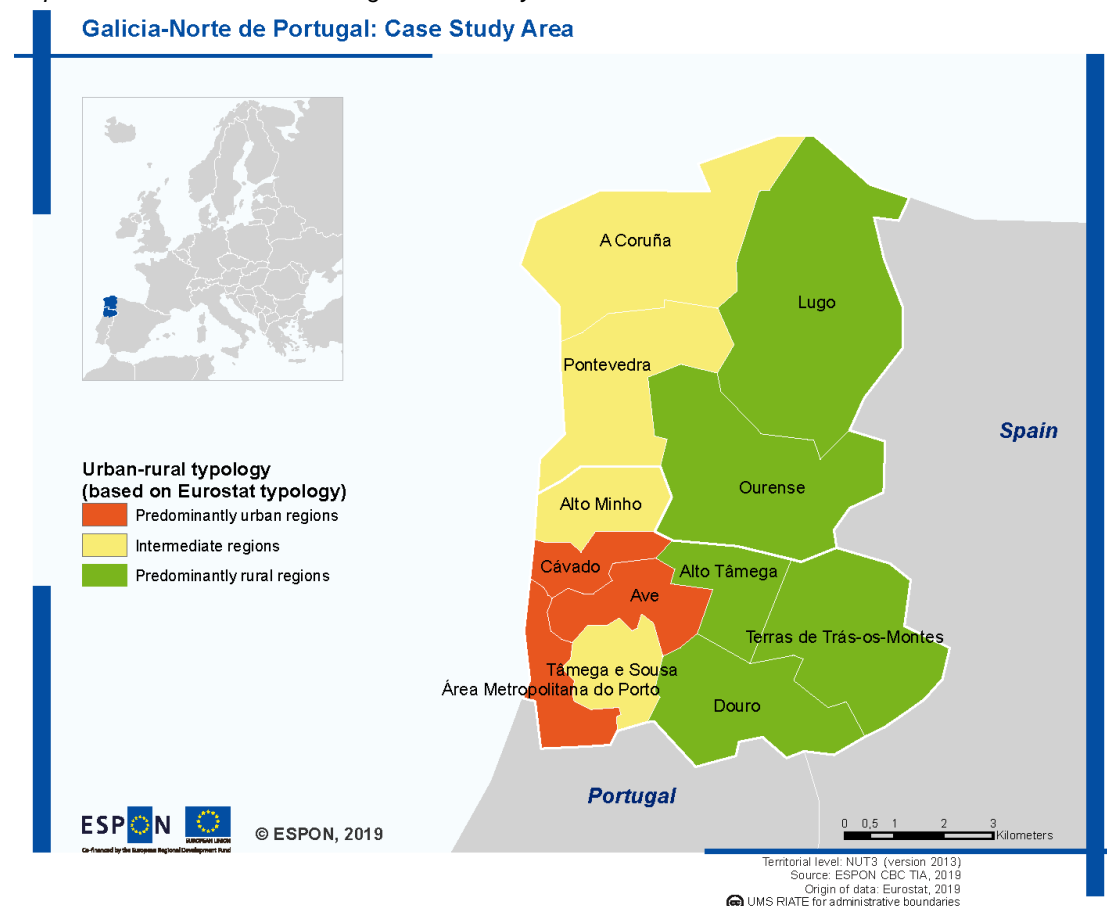
Source: Diagnosis of POCTEP 2014-2020

The GNP cooperation space is predominantly rural (75.5%), with the Atlantic zones including areas considered intermediary (Pontevedra, Cávado, A Coruña, Ave) or even urban (Tâmega, Grande Porto), while the interior areas are predominantly rural.

The difference between the Atlantic areas and the interior ones is also reflected in demographic and other development indicators. For instance, the population density is higher in the Atlantic areas and lower in the interior ones. This low density in interior areas is further exacerbated by population loss and ageing. Although these are structural characteristics of these areas, they also reflect the progressive abandonment of rural areas.

³¹ The source of information contained in this chapter is the "Working document for programming 2014-2020: Analysis of the economic, social and environmental situation in the cross-border area Spain-Portugal", of 7 April 2014, which includes the diagnosis of the programme area.

Map 4.1: Galicia – Norte de Portugal: Case study area



Source: Own elaboration

Table 4.2: Demographic and economic data

Territory	Total population (2012)	Density (2011)	Ageing rate (%) (2012)	GDP (2010)
Ourense	321,228	44.9	3.0	81
Pontevedra	946,688	212.3	1.5	87
Minho-Lima	243,286	110.1	1.8	56
Cávado	409,764	329.2	0.9	62
Alto Tras-os-Montes	202,701	24.9	2.6	56
A Coruña	1,123,724	142.7	1.8	97
Lugo	337,266	34.5	2.9	84
Tâmega	549,426	210.0	0.8	44
Ave	510,603	410.4	1.0	59
Grande Porto	1,284,967	1,579.9	1.2	81
Douro	204,543	50.0	1.8	54

Source: *Diagnosis (Working document for the 2014-2020 programming: Analysis of the economic, social and environmental situation of the cross-border area Spain-Portugal (7 April 2014))*

Similarly, accessibility in terms of cross-border road connections is more developed in the Atlantic areas and less so in the interior areas. Notwithstanding this, there are generally limited train and air connections, the latter especially with respect to Europe and internationally.

In terms of enterprise numbers and competitiveness, these are lower in the interior areas, especially those of the North of Portugal. The number of enterprises in the Atlantic areas is

higher (Pontevedra, Cávado, Grande Porto, A Coruña), thus presenting greater economic potential.

When it comes to socio-economic indicators, Galicia is considered a developed region, while the North of Portugal is classified as less developed region in the European context for the 2014-2020 programming period.

Table 4.3: Characterisation of entrepreneurial activity

Territory	Productivity EU=100 (2010)	Number of enterprises	Territory	Productivity EU=100 (2010)	Number of enterprises
Ourense	97.5	23,100	Lugo	93.0	24,714
Pontevedra	98.9	68,331	Támega	49.6	43,208
Minho-Lima	61.0	22,195	Ave	61.0	137,753
Cávado	59.7	38,373	Grande Porto	81.5	679,873
Alto Tras-os-Montes	50.7	17,120	Douro	52.9	16,075
A Coruña	104.5	82,729			

Source: Diagnosis (Working document for the 2014-2020 programming: Analysis of the economic, social and environmental situation of the cross-border area Spain-Portugal (7 April 2014)

In terms of sectoral activity, a distinguishing feature is the importance of the primary sector, especially from the point of view of employment, in interior areas, despite the gradual abandonment of these areas. Employment is higher in the maritime-fishing sector and agricultural production, especially in Galicia, where there is also important livestock farming activity.

There is also important industrial activity, especially in the North of Portugal, while the construction sector is above the EU average in terms of value added, particularly in Galicia. At the same time, Galicia also has a strong presence of the automotive sector. Employment in industrial activities is concentrated in industries related to endogenous resources such as textile, clothing and footwear industry, especially in the North of Portugal.

The labour market in the GNP cooperation area has suffered, like the rest of Europe, from the crisis, with employment rates below the EU average and far from the EU 2020 objective of 75%. This is reflected in high unemployment rates, which go beyond 20% of the active population in Galicia. Although both sides of the border suffer from high unemployment rates, the situation on the side of Galicia is rather dramatic, especially for young people (45.3% versus 32.8% in Portugal).

In terms of human capital and capacity building, there is a surprisingly high (given the relative good educational infrastructure) early school leaving rate of 20% in both regions, which is again far below the EU 2020 target of 10%. Higher education scores better in Galicia (over 42% of the 30-34 year olds) than in the North of Portugal (almost 28%). Investment in human capital is very important in the cooperation area, given that employment rates have fallen in particular in sectors requiring high knowledge and skills, while the structural changes of the economy call for capacity building in knowledge-intensive activities.

Table 4.4: Labour market and human capital

Indicator	Galicia	North of Portugal	EU27
Employment rate	61.1	65.5	68.4
Unemployment rate	20.7	16.1	10.4
Youth unemployment	45.4	32.8	22.9
Early school leaving rate	23.1	21.3	12.8
% of 30-24 year olds who have completed higher education	42.4	28.7	35.8

Source: Diagnosis (Working document for the 2014-2020 programming: Analysis of the economic, social and environmental situation of the cross-border area Spain-Portugal (7 April 2014))

In addition to human capital, knowledge and innovation are also crucial for the economic growth of the GNP cooperation area. However, in terms of research, development and innovation (R&D&i), both regions are moderate innovators, with the North of Portugal being more advanced than Galicia in terms of innovation and investing a higher proportion of expenditure in R&D&i than Galicia. The business sector shows a similar pattern, with R&D expenditure of enterprises generally below the EU average in both regions, but relatively higher in the North of Portugal than in Galicia.

Table 4.5: Research, development and innovation statistics

Indicator	Galicia	North of Portugal	EU27
Expenditure on I+D (% of RDP)	0.9%	1.5%	2,0%
% of expenditure on I+D by the enterprise sector	45.1%	46.0%	61.9%
Employment in knowledge intensive services and manufacturing sectors of medium and high technology	2.2%	1.4%	3.8%
% of households with high speed internet connection	62.0%	56.0%	73.0%

Source: Diagnosis (Working document for the 2014-2020 programming: Analysis of the economic, social and environmental situation of the cross-border area Spain-Portugal (7 April 2014))

For the production of knowledge and innovation there needs to be a good network of Universities, research centres and technology centres. So it is surprising, that although such centres exist in GNP and are of high quality and specialise in both traditional (maritime and agro-food) and emerging (ICT, health, nanotechnology) sectors, there is a low capitalisation on these resources, stemming mainly from low cooperation between the knowledge and innovation agents and the business sector. Access to ICT is also insufficient, with only 62% and 56% of households in Galicia and North of Portugal respectively having access to high speed internet connection.

Finally, the GNP cooperation area is very rich in natural and cultural resources and heritage, especially of maritime character. The rich river basin system and natural parks constitute the natural wealth of the territory. However, maritime and water resources suffer from natural catastrophes and risks related to human activity (e.g. over-exploitation of fishing resources and oil spills). In relation to cultural heritage, the GNP area includes one of the paths of the "Santiago route", an ancient pilgrimage route, with landscape and architectural richness, that attracts thousands of visitors every year.

Institutional cooperation between Galicia and the North of Portugal is the oldest along the Spanish-Portuguese border and for this reason it entails the potential for further development in order to contribute to the joint growth of this cooperation space.

4.3.2 Programme framework characterisation

The POCTEP programme is designed with 10 Specific Objectives (SOs), in addition to Technical Assistance. For the purposes of this study, 5 SOs have been selected following the instructions provided in the Handbook.. A brief description of each selected SO is presented below, together with the expenditure executed by project beneficiaries up to 31/1/2019 in order to provide a complete picture of the programme implementation to date. Sources include the ETC Operational Programme, the Annual Implementation Reports and information from approved projects in the programme website. In addition, the rationale for their selection is presented in section 4.4.1.

- *Specific Objective 1B*: Improve the participation of the business sector in innovation processes and R+D+i activities closer to the market
- *Priority Axis 1*: Smart growth through cross-border cooperation for the promotion of innovation (TO1, IP 1.B)

Brief justification: To address the territorial problem of reduced capacity and interest of enterprises to innovate and develop technology-intensive products. To define solutions for improving technology transfer and promote the innovative capacity of traditional economic activities, with a view to achieve the commercial exploitation of research results and generate value added.

Main change sought: The promotion of R+D+i is one of the key pillars of POCTEP and for this reason it has dedicated 28.12% of its total resources to this priority axis. Under TO1B, the programme seeks to promote the technology transfer and cooperation between universities/research centres and the business sector and promote new knowledge and innovation, especially related to enterprises.

Progress towards objectives: There has been significant progress towards the objective to increase synergies between enterprises and institutions in the R+D+i sector (61.3% achievement of the indicator "Number of enterprises that cooperate with research centres).

Activities undertaken: The following activities have been undertaken in the context of projects approved so far:

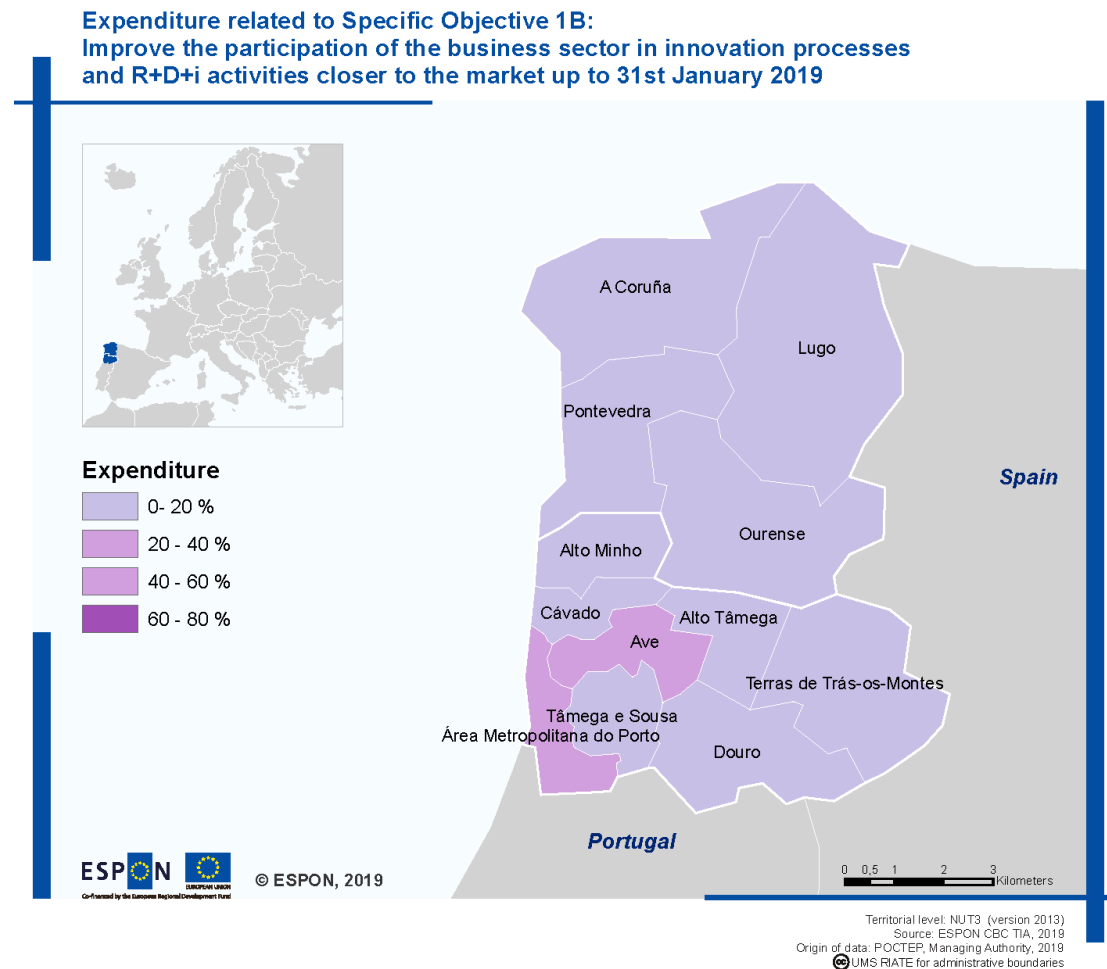
- Development of a commercial technology solution for the integrated management of the olive grove.
- Network of research centres to support the enterprises of the Euroregion in the application of high value nanotechnological solutions.
- Creation of a cross-border innovation ecosystem in the health sector.
- Integrated valorisation of the dehesa-montado system.
- Industrial innovation in the field of marine biotechnology through synergies between enterprises and research centres.

- Development and implementation of smart and innovative technologies in the naval and metal-mechanic sector.

Beneficiaries: 6 projects where GNP is involved have been approved.

Funding: € 17.1 million (total for the above projects)

Map 4.2: Expenditure related to SO 1B up to 31/01/2019



Source: Own elaboration

- *Specific Objective 3A:* Improve the necessary and favourable conditions for the appearance of new business initiatives
- *Priority Axis 2:* (TO3, IP 3.A)

Brief justification: Address the territorial problem of scarce entrepreneurial spirit and difficulties to access finance that hinders the creation of new enterprises and limits the growth and development of existing ones. To define solutions for combating unemployment and promoting competitiveness by reinforcing innovation in enterprises and reactivating the cross-border economy.

Main change sought: The promotion of entrepreneurship is one of the main structural weaknesses in the POCTEP cooperation space. To address this weakness, the programme seeks inter alia to support entrepreneurship and incubators, introduce new products, processes and ICT in SMEs, promote entrepreneurship for young people and the social economy, support

cross-border clusters and improve professional and vocational training available to companies in order to improve their capacities.

Progress towards objectives: The programme has until now offered direct support to 267 enterprises (total, including GNP) through personal advisory services, development of business plans and innovation strategies and training workshops.

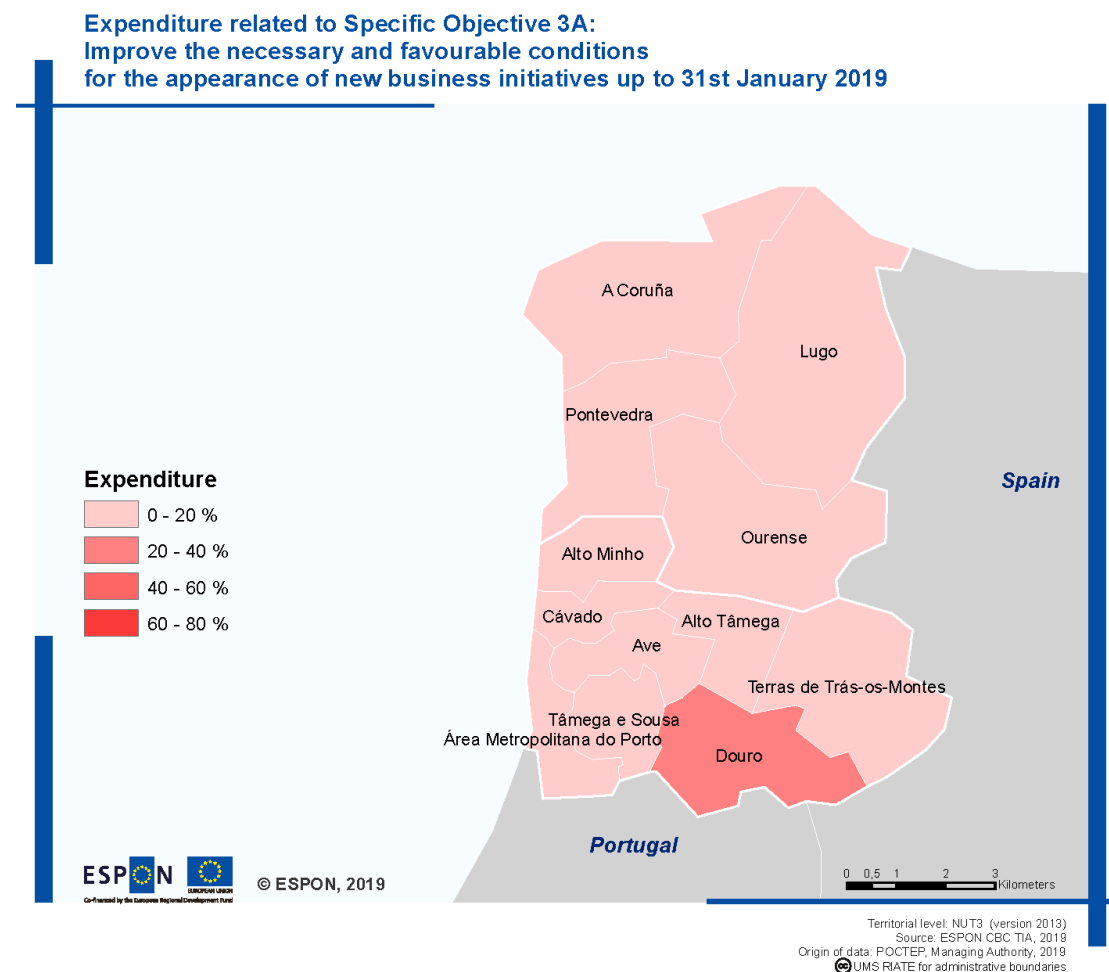
Activities undertaken: The following activities have been undertaken in the context of projects approved so far:

- Cross-border laboratory for the promotion of the social economy and the identification of business opportunities and employment creation.
- Creation of a cross-border network to support new employment opportunities for young people through entrepreneurship.
- Cross-regional network “low carbon innovation” for the provision of services to develop business models focused on the circular and low carbon economy.
- Creation and testing of a new international methodology for the incubation of ideas, adapted to micro-enterprises in the agri-food sector.

Beneficiaries: 4 projects where GNP is involved have been approved.

Funding: € 6.8 million (total for the above projects)

Map 4.3: Expenditure related to SO 3A up to 31/01/2019



Source: own elaboration

- *Specific Objective 6C*: Protect and enhance cultural and natural heritage as an economic base of the cross-border region
- *Priority Axis 3*: (TO6, IP 6.C)

Brief justification: Address the territorial problem of offering sufficient support to the recovery of the natural and cultural heritage and the utilisation of natural and cultural resources for new uses and cultural functions. To define solutions for the preservation, rehabilitation and valorisation of the historic, natural and cultural heritage network for tourism activity.

Main change sought: With this SO, the programme seeks to create networks of natural and cultural spaces, increase tourism as well as preserve, rehabilitate and value cultural and natural heritage, including through the coordinated management, joint offer and exchange of good practice in the tourism field.

Progress towards objectives: There are already important achievements, especially in the protection, promotion and development of cultural and natural heritage. The 2023 objective of increasing the number of visits to places that belong to natural and cultural heritage has practically been achieved (95.96%). Similarly, there has been substantial progress towards the rehabilitation of urban spaces for a more sustainable use, mainly through the improvement of public lighting.

Activities undertaken: The following activities have been undertaken in the context of projects approved so far:

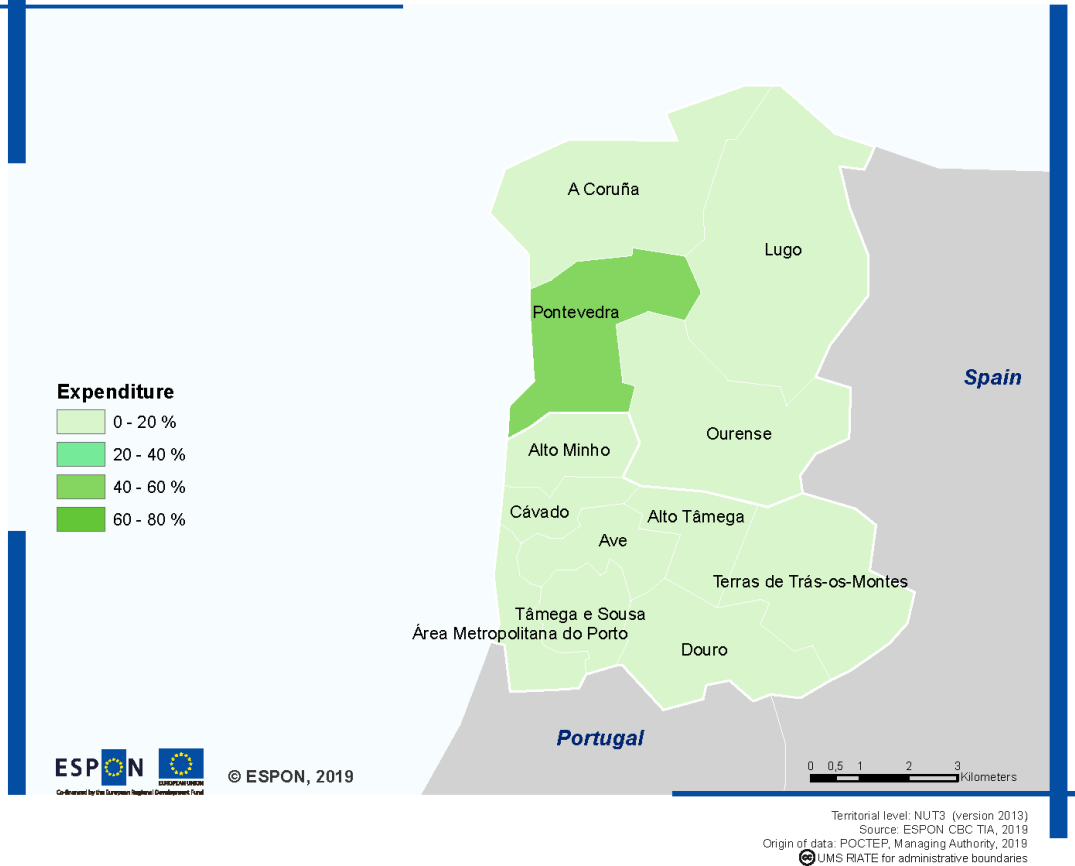
- Capitalisation of the brand “Rio Minho” through cross-border activities of conservation and environmental valorisation of the endogenous resources, associated with the tourism promotion of Rio Minho.
- Tourism development strategy of the cross-border areas based on shared endogenous resources.
- Tourism development through joint management initiatives based on the common natural thermal resources.
- Increase the attractiveness of the territory through the valorisation of the natural and cultural heritage of the eco-nautical sector.
- Valorisation of the cultural heritage of GNP as an element of social cohesion and structural development through a common information and management system.
- Cross-border network of cooperation knowledge and integrated plan for the optimisation of cultural infrastructure and resources.

Beneficiaries: 6 projects where GNP is involved have been approved.

Funding: € 16.8 million (total for the above projects)

Map 4.4: Expenditure related to SO 6C up to 31/01/2019

**Expenditure related to Specific Objective 6C:
Protect and enhance cultural and natural heritage
as an economic base of the cross-border region up to 31st January 2019**



Source: Own elaboration

- *Specific Objective 6F*: Increase the levels of efficiency in the use of natural resources to contribute to the development of the green economy in the cooperation area.
- *Priority Axis 3*: (TO6, IP 6.F)

Brief justification: Address the territorial need to renew the management of water, energy and waste that improves the efficiency in the use of natural resources and reduces related environmental problems. Define solutions that increase the efficiency levels in the use of natural resources and contribute to a sustainable economy in the cooperation space.

Main change sought: With this SO, the programme seeks to improve spatial management and the use of soil, to improve the conservation of wetlands and other fluvial ecosystems and water resources and to promote an adequate management of waste.

Progress towards objectives: The projects financed so far contribute towards sustainable water management, improved water treatment and water quality, improved management of waste and the preservation and sustainable management of both urban and forestry resources.

Activities undertaken: The following activities have been undertaken in the context of projects approved so far:

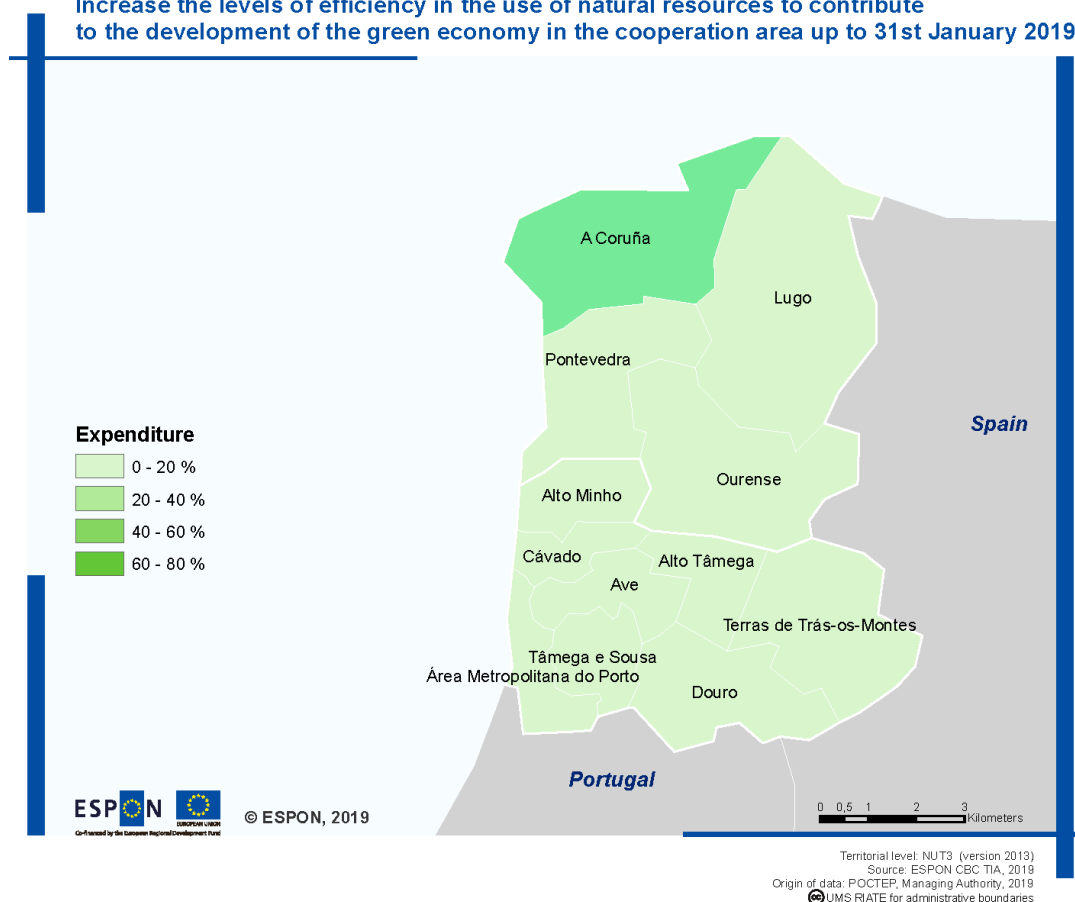
- Smart development of an urban system of the Euroregion GNP – Castilla y Leon through coordinated action of their cities for the preservation and sustainable management of their resources.
- Development of common solutions for integrated sustainable water management through better water management of the cross-border areas.
- Management and control system to improve efficiency in water treatment and the environmental quality of water in the cross-border area.
- Development of strategy, equipment and technology transfer to increase efficiency in the use of forest resources.
- Sustainable cross-border strategy for the management of waste from electric and electronic equipment.
- Increase the efficiency of mountains in the GNP area through creation of a carbon sink and generation of carbon footprint.
- Valorisation of organic waste and its use in a set of high value added applications.

Beneficiaries: 8 projects where GNP is involved have been approved.

Funding: € 11.5 million (total for the above projects)

Map 4.5: Expenditure related to SO 6F up to 31/01/2019

**Expenditure related to Specific Objective 6F:
Increase the levels of efficiency in the use of natural resources to contribute
to the development of the green economy in the cooperation area up to 31st January 2019**



Source: Own elaboration

- *Specific objective 11B:* Strengthen cross-border cooperation strategies between the different agents operating in the territory
- *Priority Axis 4:* (TO 11, IP 11.B)

Brief justification: Address the territorial problem of persistent limitations in cross-border cooperation that hinder its potential, due to existing asymmetries between institutional stakeholders. To define solutions for the elimination of barriers in the Spanish-Portuguese border, promoting rapprochement approaches, meetings and cooperation between the different agents of the territory.

Main change sought: This SO seeks to achieve more effective integration and improve the quality of life through joint management and shared use of resources.

Progress towards objectives: There are already several consolidated structures in the cross-border area in the form of Cross-border Initiatives Cabinets, Working Groups and European Groupings of Territorial Cooperation (e.g. the GNP EGTC). In addition, during 2017, 10 innovative instruments³² were created for the joint development of the cross-border space, including inter alia in the GNP area, a joint urban agenda and joint activities for inclusion, health and innovation.

Activities undertaken: The following activities have been undertaken in the context of projects approved so far:

- Development of an urban system in the Atlantic axis by consolidating the cities as main actors in economic and social development.
- Elaboration of the cross-border cooperation agenda for sustainable development.
- Consolidation of the cross-border cooperation processes in GNP through the territorial cooperation grouping (GNP AECT).
- Support and community maintenance network for old people in rural areas through technology and innovation.
- Implementation of RIS3 cross-border actions (Observatory, training, information, dissemination).
- Activities for inclusion, smart and sustainable management in the Eurocity Chaves-Verin.
- Territorial development through the promotion and structure of the territorial cooperation community Limia-Lima-Cávado.
- Smart cooperation strategy of Rio Minho, including joint management of culture and transport.
- Creation of an Iberian network for children's health.
- Improvement of institutional capacity of public authorities and stakeholders in order to promote the creation and maintenance of quality employment.

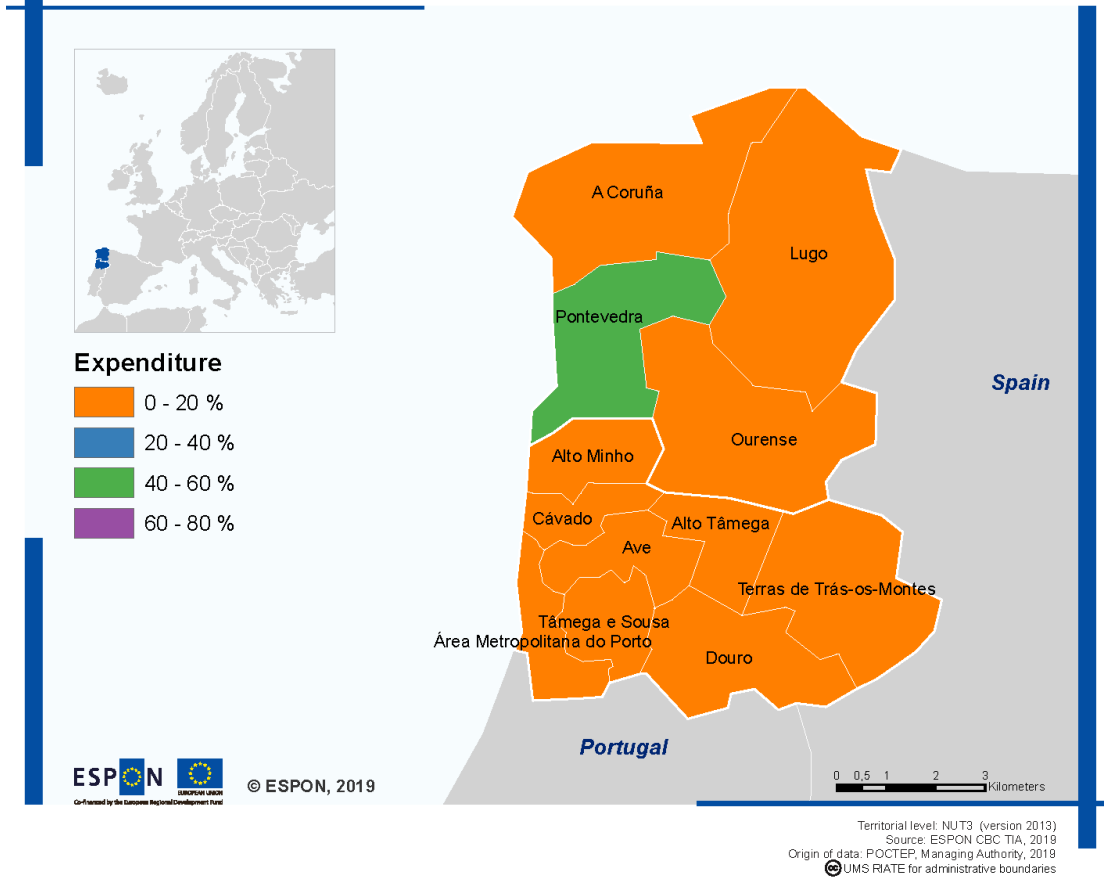
Beneficiaries: 11 projects where GNP is involved have been approved.

Funding: € 16.3 million (total for the above projects)

³² The number refers to the whole cross-border area, not just GNP.

Map 4.6: Expenditure related to SO 11 B up to 31/01/2019

**Expenditure related to Specific objective 11B:
Strengthen cross-border cooperation strategies between the different
agents operating in the territory up to 31st January 2019**



Source: Own elaboration

4.3.3 Additional funding instruments

POCTEP presents complementarities with the following financial instruments:

- ESF under Thematic Objective (TO) “Promotion of sustainable and quality employment and labour mobility”, by supporting self-employment, the entrepreneurial culture and the creation of enterprises, especially through axes 2 and 4.
- ERDF, in addition to POCTEP, funds the regional operational programmes, namely, the Galicia ERDF 2014-2020 operational programme and the Norte Portugal 2014-2020 operational programme (the latter funded also by ESF).
- EAFRD and EMFF, whose objectives cover inter alia some of the POCTEP objectives, respectively the protection, conservation and valorisation of natural resources and heritage and the sustainable management of maritime resources.
- Other EU instruments, such as the Programme for Research and Innovation 2014-2020, the programme NER 300, the environment and climate change programme (LIFE), the programme for the competitiveness of enterprises and SMEs (COSME) and the programme Creative Europe.
- There are particular synergies with the LIFE programme, notably the sub-programme on environment which covers resource efficiency, biodiversity and environmental governance, which are also thematic priority areas of POCTEP, especially under IPs 6C, 6D and 6F. In addition to sharing some thematic areas, POCTEP and LIFE also address a similar target group, notably the socio-economic actors in the field of environment and

climate change, while they also use similar instruments (cooperation projects). For this reason, POCTEP will safeguard coordination with LIFE in the fields of nature and biodiversity, water, waste, air and climate change mitigation and adaptation, through measures that promote the funding of activities that complement the integrated projects under LIFE and the use of solutions, methods and approaches that have been validated in the context of LIFE.

4.4 TIA Process

The Territorial Impact Assessment process leans on desk research as well as expert input in a workshop setting. The systemic picture of the programme functioning (Intervention logic), the indicator selection, the net impact determination as well as the conclusions are never attributed to one method alone, but are always the result of a joint effort. The core element of the process is the Impact Assessment Matrix (IAM) which is presented in section 4.4.3. In this section, the working steps are described which are undertaken to produce the evidence of the territorial impact, the elaboration of the impacts and the conclusions derived thereof are presented in the following section 4.5.

4.4.1 Selection of TOs and TIA area

The POCTEP programme is structured around 10 Specific Objectives in addition to Technical Assistance. Given the pilot nature of this study and to facilitate the assessment, five Specific Objectives were selected. The rationale for the selection is presented in the following table.

Table 4.6: SOs selected and rationale for the selection

Investment priority	Specific Objective	Rationale for the selection of the SO
IP 1.B	Improve the participation of the business sector in innovation processes and R+D+i activities closer to the market	Falls under the intervention category 062 which promotes technology transfer and cooperation universities-enterprises, especially favouring SMEs. This category is assigned the bulk of finance under PA1 (40.4 m). Responds to diagnosis for GNP, mainly the existence of a wide basis of universities, research and technology centres, but little cooperation between knowledge generation agents and the business sector.
IP 3.A	Improve the necessary and favourable conditions for the appearance of new business initiatives	Covers intervention categories 067 and 104 which support entrepreneurship and SME development and enterprise creation, which get relatively more funding under PA3. Responds to the problems identified in the diagnosis for GNP, notably high unemployment rates, the weight of the business sector being below the EU average and the need to use ICTs for the modernisation of the business sector.
IP 6.C	Protect and enhance cultural and natural heritage as an economic base of the cross-border region	Covers the intervention category 094 which promotes culture and heritage and represents the intervention category under this PA with most funding allocation (29.8 m, almost 30% of the budget for PA 3). The diagnosis for GNP stresses the richness of the cultural and natural heritage.
IP 6:F	Increase the levels of efficiency in the use of natural resources to contribute to the development of the green economy in the cooperation area.	Covers several intervention categories, notably 018 related to waste treatment, 021 related to water management, 084 related to pollution management and 085 related to green infrastructure, which altogether amount to almost one third of the resources for the priority axis. Responds to the need to protect the natural resources identified in the diagnosis for GNP.

Investment priority	Specific Objective	Rationale for the selection of the SO
		Has a larger number of projects approved than other TOs under this priority Axis.
IP 11.B	Strengthen cross-border cooperation strategies between the different agents operating in the territory	Linked to the strength identified in the diagnosis of GNP, notably that institutional cooperation in GNP is the oldest one along the Spanish-Portuguese border. Has a higher financial weight than SO 5B, which was left out.

Sources: ETC Operational Programme POCTEP 2014-2020 and Diagnosis (Working document for the 2014-2020 programming: Analysis of the economic, social and environmental situation of the cross-border area Spain-Portugal, section 2.1)

4.4.2 Finalized intervention logic

The intervention logic represents the systemic picture of how the programme functions in the programme area. The *needs* identified for the regions are tackled by *measures* funded through the programme. These measures have *effects* on the region, which are depicted via *indicators* in a territorial impact assessment. The indicators are either

- result indicators applied by the programme itself – marked (R)
- common CBC indicators as provided by the methodological handbook – marked (C)
- additional indicators developed by each case study tailored to the programme –marked (A)

The intervention logic is a chain establishing a logical and coherent link between the programme, the effects on the regions and the indicators measuring these effects. It is the necessary basis for all further assessments made.

The intervention logic for the five selected POCTEP Specific Objectives is presented below. A wide range of potential additional indicators were developed as a consequence of the first workshop with programme stakeholders of the Galicia-Norte de Portugal (GNP) cooperation area. Given the relatively large number of indicators and the pilot nature of this study, 15 indicators have been selected to assess for the TIA. They are marked in red and italics in Table 4.7 and they were selected following discussions with programme stakeholders during the first workshop. These 15 indicators were assessed at the second workshop with programme stakeholders, using a qualitative focus group method.

Table 4.7: SO 1B Improve the participation of the business sector in innovation processes and R+D+i activities closer to the market

Needs	Measures	Effects	Indicators
<p>Low tradition of cooperation between the agents that generate knowledge and companies.</p> <p>Important research capabilities that are, however, very focused on basic science and, to a lesser extent, on technological development and market oriented innovation.</p> <p>Need to work more in the transfer of research results.</p>	<p>Technology transfer and cooperation between Universities/research and enterprises, including for example:</p> <p>Initiatives and actions that support cooperation in the field of R+D+i between enterprises, research centres, universities and other training institutions, and administration, support efforts in investment in R+D and technology transfer processes, support the mobility of researchers and their integration in compa-</p>	<p>Increased cooperation between Universities/research centres/training institutions and enterprises.</p>	<p><i>No of companies that cooperate with research centres (C)</i></p> <p><i>Joint projects developed between enterprises and institutions (A)</i></p>
		<p>Increased technology transfer from Universities/research centres to enterprises</p>	<p>Number of requested patents (R)</p> <p>Patent applications/mio inhabitants (C)</p> <p>Patents/PIB (A)</p>

Needs	Measures	Effects	Indicators
	nies, incorporate patents and technologies.		
Significant lack of knowledge of what each other can offer , since the research centers are not always aware of the needs of the productive fabric and the solutions they can provide them, at the same time that the companies are unaware of the existing capacities in the territory in terms of I + D + i, as well as the solutions they offer them.	Promotion of new knowledge and innovation, especially related to enterprises, including for example: Actions that promote technological development and promote the innovation culture in the productive tissue of the cooperation space, help enterprises develop innovative products and processes, promotion of new technology-based activities with growth potential, facilitate the exchange and use of information between public administrations and companies.	Enterprises have acquired new knowledge	<i>No of beneficiary companies that introduce new products for the company (R)</i>
		Enterprises have designed new innovation plans	Number of companies that have developed innovation plans (A)
		Enterprises have introduced innovative products/processes and/or improvements	% of company revenues as a result of new innovative products (A)
		Increased enterprise investments in R+D+i	<i>Increased number of enterprises that have invested in R+D+i (A)</i> <i>Size of investments in R+D+i (A)</i>
Limited business effort in terms of R+D+i , due to its low absorption capacity due to both the small size of the productive units and limited specialization in knowledge-intensive activities.	Support to companies (advice, awareness raising, etc.), including for example: Initiatives and actions of advice to companies in innovation processes, dissemination of information on innovations and the use of available technologies and information.	Good practices in terms of access of companies to available technology, information and innovation	Good practices identified (A)
		Increased access of companies to advisory services on innovation	Number of enterprises that access advisory services (A)

Table 4.8: SO 3A Improve the necessary and favourable conditions for the appearance of new business initiatives

Needs	Measures	Effects	Indicators
Address the problem of limited entrepreneurial spirit and difficulties to access finance , which limits enterprise creation and the growth and development of existing ones.	Support entrepreneurship and incubators, including for example: Initiatives and actions to support development, entrepreneurship, entrepreneurial spirit and creativity, increase the offer of spaces for the implementation of new technology-based entrepreneurial initiatives in the first years of life and advisory actions and support to the generation of entrepreneurial initiatives that valorise the resources of the cooperation space.	Improved guidance and support services for the development of entrepreneurial initiatives	<i>No of services for enterprise development created or supported (R)</i>
		Improved opportunities for enterprises to access finance	No of SMEs with good financial structure (A)
		Increased entrepreneurial activity from universities	Number of entrepreneurship recruitments from Universities (A)
Identify solutions for combating unemployment, promoting competitiveness through innovation in enterprises, so as to re-activate the economy in the cooperation area.	New products, processes and ICTs in SMEs, including for example: Initiatives and actions to support the promotion of the use of ICTs in SMEs, the integration of creativity and the generation of new ideas and the creation of cross-border clusters and strategic niches.	Promotion of new cross-border products and processes in existing companies.	<i>SME/companies with cross-border business (C)</i>
		Increased cooperation activity through clusters and strategic niches.	Number of cross-border clusters created
	Promotion of entrepre-	Creation of new compa-	<i>Enterprises creat-</i>

Needs	Measures	Effects	Indicators
	<p>neurship, for youth/unemployment/social economy, including for example: Actions that promote entrepreneurial culture, especially among those sectors of the population most affected by unemployment (such as the young population), supporting young people about to complete higher education, so that they can carry out their projects, recruitment, development and monitoring of entrepreneurship initiatives from universities, and projects that promote the social economy.</p>	<p>nies, including by young/unemployed/social economy</p>	<p><i>ed/improved in the cooperation space, of which by young/unemployed/social economy (A)</i> Variation in the No of companies in the cooperation space (R)</p>
	<p>Professional and vocational training, including for example: Actions to promote professional internships in companies, and increase in the participation of companies in vocational training systems.</p>	<p>Increased professional and vocational training available to companies</p>	<p><i>Companies that offer professional internships (A)</i> Number of companies that participate in vocational training systems (A)</p>

Table 4.9: SO 6C Protect and enhance cultural and natural heritage as an economic base of the cross-border region

Needs	Measures	Effects	Indicators
<p>Address the lack of sufficient support for the recovery of the heritage of singular and attractive areas and their use for new uses and cultural functions.</p>	<p>Networks of natural and cultural spaces and tourism, including for example: Initiatives and actions that contribute to the creation of networks of natural and cultural spaces, as well as to the structuring of networks, physical and non-material, that vertebrate the common values of natural, historical and cultural type. Actions linked to the valorisation of environmental tourism and the creation of specialized international networks in the sector.</p>	<p>Expanded economic base through better exploitation of the historic, cultural and natural resources.</p>	<p><i>Increased number of planned visits to sites belonging to cultural and natural heritage and to subsidized attractions (R)</i> <i>Joint products related to historic, cultural and natural heritage developed (A)</i></p>
<p>Identify a solution for preserving, rehabilitating and valuing the network of historical and cultural heritage, as a key factor for strengthening tourism.</p>	<p>Preserving, rehabilitating and valuing cultural and natural heritage, including for example: Activities of promotion, protection and valorisation of the various aspects of the historical and cultural heritage, as well as those related to the valorisation, conservation and rehabilitation of classified heritage buildings and those destined to the recovery of functionality for new cultur-</p>	<p>Creation of emerging tourism segments, like nature tourism through the economic valorisation of services related to ecosystems of the border regions.</p>	<p>No of visitors in hotel occupancies in the cooperation space (R)</p>

Needs	Measures	Effects	Indicators
	al uses. Actions to encourage the exchange of good practices in the development of tourism strategies that respect the historical and natural heritage (e.g. waste management, reduction of impact on protected areas, etc.).		
	Coordinated management, joint offer, exchange of good practice in the tourism field, including for example: Initiatives and actions for the coordinated management of tourism resources and itineraries based on common environmental and cultural resources and the joint promotion of the cooperation space. Initiatives and actions of animation and joint cultural programming with the potential to attract tourist flows.	Increased joint management of cultural and natural heritage	<i>Joint tourism offers developed (A)</i> Duration of joint tourism offers (A)

Table 4.10: SO 6F Increase the levels of efficiency in the use of natural resources to contribute to the development of the green economy in the cooperation area

Needs	Measures	Effects	Indicators
Need to include a new management of water, energy and waste that improves efficiency in the use of natural resources and reduce the environmental problems associated with it. Increase the levels of efficiency in the use of natural resources to contribute to the development of a sustainable economy model in the cooperation area.	Soil related measures, including for example: Actions aimed at reducing pollution in landfills and improving landscape impact, promoting the exchange of experiences and cooperation between technical staff of the institutions of both countries. Water related measures, including for example: Actions, studies, plans for coordinated management of water treatment in cross-border areas of shared river basins, as well as for effectiveness and efficiency of water management systems, sustainable use and efficiency of water use.	Improved spatial management and use of the soil to reduce soil degradation so as to maintain its productive potential and conserve land ecosystems in this cross-border space. Improved conservation of wetlands and other fluvial ecosystems , from an environmental and productive point of view, given the important development of agriculture and irrigation in the cross-border areas. Improved knowledge of the coast, both observational and predictive, is fundamental for Blue Growth and the sea economy.	No of tools for cross-border management of natural resources (R) <i>Improved management of natural resources (R)</i> Additional population that benefits from improved water supply (R) No of tools for cross-border management of natural resources (R) <i>Improved management of natural resources (R)</i>
	Waste related measures, including for example: Initiatives and pilot actions of joint systems for the collection and management of urban, agricultural and industrial solid waste,	Adequate management of the waste generated, incorporating new innovative models of selection and recycling, as well as preventing the production of waste.	Additional capacity of waste recycling (R) No of tools for cross-border management of natural resources (R)

Needs	Measures	Effects	Indicators
	among other actions to increase technological development in the treatment of waste and the energy recovery of waste.		<i>Improved management of natural resources (R)</i>

Table 4.11: SO 11B Strengthen cross-border cooperation strategies between the different agents operating in the territory

Needs	Measures	Effects	Indicators
Address the persistence of limitations in cross-border cooperation that holds back its full potential, due to the asymmetries existing between the parties in the institutional, competence, functional and budgetary spheres and the historical inertia itself.	Facilitate access to affordable, sustainable and quality services, including health and social services of general interest.	More effective integration, materialized in cooperation in the context of Euroregions	<i>Improvement of institutional structures for cooperation in operation (R)</i> Innovative instruments created for the articulation and development of the cross-border space (R) <i>Development of the cross-border governance system (C)</i> Number of joint services created/offered (A) Number of cooperation structures created (A)
Need to consolidate the “de-bordering” of the Spanish-Portuguese border, promoting processes of rapprochement and cooperation between the different agents operating in this territory.	Invest in institutional capacity and efficiency of public administrations and services at national, regional and local levels to introduce reforms and improvements in regulation and governance.	Improved quality of life of the inhabitants of the cooperation area, through joint management and shared use of the different public services in the fields of health, employment, leisure and sports, among others	The quality of cross-border cooperation of municipalities, cultural organisations, educational institutions, compared to previous years (C)

4.4.3 Indicators

4.4.3.1 Indicator data

Indicators linked to effects in the intervention logic presented above have been populated with quantitative data wherever possible. It was aimed to obtain data for the baseline year as close as possible to 2014, and for the reference year as close as possible to the current year (2018).

The overall implementation of the programme up to date does not allow for sufficient data to calculate the result indicators of the programme since projects are not advanced enough at this stage. Therefore, quantitative data for only five indicators could be collected and this is presented in Table 4.12. The quantitative values for the reference year (2017) represent the accumulated real value obtained until 2017 (bold in the table). The programme did not include baseline values for these indicators.

Finally, all quantitative indicators need to be interpreted with caution as it is not evident whether the reported values refer to the area where the project leader or partner is based or to the area where the actions were implemented and where results/impacts would have taken place.

Due to the limited data situation and in order to carry out this impact assessment study, we relied on the remaining 11 indicators selected at the first stakeholder workshop. These were assessed qualitatively at the second workshop (see results below).

Table 4.12: Indicators

Name	Source	Baseline Year	Reference Year	Assessment method	Common CBC Indicator (Y/N)
No of companies that cooperate with research centres (C)	COOPERA Workshop	2014: no value	2017: 7	Quantitative	N
Joint projects developed between enterprises and institutions (A)	Workshop	2014	2018	Qualitative	N
No of beneficiary companies that introduce new products for the company (R)	COOPERA Workshop	2014: no value	2017: 0	Qualitative	N
Increased number of enterprises that have invested in R+D+i (A)	Workshop	2014	2018	Qualitative	N
Size of investments in R+D+i (A)	Workshop	2014	2018	Qualitative	N
No of services for enterprise development created or supported (R)	COOPERA Workshop	2014: no baseline value	2017: 1	Quantitative	N
SME/companies with cross-border business (C)	Workshop	2014	2018	Qualitative	Y
Enterprises created/improved in the cooperation space, of which by young/unemployed/social economy (A)	Workshop	2014	2018	Qualitative	N
Companies that offer professional internships (A)	Workshop	2014	2018	Qualitative	N
Increased number of planned visits to sites belonging to cultural and natural heritage and to subsidized attractions (R)	COOPERA Workshop	2014: no baseline value	2017: 2,480	Quantitative	N
Joint products related to historic, cultural and natural heritage developed (A)	Workshop	2014	2018	Qualitative	N
Joint tourism offers developed(A)	Workshop	2014	2018	Qualitative	N
Improved management of natural resources (R)	Workshop	2014	2018	Qualitative	N
Number of tools for cross-border management of natural resources (R)	COOPERA	2014: no baseline value	2017: 1	Quantitative	N
Improvement of institutional structures for cooperation in operation (R)	Workshop	2014	2018	Qualitative	N
Development of the cross-border governance system (C)	Workshop	2014	2018	Qualitative	Y

Source: Data availability assessment tool

Of the above indicators, two are common CBC indicators. The indicator *number of SMEs with cross-border business* was selected from the “Regional Competitiveness” group of common CBC indicators and the *development of the cross-border governance system* indicator was

selected from the “Cross-Border Cohesion” group. No indicators were selected from the first group “European Integration” because the measures/activities of the specific objectives selected for this study were not pertinent to this topic or because the indicators could not be assessed, for instance, *RCR-85 – Participants in joint actions 6-12 months after project completion* is pertinent but projects have not yet been completed.

4.4.3.2 Net impact determination

The indicator data obtained as described above represents a gross value, thus an assessment of how big the net contribution of the programme for each indicator value has been was conducted. Based on the varying nature of the indicators, different approaches have been applied as provided by the methodological handbook of the ESPON TIA CBC project.

Few of the programme indicators could be assessed quantitatively, and even less so at NUTS3 level, for the following reasons:

- There is no sufficient implementation data up to 2018, since this data will be provided in Spring 2019 for the Annual Implementation Report (AIR) to be submitted in June 2019. Therefore, existing data dates from 2017, where most projects were only at early stages of implementation. This explains the very low quantitative values compared to qualitative assessment obtained at the stakeholder workshop.
- Data cannot be disaggregated at NUTS3 level as the Joint Technical Secretariat (JTS) only collects and reports data by project/operation and each project is implemented by various beneficiaries on various provinces. In addition, the nature and methodology for some indicators makes it very complicated to obtain data at NUTS3 level. Finally, although the programme indicators are designed to measure the impact at programme level, regional impact can be assessed using financial data which is available at NUTS3 level. This is the approach we have followed in fact for netting out some of the indicators (see below).

For these reasons we followed two approaches:

(1) *Territorialisation* of the (five) indicators for which values are provided by the monitoring system using financial data from the NUTS3 level. We used a financial share approach for this, notably, based on financial implementation data (expenditure) at NUTS3 level. This was provided by the programme Secretariat for all projects under implementation in the GNP area for the NUTS3 areas with expenditure. For example, a project may show expenditure in 3 out of 5 NUTS3 areas that it covers. In this case, expenditure is available only for these 3 NUTS3 areas. The following steps were undertaken:

- Step 1: grouping projects under the same Specific Objectives (SO);
- Step 2: under each SO, grouping each NUTS3 area and as a consequence we got expenditure data per SO per NUTS3;
- Step 3: calculation of the share of expenditure per NUTS3 area for each SO;
- Step 4: application of this share to the indicator of the SO, for example if the indicator has a value of 7: “NUTS3 area share of expenditure” (%) x 7. For instance, if the share of expenditure of the Ourense province in the total expenditure for the SO is 18%, then the indicator value for Ourense would be $18\% \times 7 = 1,23$.

This approach was fine insofar as the indicator values were above 1. However, three out of the five indicators had a value of 1. In this case, it did not make sense to do the territo-

rialisation exercise as the indicator (e.g. number of services created for enterprise development) could not be split into fractions of zero point something (see example in Table 4.13 for the indicator “No of services for enterprise development created or supported”). As a consequence, the final outcome has been territorialisation of *only two of the five quantitative indicators*.

(2) Assessment of *net impacts* quantitatively only for those indicators that have are populated with a value >1. These indicators are: “No of enterprises that cooperate with research centres”, “services for enterprise development created or supported” and “Increase in the number of foreseen visits to areas and attractions belonging to subsidised cultural and natural heritage”. We applied the “funding framework” approach in the following way:

- Obtained a figure for the value of EU Funds 2014-2020 in Galicia and in North of Portugal to get a total EU fund allocation for the GNP area.
- Obtained the total allocated EU contribution to POCTEP as a whole (there is no programmed allocation per region in POCTEP since regions compete for funds in each call for proposals, therefore the actual allocation per region will only be known at the end of the programme). In order to assess the proportion of the GNP area in the total of POCTEP we used data from the first call for proposals. According to this data, 35% of funds in the first call was allocated to GNP. We therefore made the assumption that this percentage applies to the total POCTEP funding.
- Estimated the relative proportion of POCTEP in GNP: $\text{POCTEP funds in GNP} / \text{Total EU funds in GNP} = c. 1.7\%$
- We applied this percentage to the indicator values to get a net value. The only exception was the indicator “services for enterprise development created or supported” whose reported value was “1” and it was assumed that if projects reported that 1 service was created, this can only be due to POCTEP. We therefore assumed that this value was also the net value.

One weakness of the “funding framework” approach is that data on the total amount of funding available to the GNP region is not reliable. The reason for this is the different programming and financial frameworks in the two countries. In Spain there are regional programmes (due to its administrative system) and there are clearly identified funds allocated to Galicia. In Portugal on the other hand, some of the programmes are specific for regions while some other are national and based on competitive procedures. There is a regional program for the North region of Portugal. It is the Norte Regional Operative Program (called Norte 2020) with a financial allocation of aprox. 3.400 M€ (2,8 ERDF + 0,58 ESF). Anyhow, there are some other funds for the whole country, where regional players can applied and be funded. Therefore, the final allocation to Norte de Portugal can only be estimated once the national programmes have been implemented. The numbers we have used are only estimations, we therefore doubt of the robustness of net impacts.

(3) Assessment of *net impacts* qualitatively for all indicators, but *for the whole Galicia-North Portugal area*, using the MAPP method (see description below) during the stakeholder workshop. Although stakeholders from different projects and regions participated in the MAPP workshop, it was *not possible to assess the impacts for different regions*. The reason for this is that stakeholders had a general view of the effects of the programme,

but were not able to disentangle at a lower geographic level, due mainly to limited implementation at the stage of the assessment and also due to their limited view based on their own project. Actors with an overview of the GNP area and its sub-territories like the Managing Authority or the programme Secretariat were invited but did not participate in any of the workshops, mainly due to heavy workload, time required to travel to the workshop location and limited notice between invitation and workshop (invitation sent out 20 December for the workshop on 10th of January – could not be sent earlier as the first workshop took place on the 3rd of December and analysis, intervention logic revision, final indicator selection and reporting had to take place before sending out new invitations).

Description of the MAPP method

MAPP (Method for Impact Assessment of Programmes and Projects³³) is an assessment approach that allows people affected by an intervention to assess its impacts following a logical structure. We have selected MAPP based on our past experience with assessing impacts in the context of rural development programmes and studies. The main reasons why we considered MAPP relevant for the TIA include:

- The method is particularly suited for analysing more complex long-term objectives that can usually not be assessed with the help of one or more quantitative indicators.
- It has an open context-orientated approach that allows identifying not only planned, but also unplanned impacts.
- With MAPP, a specific programme is assessed in relation to other ongoing programmes and/or other external factors. Thus net impacts can be estimated against gross development trends.
- It helps to bridge the “attribution gap”, i.e. the gap between outcomes that can directly be attributed to a specific programme/project and higher level outcomes that are also influenced by other measures/factors.
- Its systematic approach and the use of a point system produce results of greater external validity than purely qualitative data, e.g. derived from interviews or focus group discussions.

We could not assess the territorial component with MAPP at this stage. Stakeholders did not have a view of the effects on different regions, they had a general view. The territorial component was only assessed for the 3 indicators for which we had quantitative data and financial data from the Secretariat.

The following tools of the MAPP method were used at the stakeholder workshop: life curve, trend analysis, and influence matrix, The life curve sets the context for the assessment, the trend analysis shows the *overall* trends of different indicators (i.e. irrespective of any specific programme), while the influence matrix shows the *net* effects by depicting how the trends

³³ For a description of the method see:
https://ec.europa.eu/agriculture/sites/agriculture/files/evaluation/rural-development-reports/2014/investment-support-rdp/fulltext_en.pdf

were influenced directly by the programme. All of these tools use a point system (from 1 to 4) and are based on stakeholders' perception/experience. More specifically:

Life curve: It shows the overall development trends in the cooperation area along a certain timeframe (2014-2018), beginning before the programme started and ending at present. Participants were asked to assess the quality of life for each year according to a five point scale. Quality of life for the Galicia-North Portugal area was defined by participants as conditional upon the employment rate, the enterprise creation trend, the macro-economic situation and the population changes.

Trend analysis: With this matrix, detailed development trends were evaluated over the same time period according to the 15 selected indicators. Participants were asked to score each indicator from 1 to 4 for every year from 2014 to present.

Influence matrix: This matrix helped evaluate the influence of POCTEP and all other programmes/interventions in the GNP territory on each indicator. Participants were provided with data for the five indicators for which data exists (see Table 4.12). However, currently available values are very low, since data is from 2017. Participants considered that the evolution is more positive than the 2017 data suggests but could not provide further data (data is collected annually by the monitoring system, data from 2018 will be available by June 2019). Participants therefore assessed the extent to which the evolution of indicators (trend analysis matrix) is influenced by the different interventions in the territory. In this way, an approximation of the net impact of POCTEP can be estimated.

No financial data was provided to participants as it was not available for the workshop. Financial data was only provided by the Secretariat on 31st January, since this was the deadline given to projects for reporting on financial implementation. Only data for the three indicator values was provided to participants, but they did not consider it useful. For example, 7 “companies that cooperate with research centres” was meaningless to them. They consider the actual number is higher (but not reported yet) so in the end they preferred to discuss perceptions, i.e. on a scale from 1 to 4.

4.4.3.3 Impact Assessment Matrix

The results of each working step of the TIA process have been fed into the Impact Assessment Matrix (IAM), representing the combined input of the case study team as well as the experts taking part in the TIA workshops. The IAM provides a comprehensive overview of those working step results and is the basis on which the textual impact assessment in the following section is formulated.

Table 4.13 gives an overview of the indicator values, by NUTS3 area only for the indicators that were assessed quantitatively. The results of the qualitative assessment are analysed in more detail in section 4.5.2. The qualitative assessment was carried out using the MAPP method during the second stakeholder workshop.

Table 4.13: Impact Assessment Matrix

Indicator	Assessment method	Nature of Impact			
No of companies that cooperate with re-search centres	Quantitative	Value T0	Ourense	Ave	Área Metropolitana do Porto
			0	0	0
		ValueT1	1,23	2,27	3,50
		Gross impact	1,23	2,27	3,5
		Net impact calculation method	Funding framework		
		Net impact	0,02	0,03	0,05
	Qualitative	Magnitude (0-4)			
		Direction against baseline			
		Temporal distribution (short/medium/long term)			
		Justification, notes	<p>The gross impact value comes from the monitoring system (it was provided by the Secretariat) and territorialisation was possible by applying the % of financial implementation data (expenditure) at NUTS3 level. Then, the net impact was calculated using the funding framework approach, i.e. by applying the relative proportion of POCTEP in the GNP area to the gross indicator value: (POCTEP funds in GNP/Total EU funds in GNP) * gross indicator value. Both methods (territorialisation and funding framework) are described in detail above.</p> <p>The indicator value was presented at the workshop, where stakeholders considered it very low. Their perception is a slow but positive progress in the number of companies that cooperate with research centres in the regions covered by POCTEP projects so far. However, this trend is attributed to POCTEP by 5-10%.</p>		
Joint projects developed between enterprises and institutions	Quantitative	Value T0			
		ValueT1			
		Gross impact			
		Net impact calculation method	Qualitative		
		Net impact			
	Qualitative	Magnitude (0-4)	0,5		
		Direction against baseline	+		
	Temporal distribution (short/medium/long term)	Medium			
	Justification, notes	This indicator evolved from 1 in 2014 to 3 in 2018. The evolution is due to POCTEP by 5.10%. This % was applied to the net average trend in order to obtain the magnitude of 0.5 (rounded up).			
No of beneficiary companies that introduce new products for the company	Quantitative	Value T0			
		ValueT1			
		Gross impact			
		Net impact calculation method	Qualitative		
		Net impact			
	Qualitative	Magnitude (0-4)	cannot be assessed at this stage		
		Direction against baseline	+		
	Temporal distribution (short/medium/long term)	medium			

Indicator	Assessment method	Nature of Impact					
		Justification, notes	The indicator value from the monitoring system was "0". The workshop identified a slow positive progress in gross terms, but could not analyse the attribution of this evolution to POCTEP as they lacked information/knowledge on this.				
Increased number of enterprises that have invested in R+D+i	Quantitative	Value T0					
		ValueT1					
		Gross impact					
		Net impact calculation method	Qualitative				
		Net impact					
	Qualitative	Magnitude (0-4)	0				
		Direction against baseline	0				
		Temporal distribution (short/medium/long term)	medium				
		Justification, notes	This indicator evolved from 1 to 2 between 2014 and 2018. The contribution of POCTEP could not be assessed as it is considered negligible by workshop participants.				
	Size of investments by companies in R+D+i	Quantitative	Value T0				
ValueT1							
Gross impact							
Net impact calculation method			Qualitative				
Net impact							
Qualitative		Magnitude (0-4)	0,2				
		Direction against baseline	+				
		Temporal distribution (short/medium/long term)	medium				
		Justification, notes	This indicator evolved from 1 to 3 between 2014 and 2018. This is due to POCTEP by 1-5%, therefore very small net impact.				
No of services for enterprise development created or supported		Quantitative	Value T0	A Coruña	Lugo	Ourense	Pontevedra
			0	0	0	0	0
	ValueT1		0,15	0,15	0,15	0,15	0,40
	Gross impact		0,15	0,15	0,15	0,15	0,40
	Net impact calculation method		Funding framework approach				
		Net impact	0,15	0,15	0,15	0,15	0,40
	Qualitative	Magnitude (0-4)					
		Direction against baseline					
		Temporal distribution (short/medium/long term)					
		Justification, notes	The gross impact value comes from the monitoring system (it was provided by the Secretariat) and territorialisation was possible by applying the % of financial implementation data (expenditure) at NUTS3 level. Then, the net impact was calculated using the funding framework approach, i.e. by applying the relative proportion of POCTEP in the GNP area to the gross indicator value: (POCTEP funds in GNP/Total EU funds in GNP) * gross indicator value. Both methods (territorialisation and funding framework) are described in detail above. Qualitatively, the net impact was perceived				

Indicator	Assessment method	Nature of Impact	
			by stakeholders to be minimal due to the low proportion of POCTEP funding in this field (5-10%).
SME/companies with cross-border business	Quantitative	Value T0	
		ValueT1	
		Gross impact	
		Net impact calculation method	Qualitative
	Qualitative	Net impact	
		Magnitude (0-4)	0,5
		Direction against baseline	+
		Temporal distribution (short/medium/long term)	medium
		Justification, notes	Although this indicator has progressed very positively (from 2 in 2014 to 4 in 2018, the net impact of POCTEP is very small due to its limited financial relevance in this field (5-10% contribution of POCTEP).
Enterprises created/improved in the cooperation space	Quantitative	Value T0	
		ValueT1	
		Gross impact	
		Net impact calculation method	Qualitative
	Qualitative	Net impact	
		Magnitude (0-4)	0,2
		Direction against baseline	+
		Temporal distribution (short/medium/long term)	medium
		Justification, notes	Stakeholders consider that the net contribution of POCTEP is very small as there are other programmes/Funds that play a more direct role in enterprise creation, especially ERDF or ESF. Although the indicator evolved from 2 to 3 between 2014 and 2018, this is due to POCTEP by only 5%.
Companies that offer professional internships	Quantitative	Value T0	
		ValueT1	
		Gross impact	
		Net impact calculation method	Qualitative
	Qualitative	Net impact	
		Magnitude (0-4)	0
		Direction against baseline	
		Temporal distribution (short/medium/long term)	medium
		Justification, notes	Stakeholders consider that the net contribution of POCTEP is negligible so net impact could not be assessed.
Joint products related to historic, cultural and natural heritage developed	Quantitative	Value T0	
		ValueT1	
		Gross impact	
		Net impact calculation method	Qualitative
	Qualitative	Net impact	
Magnitude (0-4)		1	
		Direction against baseline	+

Indicator	Assessment method	Nature of Impact	
		Temporal distribution (short/medium/long term)	medium
		Justification, notes	Stakeholders consider that the net contribution of POCTEP is not as small as for other indicators (it can reach up to 20%) because it focuses on "joint" results.
Joint tourism offers developed	Quantitative	Value T0	
		ValueT1	
		Gross impact	
		Net impact calculation method	Qualitative
		Net impact	Cannot be assessed yet
	Qualitative	Magnitude (0-4)	0
		Direction against baseline	
		Temporal distribution (short/medium/long term)	medium
Justification, notes		Stakeholders cannot yet assess the net contribution of POCTEP because the indicator is progressing slowly. It is however, a relevant indicator to measure in order to assess the impact of cross-border cooperation under the Specific Objective "Protect and enhance natural and cultural heritage".	
Improved management of natural resources	Quantitative	Value T0	
		ValueT1	
		Gross impact	
		Net impact calculation method	Qualitative
		Net impact	
	Qualitative	Magnitude (0-4)	0,2
		Direction against baseline	+
		Temporal distribution (short/medium/long term)	medium
Justification, notes		Although the evolution of this indicator is very positive (score from 2 in 2014 to 3 in 2018), the net contribution of POCTEP is very small (5%). Other initiatives in the area (notably ERDF and to some extent also EAFRD) have a higher impact on this indicator.	
Improvement of institutional structures for cooperation in operation	Quantitative	Value T0	
		ValueT1	
		Gross impact	
		Net impact calculation method	Qualitative
		Net impact	
	Qualitative	Magnitude (0-4)	3
		Direction against baseline	++
		Temporal distribution (short/medium/long term)	medium
Justification, notes		This is the area where POCTEP has the highest net impact. Cross-border cooperation addresses directly the improvement of cooperation structures. The contribution of POCTEP was judged by participants to be 80%. This is why this indicator presents the highest magnitude compared to all previous ones.	

Indicator	Assessment method	Nature of Impact	
Development of the cross-border governance system	Quantitative	Value T0	
		ValueT1	
		Gross impact	
		Net impact calculation method	Qualitative
	Qualitative	Net impact	
		Magnitude (0-4)	3,5
		Direction against baseline	++
		Temporal distribution (short/medium/long term)	medium
	Justification, notes	This is the area where POCTEP has the highest net impact. Cross-border cooperation contributes directly to the development of the cross-border governance system. This is why the magnitude is the highest (3,5) corresponding to a an 80% contribution of POCTEP to this indicator.	

Table 4.13: Impact Assessment Matrix [continued]

Indicator	Assessment method	Nature of Impact	A Coruña	Lugo	Ourense	Pontevedra	Área Metropolitana de Porto	Tâmega e Sousa	Douro	Terras de Trás-os-Montes	Alto Minho	
Increased number of planned visits to sites belonging to cultural and natural heritage and to subsidized attractions	Quantitative	Value T0	0	0	0	0	0	0	0	0	0	
		ValueT1	312,30	99,15	412,89	1374,10	29,93	20,25	20,25	23,76	187,37	
		Gross impact	312,30	99,15	412,89	1374,10	29,93	20,25	20,25	23,76	187,37	
		Net impact calculation method	Funding framework approach									
	Qualitative	Net impact	5,31	1,69	7,02	23,36	0,51	0,34	0,34	0,40	3,19	
		Magnitude (0-4)										
		Direction against baseline										
		Temporal distribution (short/medium/long term)										
		Justification, notes	This indicator was only assessed quantitatively as it was added after the workshop when the Secretariat provided monitoring data for the indicators. We decided to include it due to lack of values for the other selected indicators. It also gives a picture of the territorialisation of impacts at NUTS3 level. The net impact was calculated using the funding framework approach, i.e. applying to each gross indicator the percentage that POCTEP represents in the GNP area amongst the total EU funding for GNP. A detailed description of how we applied the funding framework approach is given above.									

4.5 Territorial Impact Assessment

4.5.1 Summary of main findings

The main value added of POCTEP is that it enables stakeholders to perceive the border as an opportunity rather than as a limitation or a barrier. It sheds light on the business opportunities beyond the border as well as the possibilities for joint business ventures. Even though the net impact of POCTEP on aspects like investments in research, development and innovation or enterprise creation may be minimal due to the greater amount of funds allocated to other programmes, its impact is significant on setting the basis for cooperation opportunities. An assessment focusing on this aspect of POCTEP may be possible using qualitative methods such as focus groups, expert panels, multi-criteria analysis or similar. The net impact is particularly observable in the structure of governance, with the creation and improvement of cooperation structures. POCTEP contributes to animate the cross-border territory and its actors and to motivate them to carry out joint activities. Therefore, POCTEP makes cooperation possible and helps develop a culture whereby more can be gained through joint action rather than each actor/region acting alone.

4.5.2 Impact on the regions

Results from the quantitative analysis

Three indicators were assessed quantitatively. As already mentioned, there were a total of five programme result indicators selected but their values were 1, so it was not relevant to assess their disaggregation by territorial unit.

The first indicator is the “Number of companies that cooperate with research centres”. The indicator value up to 2017 is 7 according to programme monitoring data. The indicator corresponds to Specific Objective 1B which has so far been implemented in the NUTS3 areas of Ourense in Galicia and Ave and Área Metropolitana do Porto in Norte de Portugal. The net value obtained when applying the funding framework approach is 0,12. The territorial disaggregation of the indicator was based on the percentage of financial expenditure in these regions. The Área Metropolitana do Porto is in relative terms most impacted, followed by Ave and then Ourense.

The second indicator is the “services for enterprises development created or supported”. The gross value is “1” and we therefore assume that if projects have reported only one service created, this can only be due to POCTEP. Therefore, the assumption is that the gross value here is also the net value. The indicator corresponds to Specific Objective 3A which has so far been implemented in the NUTS3 areas of A Coruña, Lugo, Ourense and Pontevedra in Galicia and Douro in Norte de Portugal. The disaggregation of the indicator was based on the percentage of financial expenditure in these regions. The impact is higher in the Douro region and then split evenly amongst the four Galicia regions.

The third indicator is the “ Increase in the number of foreseen visits to areas and attractions belonging to subsidised cultural and natural heritage”, The gross indicator value is 2,480 and

covers several NUTS3 areas in Galicia and Norte de Portugal, and when applying the funding framework approach, the net value obtained is 42.2. The indicator corresponds to Specific Objective 6C which has so far been implemented in nine NUTS3 areas Galicia and Norte de Portugal. The disaggregation of the indicator was based on the percentage of financial expenditure in these regions. The impact is by large higher in Pontevedra, followed by Ourense and A Coruña, while Alto Minho, Lugo, Porto, Terras de Tras-os-Montes, Tâmega e Sousa and Douro have experienced a much smaller impact.

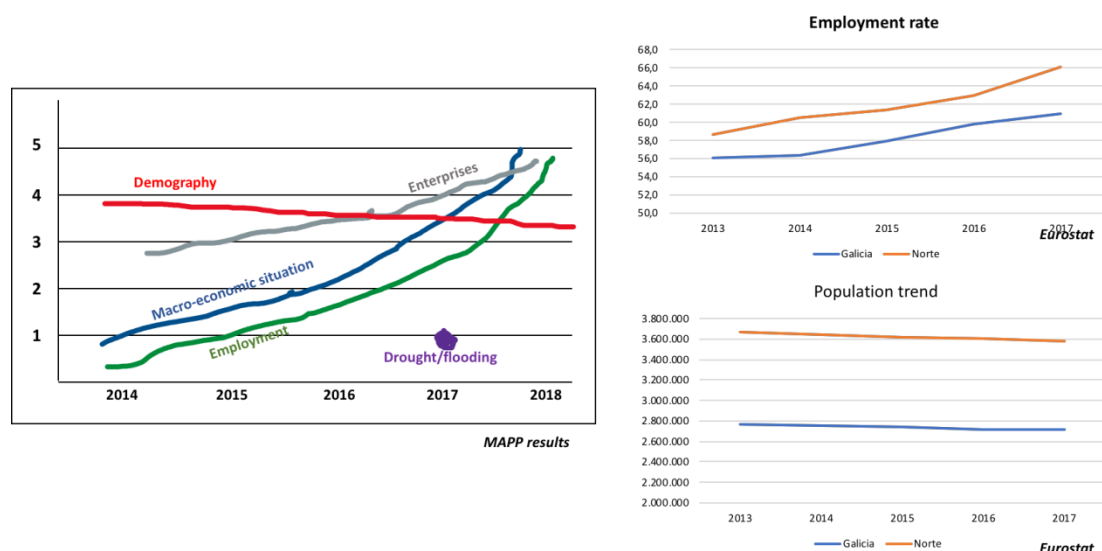
Results from the qualitative assessment

Results from the Life curve

Participants were asked to assess the quality of life for each year according to a five point scale. First, they were asked to define Quality of life and they concluded that it is dependent upon employment, the macroeconomic situation, enterprise creation and demography. Second, they were then asked to assess the evolution of these elements of the quality of life over the programming period and up to date.

Their assessment confirmed and analysed the evidence available also through official sources (Eurostat, depicted on the right hand side of Figure 4.1).

Figure 4.1: Life curve



Source: 2nd workshop with POCTEP stakeholders

The life curve sets the context for analysing the impacts of the programme, notably:

- The quality of life has been influenced by various factors, including inter alia employment, the enterprise creation trend, the macro-economic situation or the population change.
- The overall macro-economic situation has improved since 2014 (blue line in the graph), following the years of the crisis. This economic situation has influenced enterprise creation and development (grey line) with increased enterprise creation especially in the last two years, thus recovering from the austerity of the crisis years. The influx of tourism also presents a positive trend, influencing in turn the employment situation (see next point).

- The employment situation (green line in the graph) has improved but staying below the macro-economic situation improvement.
- An indicator of concern has been the population change, with a steady but continuous depopulation of rural areas, accelerated in recent years as a consequence of low birth rates, ageing of the population and the lack of population renewal through immigration for instance.
- Quality of life has also been influenced by the environment and events related to climate change like the severe droughts and flooding in 2017, although the management of natural resources has improved as a reaction to these climate change trends. Despite the cycles that are common in the environmental situation, climate change is becoming an increasing cause of concern.

Results from the Trend Analysis

The Trend Analysis helps identify the gross trend of indicators. The net impact is then done at the next step (Influence matrix).

Table 4.14 presents the results of the Trend Analysis on a four point scale (1 to 4) for each indicator. Workshop participants were asked to assess the overall evolution of each indicator over the programming period. Overall means “how the indicator performed each year on a scale from 1 to 4 irrespective of the specific source of funding”, In this way, we obtain an *assessment of the gross impact on each indicator*. As mentioned earlier (section 4.4.3), territorialisation of the qualitative indicators was not possible as participants did not have a view of the impacts on different provinces or areas, they had an overall perception of the impact of the programme.

Table 4.14: Results from the Trend analysis

Trend analysis	Year Trend					
	2014	2015	2016	2017	2018	2014-18
Improve the participation of the business sector in innovation processes and R+D+i activities closer to the market (1B)						
No of companies that cooperate with research centres	1	1	2	3	3	+
Joint projects developed between enterprises and institutions	1	2	2	3	3	++
No of beneficiary companies that introduce new products for the company	1	1	1	2	2	+
Increased number of enterprises that have invested in R+D+i	1	1	1	2	2	+
Size of investments by companies in R+D+i	1	1	2	3	3	++
Improve the necessary and favourable conditions for the appearance of new business initiatives (3A)						
No of services for enterprise development created or supported	1	1	2	2	2	+
SME/companies with cross-border business	2	2	3	3	3	+
Enterprises created/improved in the cooperation space (of which by young/unemployed/social economy)	2	2	3	3	3	+
Companies that offer professional internships	1	1	2	2	2	+
Protect and enhance cultural and natural heritage as an economic base of the cross-border region (6C)						
Joint products related to historic, cultural and natural heritage developed	1	1	2	2	3	+

Trend analysis	Year Trend					
	2014	2015	2016	2017	2018	2014-18
Joint tourism offers developed	1	1	2	2	3	+
Increase the levels of efficiency in the use of natural resources to contribute to the development of the green economy in the cooperation area (6F)						
Improved management of natural resources (result)	2	2	3	3	3	+
Strengthen cross-border cooperation strategies between the different agents operating in the territory (11B)						
Improvement of institutional structures for cooperation in operation	3	3	3	4	4	++
Development of the cross-border governance system	3	3	4	4	4	++

Source: own elaboration

Specific objective 1B: Improve the participation of the business sector in innovation processes and R+D+i activities closer to the market

The number of companies that cooperate with research centres was low at the beginning of the period due to the economic crisis and then increased exponentially in 2016-2018. In fact, the links between enterprises and research centres have increased through time, in part to mitigate the effects of the crisis.

European funding has contributed in particular to increase joint projects between enterprises and institutions, even more so than the increase in enterprises that cooperate with research centres. For the same reason (EU funding) there has been a rise in the number of beneficiary companies that introduce new products to the company. The possibility for companies to participate actively in cross-border cooperation has helped them open up and engage into new ventures.

In terms of investments in R+D+i, it is notable that the intensity of investments has increased (size of investments indicator) more than the number of enterprises that invest in R+D+i. This means that existing enterprises are prone to invest more due to more support in terms of funding, advice and opportunities. There is an important distinction to be made (although the workshop did not conclude anything on this) between enterprises with strategies for long-term investments in R&D and those who do it on an ad hoc and opportunistic basis depending on the availability of funds.

Specific objective 3A: Improve the necessary and favourable conditions for the appearance of new business initiatives

The evolution in the availability of services for enterprise development has been stable but at low levels. Since 2016, there has been a rise in the number of enterprises that receive support by public services. SMEs/companies with cross-border business existed already at the beginning of the period and have increased but only moderately. Similarly, SMEs have been created but with a slow pace, while there is no data/evidence as to how many of them have been created by young people, unemployed or in the social economy field.

The number of companies that offer professional internships may have increased slightly but there is no concrete evidence available. It is considered a good indicator in the context of

cross-border cooperation and for assessing the impact of measures related to professional and vocational training.

Specific objective 6C: Protect and enhance cultural and natural heritage as an economic base of the cross-border region

There has been a very positive evolution in the number of joint products related to historic, cultural and natural heritage in the cooperation space. Although there are few such joint products, the starting point was very low, therefore the evolution is notable. The same outcome holds for the number of joint tourism offers.

Specific objective 6F: Increase the levels of efficiency in the use of natural resources to contribute to the development of the green economy in the cooperation area

The management of natural resources has improved but only slightly, not because there are no efforts in this direction but because the timing for assessing this indicator is not appropriate. More than five years should elapse from the start of a project in order to assess realistically the performance of this indicator. In addition, the distinction between soil, water and waste is not possible, since POCTEP does not include indicators related to soil management, potentially due to the differences in spatial planning strategies for soil management between the two sides of the border (Galicia and Norte de Portugal).

Specific objective 11B: Strengthen cross-border cooperation strategies between the different agents operating in the territory

Institutional structures for cooperation were already in place as cross-border cooperation has some history already, and have further improved in the current period. There is evidence through joint projects between municipalities or the work of the European Territorial Groupings. Similarly, cross-border governance is already developed and is further developing thanks to CBC structures supported mainly by POCTEP. The main driver for the development of cross-border cooperation culture and structures were the 2007-2013 projects whose impact materialised by 2015. The current period further strengthens these achievements. One of the key influencing factors for this indicator is the political motivation on the two sides of the border.

Results from the Influence Matrix

The influence matrix has helped assess the net impacts qualitatively. The following table presents the results of the Influence matrix. First, participants were asked to identify the most important programmes/Funds for the cooperation area, other than the cross-border cooperation programme POCTEP. Second, they were asked to assess the net contribution of POCTEP on the previously identified trend of the selected indicators. Third, the contribution of the other programmes was also assessed and in this way we obtained a fuller picture of which intervention/programme has the highest contribution to each indicator.

Participants did not have sufficient knowledge so as to assess all indicators as can be seen at the table. Ideally, the composition of participants should be prepared well in advance of the workshop (at least one month), to ensure they represent: a) each territorial unit of analysis

(e.g. NUTS3), b) each sector or Specific Objective and c) the cross-border cooperation programme authorities who have an overview of implementation.

Table 4.15: Results from the Influence matrix

Influence matrix	POCTEP	ERDF	ERDF	ESF	Horizon	Others
Improve the participation of the business sector in innovation processes and R+D+i activities closer to the market (1B)						
No of companies that cooperate with research centres	5-10%					
Joint projects developed between enterprises and institutions	5-10%					
No of beneficiary companies that introduce new products for the company				cannot be assessed		
Increased number of enterprises that have invested in R+D+i				cannot be assessed		
Size of investments by companies in R+D+i	1-5%	40%	30%		20%	5%
Improve the necessary and favourable conditions for the appearance of new business initiatives (3A)						
No of services for enterprise development created or supported	5-10%					
SME/companies with cross-border business	5-10%					
Enterprises created/improved in the cooperation space (of which by young/unemployed/social economy)	5%	40%	10%	40%		5%
Companies that offer professional internships				cannot be assessed		
Protect and enhance cultural and natural heritage as an economic base of the cross-border region (6C)						
Joint products related to historic, cultural and natural heritage developed	10-20%	35%	35%			10%
Joint tourism offers developed				cannot be assessed yet		
Increase the levels of efficiency in the use of natural resources to contribute to the development of the green economy in the cooperation area (6F)						
Improved management of natural resources (result)	5%	85% (PT) 75% (ES)	10% (PT) 20% (ES)			
Strengthen cross-border cooperation strategies between the different agents operating in the territory (11B)						
Improvement of institutional structures for co-operation in operation	80%	15%	5%			
Development of the cross-border governance system	80%	15%	5%			

Source: own elaboration

Specific objective 1B: Improve the participation of the business sector in innovation processes and R+D+i activities closer to the market

The positive trend in the number of enterprises that cooperate with research centres and the number of joint projects between enterprises and institutions is a result of POCTEP funding to a small extent (5-10%). The funding offered through POCTEP is relatively small compared to other funds available in the cross-border territory. The very positive trend in the size of investments by enterprises on R+D+i is a result of POCTEP funding to a very small extent (1-5%, notably because POCTEP activities have a more significant incidence on bringing actors together to cooperate than on encouraging more investments.

Specific objective 3A: Improve the necessary and favourable conditions for the appearance of new business initiatives

Similarly, the positive evolution of the indicators under this specific objective is due to POCTEP support by a small (5-10%). Evidence on the number of enterprises with cross-border business is mainly anecdotal. POCTEP has played an important role in bringing companies into contact with each other and networking but the extent of their cross-border business development remains to be seen, especially given that the involvement of enterprises in POCTEP is new in this programming period.

In terms of enterprise creation, other funds like ERDF or ESF play a more important role (40% each) than POCTEP (5%), while other sources like EAFRD (10%) or EaSI (5%) also play a role.

Specific objective 6C: Protect and enhance cultural and natural heritage as an economic base of the cross-border region

The positive evolution of the number of joint products related to historic, cultural and natural heritage is mainly influenced by ERDF and EAFRD, the latter channelling rural development funds into the protection and promotion of cultural and natural heritage. The impact of POCTEP is relatively small but important (10-20%) and focuses mainly on bringing actors together to enhance their heritage through joint approaches.

Specific objective 6F: Increase the levels of efficiency in the use of natural resources to contribute to the development of the green economy in the cooperation area

The positive trend in the improved management of natural resources is primarily a result of ERDF funds (almost entirely so in Portugal, 85%), while EAFRD also plays an important role (10-20%). POCTEP is only responsible for around 5% of the improvement in this indicator, although again its value added stems from the opportunities offered for coordination in the management of natural resources across the border. At *territorial* level, POCTEP has had a direct impact on the management of water resources along the Rio Minho (Lugo, Ourense and Alto Minho).

Specific objective 11B: Strengthen cross-border cooperation strategies between the different agents operating in the territory

In this field, the impact of POCTEP is most notable compared to other interventions. The good level and improvement of institutional structures for cooperation or the development of the cross-border governance system are almost entirely due to POCTEP (80%), with ERDF playing a role too (15%), followed by Leader (5%). POCTEP has made possible the creation, maintenance and further development of cross-border structures while instilling a cooperation culture across institutions in the cooperation territory.

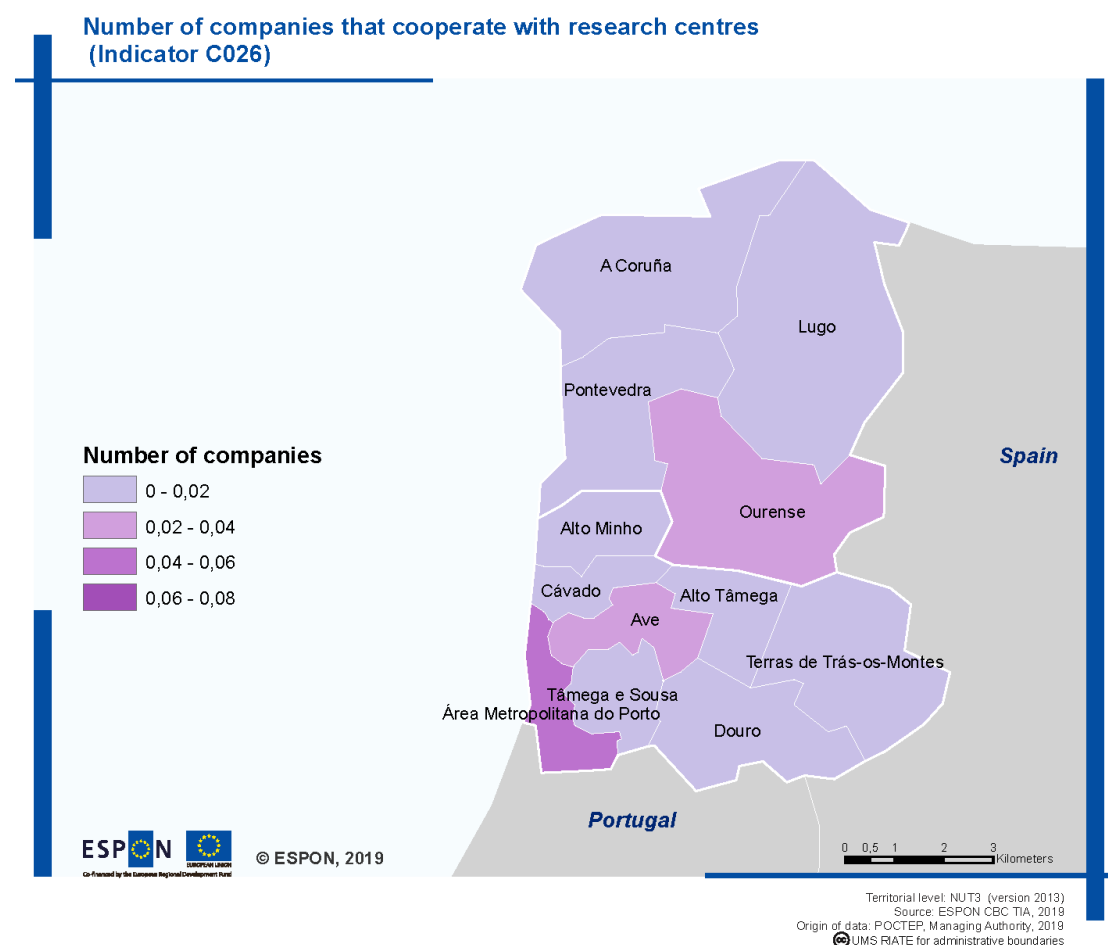
Summary of overall results

Specific objective 1B: Improve the participation of the business sector in innovation processes and R+D+i activities closer to the market

The impact of POCTEP under this SO was assessed with the use of three indicators and one of them could be disaggregated by NUTS3 areas. Another two (“number of beneficiary companies that introduce new products for the company” and “increased number of enterprises that have invested in R+D+I”), could not be assessed due to lack of data and unclear perception of stakeholders on the contribution of POCTEP.

First, the “number of enterprises that cooperate with research centres” as reported by the programme is relatively small and even smaller when netted out using the funding framework approach. In conclusion, out of 7 enterprises that cooperate with research centres, only 0.12 of them can be attributed to POCTEP, which is a negligible number. This was confirmed at the stakeholder workshop, notably, although the overall trend of enterprises cooperating with research centres is judged to be progressing positively, only 5-10% of this progress is due to POCTEP. The following map shows that, at territorial level, three regions benefited in this field, mainly Área Metropolitana do Porto, followed by Ave (Norte de Portugal) and Ourense (Galicia), but as already mentioned, the scale of the benefit is very low.

Map 4.7: Number of companies that cooperate with research centres (Indicator C026)



Source: Own elaboration

Second, the indicator “joint projects developed between enterprises and institutions” was only assessed qualitatively, with POCTEP contributing only 5-10% to the positive evolution of this indicator over the programming period.

Third, the “size of investments by enterprises on R+D+I” was assessed only qualitatively and although the indicator progressed very positively in gross terms, the contribution of POCTEP is even smaller (1-5%) as there are other programmes that play a more prominent role in the promotion of innovation.

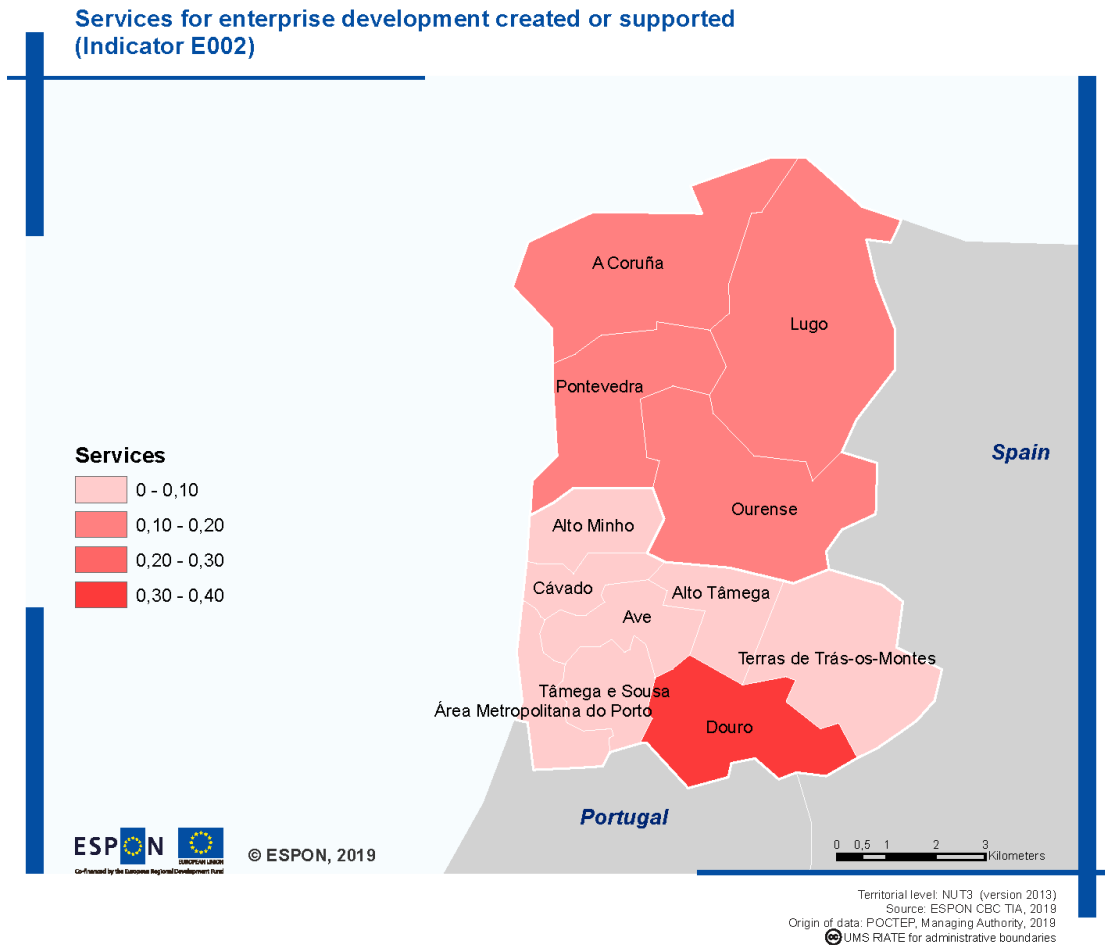
In conclusion, the main reasons for the above results are: a) the funding offered through POCTEP is relatively small compared to other funds available in the cross-border territory for it to make a difference in terms of impact; b) POCTEP activities have a more significant incidence on bringing actors together to cooperate than on encouraging more enterprise creation or more investments. The latter is usually an indirect outcome as the increased cooperation culture motivates enterprises to access other sources of funding or use own funds to invest in innovation.

Specific objective 3A: Improve the necessary and favourable conditions for the appearance of new business initiatives

The impact of POCTEP under this SO was assessed with the use of three indicators. With one of them assessed at NUTS3 level. A fourth one (“companies that offer interprofessional trainings”) could not be assessed due to lack of evidence from stakeholders.

First, the “number of services for enterprise development created or supported” was only 1 and analysed also at NUTS3 level, assuming that a service can be created to cover several regions. However, due to the very small value, the five NUTS3 regions covered by it, present a very small impact. The following map shows that the impact is relatively higher in the Douro region and then split evenly amongst the Galicia regions. What would be interesting and relevant in the longer term is to analyse the extent to which this service offered to enterprises is used to improve the performance of enterprises, their competitiveness and cooperation. But this would be the scope of an ex-post evaluation.

Map 4.8: Services for enterprise development created or supported (Indicator E002)



Source: Own elaboration

Second, the “number of enterprises with cross-border business” is very difficult to assess as there is hardly any evidence and the contribution of POCTEP is estimated to be around 5-10%. Third, the “creation of enterprises in the cooperation space” is only influenced by POCTEP by a mere 5%.

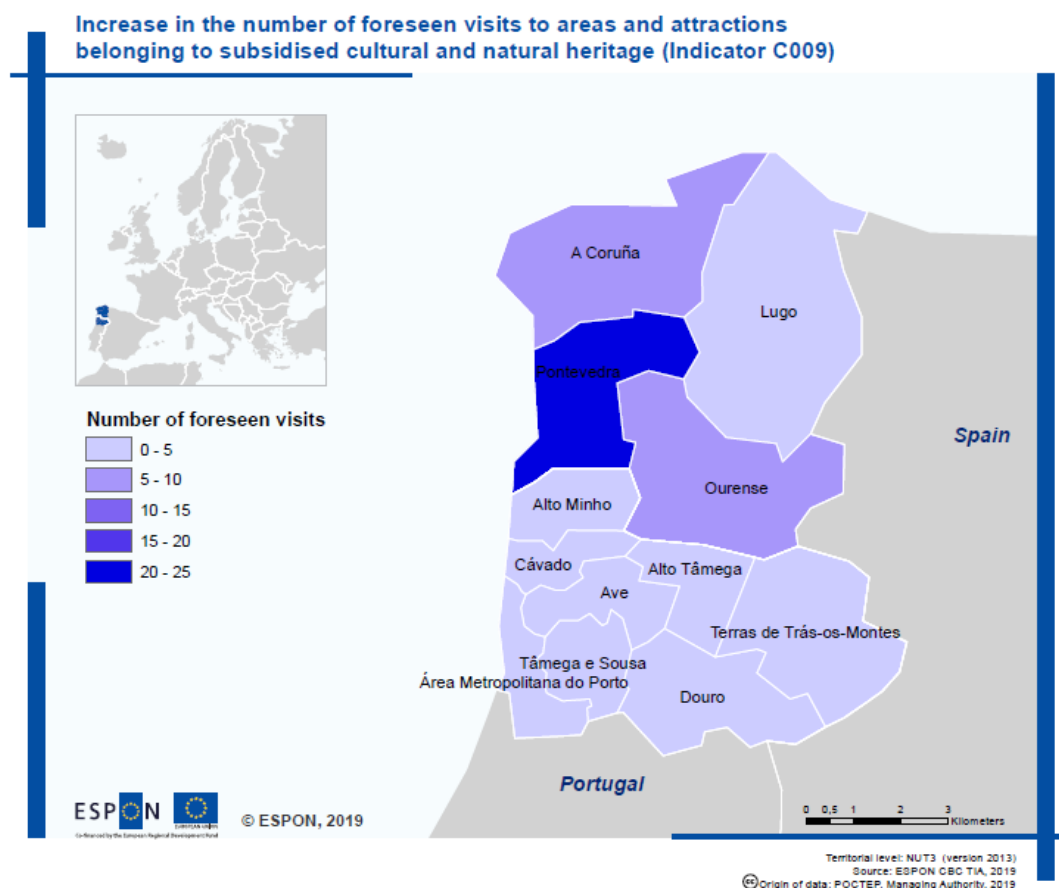
In conclusion, the impact of POCTEP is not so significant in terms of enterprise creation and development. The contribution of POCTEP is more relevant for bringing companies into contact with each other and networking, however, at this stage of programme implementation the extent of cross-border cooperation of enterprises cannot be assessed. POCTEP is expected to create the conditions for cross-border business initiatives and this is not currently evident, neither quantitatively nor qualitatively. It is advisable to focus future evaluations, especially ex-post evaluations, on the specific aspects that differentiate a small programme like POCTEP from others that inject many more resources in the regions (e.g. ERDF, ESF,...). Such aspects can be captured by indicators that measure the cross-border component of enterprise services or the participation of enterprises from both sides of the border in new business initiatives.

Specific objective 6C: Protect and enhance cultural and natural heritage as an economic base of the cross-border region

The impact of POCTEP under this SO was assessed with the use of two indicators, and a third one (“joint tourism offers developed”) could not be assessed due to lack of knowledge of workshop participants in this specific field.

First, the “increased number of planned visits to sites belonging to cultural and natural heritage and to subsidized attraction” is a programme indicator which had a significant gross value reported (2,480). However, when applying the funding framework method to net it out, it declined to 42.2 and distributed territorially over 9 NUTS3 regions, with most of the benefits (55%) going to Pontevedra in Galicia, possibly due to the importance of the “Santiago de Compostela” pilgrimage route which attracts many tourists every year. As seen in the map below, Pontevedra is followed by Ourense and A Coruña, while Alto Minho, Lugo, Porto, Terras de Trás-os-Montes, Tâmega e Sousa and Douro have experienced a much smaller impact.

Map 4.9: Increase in the number of foreseen visits to areas and attractions belonging to subsidised cultural and natural heritage (Indicator C009)



Source: Own elaboration

Second, the increase in “joint products related to historic, cultural and natural heritage developed” was assessed qualitatively with POCTEP estimated to contribute around 10-20%,

compared to other more substantial funds coming from ERDF or EAFRD that target specifically the promotion of cultural and natural heritage.

In conclusion, the added value of POCTEP is bringing actors together to enhance their heritage through joint approaches. It is advisable that this element of POCTEP should be the subject of evaluations in the future.

Specific objective 6F: Increase the levels of efficiency in the use of natural resources to contribute to the development of the green economy in the cooperation area

The impact of POCTEP under this SO was assessed using one indicator. The “improved management of natural resources” is very influenced by POCTEP by a mere 5%. Stakeholders however, concluded that the real contribution of POCTEP are the opportunities offered for coordination in the management of natural resources across the border. Evidence from specific projects shows that the management of water resources along the Rio Minho (Lugo, Ourense and Alto Minho) has improved due to the programme.

In conclusion, it is unrealistic to expect a programme with the size of POCTEP to have an impact on the efficient use of natural resources. Instead, future evaluations may focus on the coordination aspects of POCTEP, such as the *joint* management of common natural resources like water, soil or waste. The “number of tools for cross-border management of natural resources” is a good indicator in this respect, but it was not possible to analyse it at this stage of programme implementation.

Specific objective 11B: Strengthen cross-border cooperation strategies between the different agents operating in the territory

The impact of POCTEP under this SO was assessed with the use of two indicators. Both, the “improvement of institutional structures for cooperation in operation” and the “development of the cross-border governance system” were assessed by stakeholders to be almost entirely due to POCTEP (80%). It is in this field where POCTEP brings most value added by supporting and promoting the cooperation culture between institutions in the cross-border territory.

In conclusion, it is advisable to use both indicators in future evaluations, although the second one is a common CBC indicator and data not collected through the POCTEP monitoring system. However, more than with quantitative data, these indicators can be assessed with the use of systematic and structured surveys to beneficiaries and stakeholders.

Overall, the evaluation of the net impacts of POCTEP should rely on more qualitative analyses as the mere numbers cannot assess impacts related to the cooperation “culture”, the “tendency of companies to cooperate”, the improved governance or the typologies, structures and mechanisms of joint management, all of which set the basis for further development of the regions with the use of complementary funds from other programmes.

4.6 Methodological commentary for the programme set-up

There are two critical factors for the assessment of impacts that relate to the programme set-up:

- (1) The identification of relevant indicators. This should take place during the programme design and reflect the hierarchy of objectives of the programme (specific and general objectives). Given the small size of CBC programmes, indicators should measure the value added of these programmes bring, e.g. in terms of improved cooperation, joint businesses, joint structures and governance systems, etc. (see also section 4.7 for more detailed argumentation on this subject). The list of common CBC indicators should also be consulted at the programme set-up phase and select appropriate ones so as to collect data on them from the beginning.
- (2) The inclusion of variables for programme indicators into the monitoring system from the beginning. This will ensure a systematic collection of data that can be used when the time of the impact assessment arrives. Data characteristics of the monitoring system should be defined early on, including inter alia: type of data, unit of measurement, frequency of collection, territorial unit.

4.7 Methodological commentary

4.7.1 TIA Process

The main strengths of implementing the TIA process include:

- Very clear instructions and detailed advice through the Handbook, comprising clear and logical tools.
- Its focus on netting out impacts, which should be a key concern for evaluators and policy makers. For evaluators it gives meaning to the assessment of impacts, since the success of an intervention cannot be seen without comparing it to other interventions or to the situation without the intervention. It is not meaningful to discuss the impacts on a territory without knowing whether it was the territorial cooperation programme or other programmes or factors that were responsible for this impact. Similarly for policy makers, the information on net impacts can help them take evidence based decisions on the direction of future policies.
- A clear and consistent approach for carrying out the TIA offering various options for the assessment of net impacts (quantitative, qualitative, mixed). The approach takes into account the difficulties in the availability of data, which is often the case in practice and makes the application of robust quantitative approaches impossible. The TIA allows for a combination of mixed methods and can be used in the future to identify a proxy indicator with enough data. Then, qualitative judgments would be compared with trends from the proxy indicator, so as to overcome the subjectivity of expert opinions.
- The organisation of workshops with stakeholders is a good component of the approach. It is useful to organise two workshops, one at the beginning and one at the end of the TIA process. The first helps for setting the context, validating and defining indicators that are really pertinent. The second is very important for validating, interpreting and assessing net impacts.

However, there is scope for improvement, notably for the following reasons:

- *Timetable for assessing impacts:* Impacts can only be assessed when sufficient time has elapsed from the start of the programme. Otherwise, data gaps and lack of information are most likely scenarios. Therefore, attempting to assess impacts at a stage when programmes are still collecting data for their 2019 Annual Implementation Reports implies that available data goes as far as 2017, when most projects were only at early stages of implementation and therefore little can be said about impacts.
- *Timescale of the pilot:* Testing a methodology requires time and needs to be implemented in line with the reality of the programmes. Therefore, testing at the end of 2018, when the programme has still not collected sufficient data does not help the pilot either. In addition, the time lapse between the first and second workshop should not be less than 2-3 months. The identification of relevant data sources, overcoming data access barriers and the collection of data and its processing, are all steps that take time.
- *Indicators: Programme indicators* are the easiest to assess as monitoring systems collect data on them, even though our current pilot did not give significant data due to stage of implementation of the programme. *Common CBC indicators* are meaningful but not pertinent for any programme. For POCTEP for instance, only few CBC indicators were pertinent but since they were not included in the programming document, there is no monitoring data on them. Some *additional indicators* are necessary given that existing programme indicators are not sufficient to assess the achievements against the objectives. In addition, programme indicators focus on outputs and results, while impact indicators are not part of the programme, a gap which can be covered with additional indicators. However, additional indicators, no matter how pertinent they may be, cannot be assessed for the same reason as for CBC indicators, i.e. the monitoring system only collects data for the programme indicators. This makes the task of the evaluation difficult and reduces the possibility to assess their net values.
- *Regionalisation:* a) official data is not always available at NUTS3 level; b) monitoring systems do not necessarily collect data in this way, for instance POCTEP collects data by project; c) the perception of actors for qualitative assessments does not follow this logic either; d) there are multiple sources for regionalised data but they are hard to access (chambers of commerce, associations and specialised agencies like for innovation), the process is time consuming (need to contact all these sources, overcome data protection issues) and the data may not be comparable (different definitions used, different timescales covered, different territorial units covered).

For the assessment of POCTEP, monitoring data was only available at programme level. However, financial expenditure was available at project level by NUTS3 area. Therefore, in order to achieve the regionalisation of quantitative indicators, we calculated the percentage of expenditure corresponding to each NUTS3 area and then applied this percentage to the indicators (see also section 4.4.3). But given the stage of implementation of the programme (data available only up to 2017), indicator values were generally low (for a few indicators the value was “one”), therefore the application of the expenditure % did not make sense.

The stakeholder workshop was not able to provide an assessment by any type of area (NUTS3 or other) because stakeholders were not representative of all areas and only few of them had an overview of the programme. They were familiar with their projects mainly. Their perceptions were therefore rather general.

For these reasons, we propose the following in order to assess territorial impacts:

- (a) For quantitative indicators, incorporate into monitoring systems the disaggregation of data by a territorial unit (NUTS3 or other, relevant to the programme, e.g. more

developed and less developed regions). In this way, consistent data will be available at any point in time;

- (b) For qualitative indicators, apply a structured focus group method, inviting participants combining: i) representatives of each territorial unit of analysis; ii) representatives of each specific objective analysed; and iii) overview knowledge of the whole programme area (e.g. Managing Authorities, Joint Secretariats);
- *Netting out impacts*: It is important to assess the net effects of programmes in order to obtain useful input for improvements and for future policy. Gross impacts are not reliable as it is not evident whether they happen because of the programme or because of other programmes or other reasons. However, to do this, it is necessary to have sufficient data and information, therefore, the timing of the evaluation is critical (not in the middle of programme implementation and preferably after the end of the programme, especially as some impacts take time to become evident, e.g. improved management of natural resources). This is true whether a “small scale counterfactual” is used or a “funding framework” approach. In the absence of quantitative data, a “qualitative assessment” approach is relevant but needs to be based on a structured method (like the MAPP used in POCTEP) and also requires the programme to be well advanced so that stakeholders can have sufficient implementation experience to make a reliable assessment of the net effects of the programme.

Another important issue is that cross-border cooperation programmes are relatively small compared to other funding instruments present in each territory. It is therefore expected that net impacts would not be significant. For this reason, the evaluation of territorial impacts should focus on indicators that *measure the added value* of cross-border cooperation. For instance, cross-border cooperation does not add much to the creation of enterprises, when there is ERDF or ESF that do so with much larger resources. But cross-border cooperation is expected to make a difference in the promotion of cross-border business or joint business projects and this is what should be assessed. Cross-border cooperation is also expected to bring together actors into joint structures and governance systems whose function can bring benefits to both sides of the border, this is also relevant to measure. In the environmental field, it cannot be expected that a programme of the size of POCTEP will have any significant impact on the conservation of habitats or on water quality, but it can set the basis for such improvements through the creation of joint structures and systems. Therefore, more focused assessment of these aspects is required.

4.7.2 Intervention logic

There is no doubt that the intervention logic should be the starting point for any evaluation. This study confirmed that CBC programmes can be structured along the intervention logic model. It helps identify the flow of effects, from needs to objectives, to measures and finally to results/impacts that are the outcome of measures, contribute to the objectives and respond to identified needs. The intervention logic helps design the tools for the evaluation and identify the data needed. The indicators should be consistent with those included in the programme.

Although CBC indicators can be useful, programmes should incorporate them from the design stage and not later when the evaluation takes place. It was notable that POCTEP did not include any of the CBC indicators and as a consequence, there was no data available. It is of course true that although we found some relevant ones, the majority were not relevant for

POCTEP. Possibly in a future identification of common CBC indicators, a consultation exercise with all Member States should take place.

In addition, the grouping of CBC indicators into European Integration, Regional competitiveness and Cross-border cohesion did not prove useful as we looked for suitable indicators regardless of which group they were in. If they are to be useful, common CBC indicators should be used by programmes in the design phase.

In relation to additional indicators, it is expected that some may be necessary to cover data gaps or changes in the intervention logic that were not captured at the design of the programme, but they should be kept at a minimum since data for additional indicators will most likely not be available.

4.7.3 Upscaling of the methodology

The methodology could be used for any CBC programme provided the lessons learned are incorporated and the difficulties encountered (see above) are addressed. The following proposals may enhance the applicability of the methodology:

- Define a proposed timetable for carrying out a TIA, taking into account the stage of programme implementation and the frequency/timing of data collection/monitoring systems.
- Relevant CBC indicators (depending on the content of the programme, different CBC indicators may be relevant) should be incorporated in the programme documents and monitoring systems for systematic data collection. Stakeholder consultation involving all Member States should lead to a more relevant list of indicators for all.
- Involve stakeholders in the evaluation process to help set out the context (start of the evaluation) and for validation and triangulation purposes (after data has been analysed and some conclusions reached).
- Incorporate some more structured qualitative approaches for the assessment of net impacts, like the MAPP method in the running of workshops. To this end, follow the proposals above regarding the early notification of participants (at least one month in advance), the representativeness of participants (covering all territorial units of the analysis and all specific objectives) and the involvement of actors with a solid programme overview (MAs, Secretariats).
- Enrich the methodology with the experience from counterfactual analysis from other programmes/Funds (e.g. the Evaluation Helpdesk for Rural Development produces numerous guidelines on evaluation, including the evaluation of impacts with the use of robust quantitative approaches).
- Linked to the previous point, monitoring systems should incorporate data for all indicators from the beginning of the programme. In this way, consistent data will be available at any point in time, bearing in mind that impacts can only be assessed if there is sufficient implementation and preferably after the end of the programme as some impacts take time to become evident.
- The communication of evaluation results should combine different formats depending on the target audience, e.g. report and executive summary for programme authorities, powerpoint presentations and newsletters for programme stakeholders or focused dissemination events, leaflets or brochures for informing the general public or even social media campaigns to convey key messages and finally updates of the newsfeed of the programme website.

5 Case study United Kingdom – Ireland

5.1 Introduction

This document acts as a scientific report for the ex-post Territorial Impact Assessment procedure for the CBC Programme United Kingdom and Ireland (Ireland (RoI) – Northern Ireland (NI) – Scotland) within the ESPON TIA CBC project. As this TIA was conducted as a pilot testing a previously developed methodology, the purpose of the report is threefold:

- Brief politicians and policymakers about the results of the Territorial Impact Assessment
- Give extensive evidence for the Territorial Impact of the Programme
- Comment on the methodology applied and its upscalability to other programmes

For policymakers, an executive summary (section 5.2) is included in the report, giving an overview of the results in around 3 pages and informing about the main conclusions derived from the TIA. All this information is backed in detail by the technical summary of the TIA process (section 5.4) and by the comprehensive description of the territorial impact assessment (section 5.5).

This report is produced for a pilot case study within the ESPON TIA CBC project, therefore the methodology applied will be subject to changes based on the experiences gathered within the case study. Section 5.5 acts as the commentary part, where experiences and suggestions for the further methodological development are recorded. Furthermore, the project shall serve as an input to future CBC programmes regarding the indicators used and gathered to conduct a territorial impact assessment. Thus within section 5.5 suggestions for indicators to be collected in the upcoming programming period are recorded.

Disclaimer: as the methodology applied to produce evidence of the territorial impact of the ESPON 2020 Cooperation Programme: United Kingdom and Ireland (Ireland (RoI) – Northern Ireland (NI) – Scotland) CBC programme includes expert workshops and bases various steps on expert knowledge and opinions. Several measures are undertaken to ensure sound and well justified results, however an element of subjectivity based on the participating experts is inherent to the process. The results are meant to be used for decision support only.

5.2 Executive summary

Title of the programme:	Interreg A: United Kingdom and Ireland (Ireland (RoI) – Northern Ireland (NI) – Scotland)
Version:	18/01/2019
First year:	2014
Last year:	2020

The concept of a territorial impact assessment (TIA) for cross border programmes aims at showing the regional differentiation of the impact of a cross border cooperation (CBC) programme on the programme region. The results are based on the methodology of the ESPON TIA CBC project, which combines both quantitative data and qualitative expert assessments

to produce evidence of the territorial distribution of impacts. In the course of the TIA, two expert workshops have been held on the 4 December 2018 in Armagh, NI and on the 11 January 2019 in Belfast and Omagh, NI with participants from health and social care, business development, and water quality backgrounds. The input gathered from and expert discussions held in these workshops have been translated into the present report by the authors from University of Liverpool, UK and University College Dublin, Republic of Ireland.

SO 1.1: SMEs engaged in cross border research and innovation aimed at the development of new products, processes and services

- The main undertaking of the programme is to develop the innovation capability of local businesses and increase the number of SMEs actively participating in cross border research.
- The beneficiaries of the programme are InterTrade Ireland; Enterprise NI Ltd; East Border Region Ltd.; Local Enterprise Offices (Cavan, Donegal, Leitrim, Louth, Monaghan and Sligo); Scottish Enterprise; and Highlands and Islands Enterprise.
- This SO has a funding for € 16 million.
- The main effects that could be created by the programme is an increase in the number of SMEs in the eligible region actively participating in research and innovation activities, specifically on a cross border basis; it also aims to increase the capacity of SMEs and micro-businesses to participate in cross-border research and innovation activities.
- The territorial pattern, illustrates the importance and diversity of SMEs to both jurisdictions, but the north of NI shows a greater negative impact than other areas of NI or within the border region of RoI.

SO 2.4: To improve freshwater quality in cross-border river basins.

- The main undertakings of the programme is to improve the baseline condition of water quality, physical structure and habitat in a number of cross border river basins to contribute towards the achievement of targets relating to good water quality and ecological status of rivers. To develop governance structures and procedures for cross border cooperation (CBC) for wider and longer term outputs. Harmonise measurement, interpretation and community engagement to enable long term engagement.
- The beneficiaries are Northern Ireland Water; Agri-Food and Biosciences Institute; Rivers Trust; East Border Region Ltd; Ulster University; Irish Water; Donegal County Council, Armagh, Banbridge and Craigavon Council; British Geological Survey; Loughs Agency; Geological Survey of Ireland and Inland Fisheries Ireland.
- This SO has funding of € 20 million
- The main effects of the programme could improve the baseline condition of water quality, physical structure and habitat in a number of cross-border catchment areas. This will contribute towards the achievement of targets relating to good water quality and ecological status of all water bodies (rivers, lakes, groundwater, transitional).
- The quality of river water has decreased over time, but this is worse in the North Western River Basin. In Neagh Bann, the quality has remained static with no water bodies increasing to “good” status of the WFD.

SO 4.1: Through collaboration on a cross-border basis, to improve the health and well-being of people living in the region by enabling them to access quality health and social care services in the most appropriate setting to their needs

- The main undertakings of the programme are to meet the needs of patients within a constrained budget environment. CBC will contribute towards more efficient delivery of health care services in the region. CBC is essential to obtain critical mass and economies of scale for service delivery. Supported by combining shared knowledge, experience and best utilisation of scarce clinical and support skills.
- The beneficiaries of the programme are Health Service Executive (HSE); Health and Social Care Board – Public Health Agency; Southern Health and Social Care Trust; Western Health and Social Care Trust; Health Service Executive; and NHS Dumfries and Galloway; National Ambulance Service (RoI); NI Ambulance Service and the Scottish Ambulance Service; CAWT; TULSA; Colin Neighbourhood Partnership; Dundalk Institute of Technology; Louth Leader Partnership; NHS Highlands Argyll & Bute Social and Health Care Trust; Royal National Institute of Blind People (RNIB) Scotland and Fighting Blindness Ireland.
- This SO has funding for € 53 million
- The main effects that could be created by the programme could be to improve local community based access to services, taking advantage of the opportunities presented by developments in ICT, increased cross-border mobility of personnel, increased cross-border integration of professional development opportunities and the achievement of greater economies of scale and effectiveness in healthcare trials. This will result in increased cross-border access and provision of healthcare services beyond the lifetime of the Programme.
- The measurement for decrease in medical prescribing has been used as a proxy to analyse a change to a new model of health and social care for example in this case for an increase in social prescribing. Over the period of analysis both jurisdictions have an increase in medical prescriptions. This is higher in the RoI area.

5.2.1 Initial programme assessment findings

In this case study, Territorial Impact Assessment for Cross Border Cooperation (TIA – CBC) is the form of Targeted Analysis used to evidence cross-border collaboration through the production of relevant indicators. A methodology will be developed to describe the ex-post impact of cross-border collaboration programmes in five INTERREG A border areas: Germany and the Netherlands; Sweden and Norway; Romania and Bulgaria; Spain and Portugal, and the United Kingdom and Ireland (Ireland (RoI) – Northern Ireland (NI) – Scotland). The objective will “allow policy makers and practitioners to obtain evidence on the territorial impact of CBC programmes and help on developing better-informed cross-border policies.”³⁴

The University of Liverpool and University College Dublin have been contracted to deliver the TIA-CBC on behalf of the stakeholder, the Special EU Programmes Body (SEUPB) (Managing Authority and Joint Secretariat). Through a data collection process of desktop case study and workshop action research, the academics will work with local and regional experts in the

³⁴ TIA-CBC (2014-2020) Available at <https://www.espon.eu/TIA-CBC>

Rol/Nl border region to identify relevant indicators within the economic, social and environmental specific objectives of:

- Increasing the number and capacity of SMEs engaged in cross-border research and innovation activity in the region aimed at the development of new products, processes and tradable services.
- Improving freshwater quality in cross-border river basins and
- Collaborating on a cross-border basis, to improve the health and well-being of people living in the region by enabling them to access quality health and social care services in the most appropriate setting to their needs.

5.2.2 Context and programme area description

The “Cross Border Territory” of Ireland is defined as all of NI and six border counties of the Rol: Cavan, Donegal, Leitrim, Monaghan, Louth and Sligo. The “Border Area”, is the border counties of Rol and the adjacent NI local authority areas of: Derry & Strabane; Fermanagh & Omagh; Mid Ulster³⁵; Armagh, Banbridge & Craigavon and Newry, Mourne & Down [see Map 5.9]. The TIA requests an analysis to be undertaken at Nomenclature of Territorial Statistics at level 3 or NUTS 3 for comparability. For NI this was changed on 1 January 2018 from five areas to eleven to match Local Government District (LGD) administrative boundaries whereas for Rol there two NUTS 3 areas, which cover six border county councils: Cavan; Donegal; Leitrim; Monaghan and Sligo (NUTS IE041), and Louth (NUTS IE062), note this also includes the counties of Kildare, Meath and Wicklow) [see Map 5.10]. This is discussed further in section 5.5.

After decades of socio-political conflict and violence, and the resultant economic vulnerability; the region has undertaken a series of cooperation measures to encourage territorial cohesion, regeneration and repopulation along the border. However, the prospect of the UK’s withdrawal from the European Union, the threat of a “hard border” and a return to the political instability of the past is acutely felt in the Border Area and on the existing collaborative peace relationships such as the Good Friday (Belfast) Agreement, which was enshrined in law as the British-Irish Agreement (1999).

The local identity of the border area is referred to by the NI Environment Agency, in the Northern Ireland Landscape Character Assessment as the “Irish term *dinnseanchas*, meaning the spirit of a place” (2014)³⁶. A landscape that shares characteristics and cross border influences. Predominantly rural with small urban settlements. The northern part of the border falls in Derry & Strabane and Donegal. It starts with the Foyle Valley a broad river valley of agricultural land with sparse rural dwellings and a number of border villages. The area includes the Sperrins mountain range of moorland and coniferous forests and the River Foyle, the city of

³⁵ Mid Ulster established in 2015 from a merger of three borough councils Magherafelt, Cookstown and Dungannon & South Tyrone, the latter was the border area borough council

³⁶ Source Northern Ireland Regional Landscape Character Assessment (2014) Northern Ireland Environment Agency Available at <http://doeni.maps.arcgis.com/apps/MapJournal/index.html?appid=dee491ff43c0415fbb986f74c92f39a9>

Derry/Londonderry is centred on the river, which is important for salmon fishing. Following the border southwards to West Tyrone Hills and Valleys, remote and isolated lowland moors and forests, upland grazing and peat bogs. Industry here includes tourism, commercial forestry and gold mining.

Continuing south to Lough Erne Lakeland and the Fermanagh Caveland which are within the administrative boundaries of Fermanagh & Omagh and the RoI counties of Donegal, Sligo, Leitrim and Cavan. A scenic, rural and drumlin landscape dominated by the river Erne and two major loughs. The Fermanagh Caveland is a karst landscape, prolific with caves and sinkholes, isolated, and sparsely populated. It includes the county town of Enniskillen which provides a focus for the main road infrastructure; its series of castles, leisure facilities and wild and remote landscape make it a principle tourist destination.

Moving eastwards along the border to the Clogher Valley and Slieve Beagh of Mid Ulster and Monaghan, an undeveloped, pastoral landscape with Brougher Mountain and the blanket peat bog of Slieve Beagh, an area known for its production of dairy and cheese; although the tranquil location is disturbed by a key road corridor.

Continuing along the border southeast to South Drumlins and Orchards in the Armagh, Banbridge & Craigavon and Monaghan area. A drumlin belt, pastoral landscape, including the ancient town of Armagh which is known for its orchards and fruit growing. The limited road network follows the River Blackwater which forms part of the political border between the two countries.

The final section of the border is Slieve Guillion and South Armagh Hills, of Armagh, Banbridge & Craigavon and Newry, Mourne & Down in NI and Monaghan and Louth counties in RoI. Here the granite mountains of the Ring of Guillion offer a unique landscape. They are the remains of an extinct volcano and a rare example of a ring dyke geological feature. A rural landscape defined by its isolation and sparse settlement (NIEA, 2014)

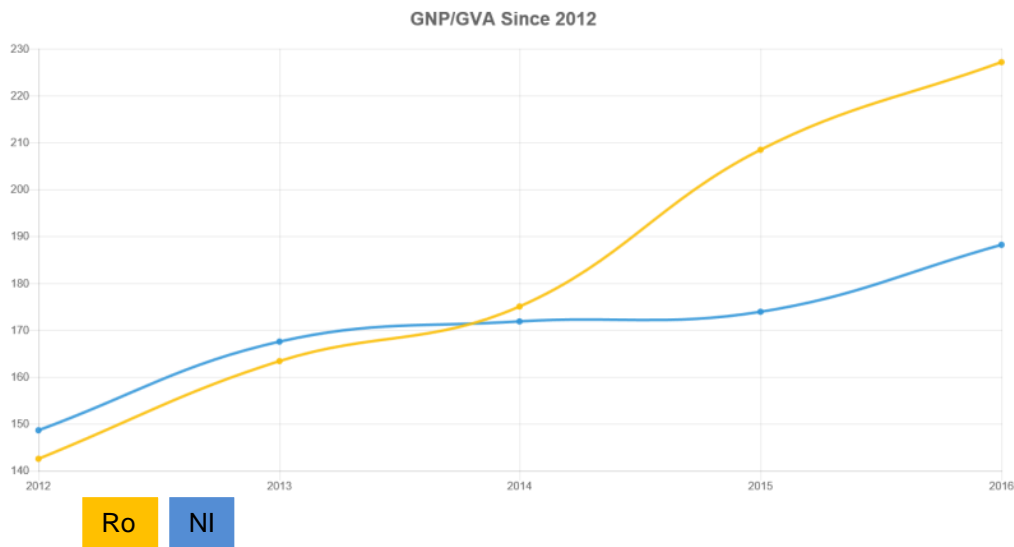
As of 2016, the population of the Border Area is 1,322,623 which represents 11% (523,217) of the population of RoI (4,725 million) and 43% (799,406) of the population of NI (1,875 million)³⁷ (see Map 5.10). Of the total 15% are over 65 years and 22% are aged under 15 years. The least populated local authority area is Leitrim with 32,044 and the most populated is Armagh, Banbridge and Craigavon with 210,260 (see Map 5.10). The population density is low, the lowest areas Leitrim (21/km²) and Donegal (23/km²) in the south and Fermanagh & Omagh (40/km²) in the north. The highest density areas are Louth (156/km²) in the south and Armagh, Banbridge & Craigavon (157/km²) in the north³⁸.

³⁷ Source: Ireland Central Statistics Office (2016) available at <https://www.cso.ie/px/pxeirestat/Statire/SelectVarVal/Define.asp?maintable=EY003&PLanguage=0>
Northern Ireland Statistics and Research Agency (2017) available at <https://www.nisra.gov.uk/publications/local-government-district-briefing-2017>

³⁸ Source: City Population (2018) available at <https://www.citypopulation.de/UK-NorthernIreland.html?cityid=34854>

Comparative indicators for regional economic performance between the countries are illustrated in Figure 5.1 to Figure 5.3³⁹ with GVA, exchange rates and unemployment figures.

Figure 5.1: GNP/GVA since 2012



The figures illustrates the Gross Value Added for NI and the Gross National Product from RoI from 2012 to 2016.

Figure 5.2: Exchange Rates (£-€, 2014-2016)

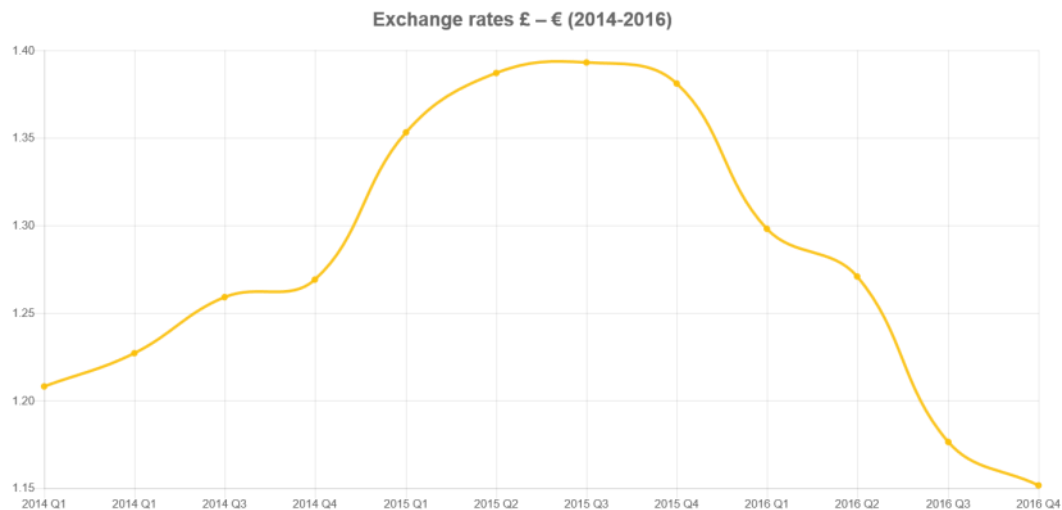


Figure 5.2 illustrates the quarterly average Euro/Sterling exchange rates taken from the Central Bank of Ireland and the Bank of England. A noticeable change is shown in Q3 of 2016 where the Pound weakens following the UK referendum decision to leave the EU. Sterling continued to fall in 2017.

³⁹ Source InterTradeIreland (2018) available at <https://intertradeireland.com/insights/trade-statistics/regional-economic-indicators/>

Figure 5.3: Unemployment Rate since 2010

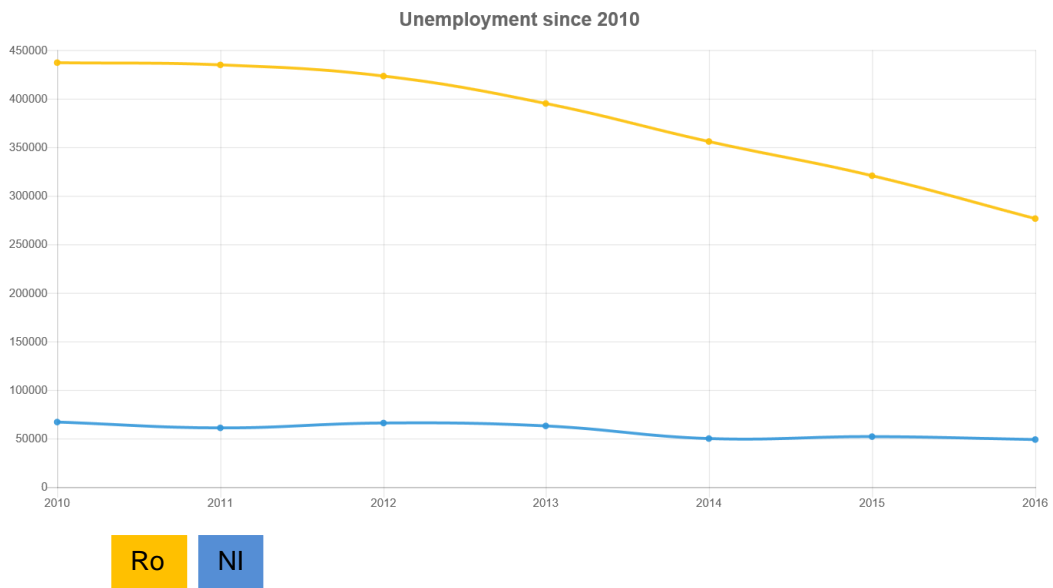
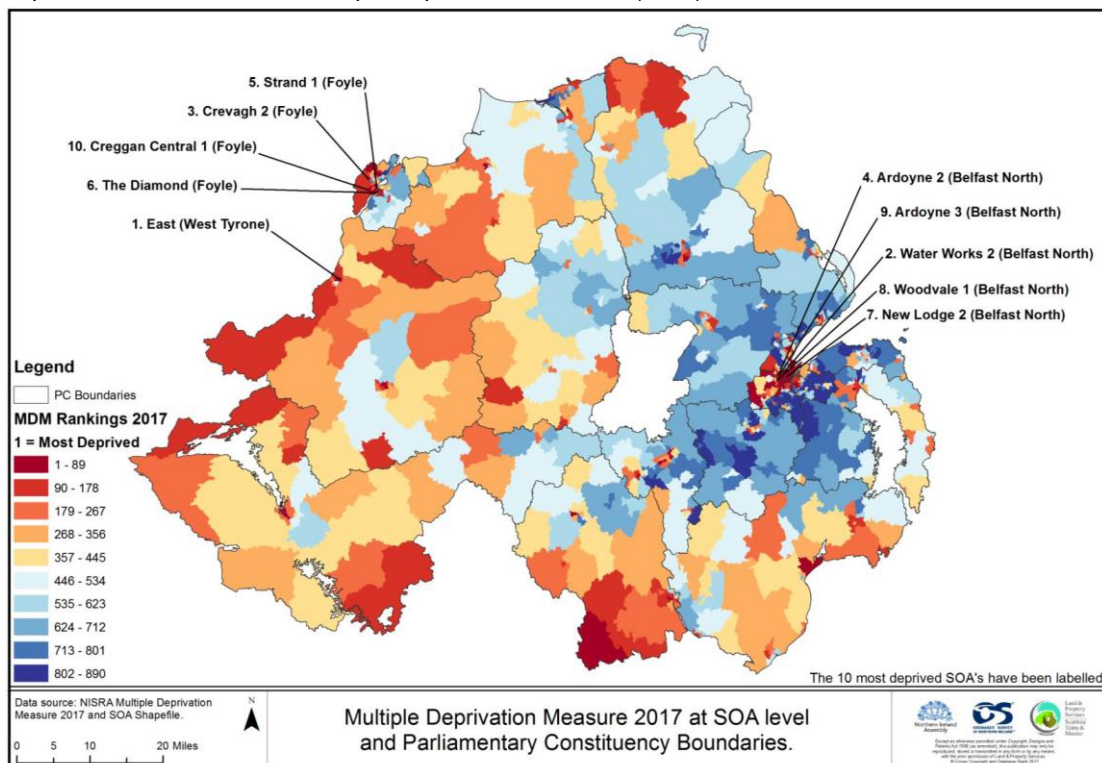


Figure 5.3 shows the annual average number of unemployed persons in RoI and NI with gradual falls from 2011 to recent years, for the whole island. The fall is more marked in RoI than NI.

Map 5.1: NI Index of Overall Multiple Deprivation Measures (2017)



Source Devlin, et al (2018) Multiple Deprivation in Northern Ireland Northern Ireland Assembly Research and Information Service Research Paper (June 2018 p. 7)

Deprivation measures are calculated using rankings on income; employment; health; education, skills and training; access to services; living environment, and crime and disorder at a

lower layer super output areas (SOAs) or ward level. Map 5.1 shows the index within parliamentary constituency boundaries. Those constituencies on and near to the border with RoI fall within the most deprived areas of NI. There is no comparable Index for RoI.

In 2017, the Irish Central Border Area Network (ICBAN) a group of border area local authorities, reported on key characteristics of the area in the context of UK withdrawal from the EU. They calculate that 30,000 people cross the border for work with over 200 crossing points. From 1994 to 2020 NI will have received € 17 billion in European funding, ICBAN has levered in £ 50 million funding for the border area and in 2014, North-South cross border trade in goods and services was estimated at € 6 billion.⁴⁰ The agricultural sector accounts for 63% of NI exports to Ireland and the RoI exports 41% of its food industries supplies to the UK. For example RoI mushroom farmers export 80% to the UK, with five companies recently closing, citing early “Brexit” impacts, uncertainty and exchange rate changes (ICBAN, 2016, 3)⁴¹.

The lack of clarity from negotiations on Brexit has raised concerns for the far reaching implications for the people living and working in the region. ICBAN fear for the progress made to date on reconciliation and partnership working, and argue for the following:

- No disruption to daily life, due to changes in border arrangements.
- Vital funding supports from Europe must be maintained through a long-term investment strategy and plan.
- Pre-existing border developments for infrastructure capabilities must continue their development lifecycle.
- Local leadership must be empowered to participate in the decision-making for the region.
- Existing good relationships both institutionally and constitutionally must be maintained (ICBAN, 2017 p.3-4)

Hayward (2018)⁴² has recently undertaken qualitative research collating the perceptions, fears and aspirations about “Brexit” from people living and working in the border area. Concerns focus on whether a hard or technological border will be imposed and the detail of how this will operate. The current impacts on their lives during negotiations (exchange rates, food prices, cross border employment, investments, house prices and land use). The security concerns for the area and wider afield if there is a return to the conflict of the past. The return of division; soldiers in the streets, paramilitary activity, protests, bombing attacks, and an increase in other criminal activity such as smuggling, human trafficking and the drugs trade. Other anxieties include access to services such as health facilities, retail options, leisure and

⁴⁰ Source: ICBAN (2017, p2) Brexit, the case for the central border region of Ireland/Northern Ireland available at <http://icban.com/site/wp-content/uploads/2018/03/Brexit-The-Case-for-the-Central-Border-Region-of-Ireland-Northern-Ireland-Mar-2017.pdf>

⁴¹ ICBAN (2016) Inquiry: Future of the Land Border with the Republic of Ireland Available at <http://icban.com/site/wp-content/uploads/2018/03/ICBAN-Submission-to-NI-Select-Committee-Inquiry-Oct-16.pdf>

⁴² Hayward, K. (2018) Brexit at the Border: Voices of Local Communities in the Central Border Region of Ireland/Northern Ireland Available from <http://icban.com/site/wp-content/uploads/2018/06/Brexit-at-the-Border-FINAL-Jun-18.pdf>

education amenities. Access to European funding streams for cross-border initiatives and a lack of representation for the communities of the cross border area. This is compounded by the Democratic Unionist Party (DUP) confidence and supply agreement with the Conservative Party, Sinn Féin refusal to take their seats in Westminster and the collapse of the Northern Ireland devolved government at Stormont. (2018, 5-11)

5.2.3 Programme framework characterisation

For analysis a Specific Objective (SO) was selected from Thematic Objectives (TO) covering Economy, Environment and Society. These SOs are discussed by illustrating the justification for selection, the main changes sought, the activities undertaken, the beneficiaries targeted and the level of funding awarded.

- *Specific Objective 1.2:* To increase the number and capacity of SMEs engaged in cross-border research and innovation activity in the region aimed at the development of new products, processes and tradable services
- *Priority Axis 1, Research and Innovation (TO 1, IP 1b)*

Brief Justification: To increase the number of SMEs in the eligible region actively participating in research and innovation activities, specifically on a cross border basis; it also aims to increase the capacity of SMEs and micro-businesses to participate in cross-border research and innovation activities.

Main change sought: Increase the percentage of SMEs in the eligible region involved in research and innovation involving cross-border collaborations (22% in 2014 to 33% in 2023)

Activities undertaken: The Co-Innovate Project, led by InterTrade Ireland, supports over 1,400 SMEs and micro-businesses in manufacturing and tradable services with export potential in RoI, NI and Scotland. The project provides education and capability support, delivers innovation audits, and innovation capability building in cooperation with research institutions. The project will also increase the number of businesses actively participating in cross-border, transnational or interregional research projects and give SMEs and micro-businesses access to up to 70 “innovation interns” to help implement enhanced R&I activity.

Beneficiaries: InterTrade Ireland; Enterprise NI Ltd; East Border Region Ltd.; Local Enterprise Offices (Cavan, Donegal, Leitrim, Louth, Monaghan and Sligo); Scottish Enterprise; and Highlands and Islands Enterprise.

Funding: € 16 million

- *Specific Objective 2.4:* To improve freshwater quality in cross-border river basins.
- *Priority Axis P2 Environment (TO 6, IP 2b)*

Brief Justification: To improve the baseline condition of water quality, physical structure and habitat in a number of cross-border catchment areas. This will contribute towards the achievement of targets relating to good water quality and ecological status of all water bodies (rivers, lakes, groundwater, transitional).

Main change sought: Increase the percentage of cross border freshwater bodies in cross border river basins with good or high quality (baseline 32% in 2014, target 65% in 2023)

Activities undertaken: The Source to Tap Project, led by Northern Ireland Water aims to improve water quality on both sides of the border. Upon completion, the project will protect the region's sources of freshwater found in Lough Derg and Lough Erne and thereby help ensure compliance with the EU's Drinking Water Directive. Working with farmers and other land managers, it will help reduce pesticide and fertiliser run-off, which can find its way into the watercourse. It will also pilot measures with forestry operators to reduce water pollution caused by tree felling, which can lead to increased levels of silt in freshwater drinking supplies. The project aims to restore 135 hectares of land back to natural peat habitat. .

The Catchment Care Project, led by Donegal County Council, will establish 3 water quality improvement projects in the Finn, Blackwater and Arney Catchments and install 51 boreholes across the region. The project is to deliver sustainable solutions to avoid pollution of drinking water sources via a SCAMP water tank, which meets the Water Framework Directive.

The SWELL (Shared Waters Enhancement and Loughs Legacy) brings together key state-owned water companies from Northern Ireland (NI Water) and Ireland (Irish Water), and in partnership with the Agri-Food & Biosciences Institute, the Loughs Agency and East Border Region Ltd, will utilise best practice and tap into individual areas of expertise to improve wastewater treatment assets, benefitting 10,000 people on a cross-border basis.

Beneficiaries: Northern Ireland Water; Agri-Food and Biosciences Institute; Rivers Trust; East Border Region Ltd; Ulster University; Irish Water; Donegal County Council, Armagh, Banbridge and Craigavon Council; British Geological Survey; Loughs Agency; Geological Survey of Ireland and Inland Fisheries Ireland.

Funding: € 20 million

- *Specific Objective 4.1:* Through collaboration on a cross-border basis, to improve the health and well-being of people living in the region by enabling them to access quality health and social care services in the most appropriate setting to their needs.
- *Priority Axis P4 Health (TO 9, IP 4a)*

Brief Justification: Achievement of the specific objective will require investment in improving local community based access to services, taking advantage of the opportunities presented by developments in ICT, increased cross-border mobility of personnel, increased cross-border integration of professional development opportunities and the achievement of greater economies of scale and effectiveness in healthcare trials. This will result in increased cross-border access and provision of healthcare services beyond the lifetime of the Programme.

Main change sought: Increase the number of episodes of health, community and social care delivered on a cross-border basis (4,700 in 2014 to 9,000 in 2023)

Activities undertaken: The Community Health Sync (CoH-Sync) Project, led by the Health Service Executive (HSE), aims to "synchronise" the efforts of the community, voluntary and

statutory health sectors in order to improve the health and well-being of individuals and communities. CoH-Sync will assist people to improve their lives by enabling them to find ways to sustainably increase their health and well-being within a supportive community development framework. It will help to break down barriers between the statutory and community sectors by creating locally based health and well-being Community Hubs. In addition, CoH-Sync will explore and utilise novel approaches to health behaviour change, especially in relation to deprived populations, thereby reducing health inequalities.

The Innovation Recovery (I-Recover) Project, led by the Health Service Executive (HSE) on behalf of the CAWT Partnership (Co-operation and Working Together (CAWT) Cross Border Health and Social Care) to improve the quality of mental healthcare provision on both sides of the border. The project will adopt a collaborative approach to working with people suffering from mental illness, where they become partners in their own recovery process. The project, which will target up to 8,000 participants, represents a radical shift from the medical model of treatment for people who have experienced mental health issues to a more social model. E-health solutions will be used in the delivery of the project to enable promotion and continuation of the mental health recovery process. The design of these solutions will be informed by the views of service users, carers and mental health staff, and be based upon examples of best practice from other areas.

The Acute Hospitals Services project aims to assess and treat higher volumes of patients more effectively both in scheduled and unscheduled care pathways through improved/reformed service delivery models on a cross border basis. Scheduled care will focus on the specialties of dermatology, urology and vascular. Unscheduled care initiatives include a new advanced community paramedic service, clinical decision unit, community cardiac investigations and a community geriatrician led service. Innovative technologies will be used where appropriate to deliver the new services in this project. In addition specialist training for staff will be delivered. It is planned that 13,000 patients will benefit from these innovative services

The Multiple Adverse Childhood Experiences (MACE) Breaking the Cycle Project, led by the Health Service Executive (HSE), will help transform the lives and provide new opportunities for up to 3,125 vulnerable families with children aged 0-3 and 11-13 years who are most at risk from multiple adversities in their lives. The project will engage in early intervention, providing nurturing and support within their own homes and communities. It will devise and implement a cross-border framework for the identification and assessment of families at risk from multiple adverse experiences and deliver a programme of tailored, evidence based, best practice interventions which reduce risks and minimise the impact of adversity on children and vulnerable families.

The mPower: Connecting Citizens, Communities and Services Project, led by the Scottish Centre for Telehealth and Telecare, will assist people in living well, safely and independently in their own homes, supported by a modernised infrastructure for healthy aging. This will be of

particular benefit for older people living in isolated rural communities. It will champion a preventative approach to care, supporting societal change by empowering more people to self-manage their health and care issues in the community using e-Health solutions.

The Changing Lives Initiative, led by the Clondalkin Behavioural Initiative will focus on the most disadvantaged areas where, Attention Deficit Hyperactivity (ADHD), prevalence is highest. The aim is to develop a common framework across jurisdictions, standardising access, client screening, referral, training, research, treatment, and post-treatment processes. The project will target 2,000 vulnerable families.

The Need to Talk (NTT) Project, led by the Royal National Institute of Blind People (RNIB), will address the social isolation and emotional distress which is often experienced by people with sight loss, and which is exacerbated in rural isolated areas where people are reliant on very limited public transport services to access support. In total, over 1,600 people will benefit from new cross-border initiatives for people with disabilities of all ages who are socially isolated and 600 from e-Health interventions to support independent living.

Beneficiaries: Health Service Executive (HSE); Health and Social Care Board – Public Health Agency; Southern Health and Social Care Trust; Western Health and Social Care Trust; Health Service Executive; and NHS Dumfries and Galloway; National Ambulance Service (RoI); NI Ambulance Service and the Scottish Ambulance Service; CAWT; TULSA; Colin Neighbourhood Partnership; Dundalk Institute of Technology; Louth Leader Partnership; NHS Highlands Argyll & Bute Social and Health Care Trust; Royal National Institute of Blind People (RNIB) Scotland and Fighting Blindness Ireland.

Funding: € 53 million

5.3 TIA Process

The territorial impact assessment process leans on desk research as well as expert input in a workshop setting. The systemic picture of the programme functioning (Intervention logic), the indicator selection, the net impact determination as well as the conclusions are never attributed to one method alone, but are always the result of a joint effort. The core element of the process is the Impact Assessment Matrix (IAM) which is presented in section 5.3.3. In this section, the working steps are described which are undertaken to produce the evidence of the territorial impact, the elaboration of the impacts and the conclusions derived thereof are presented in the following section.

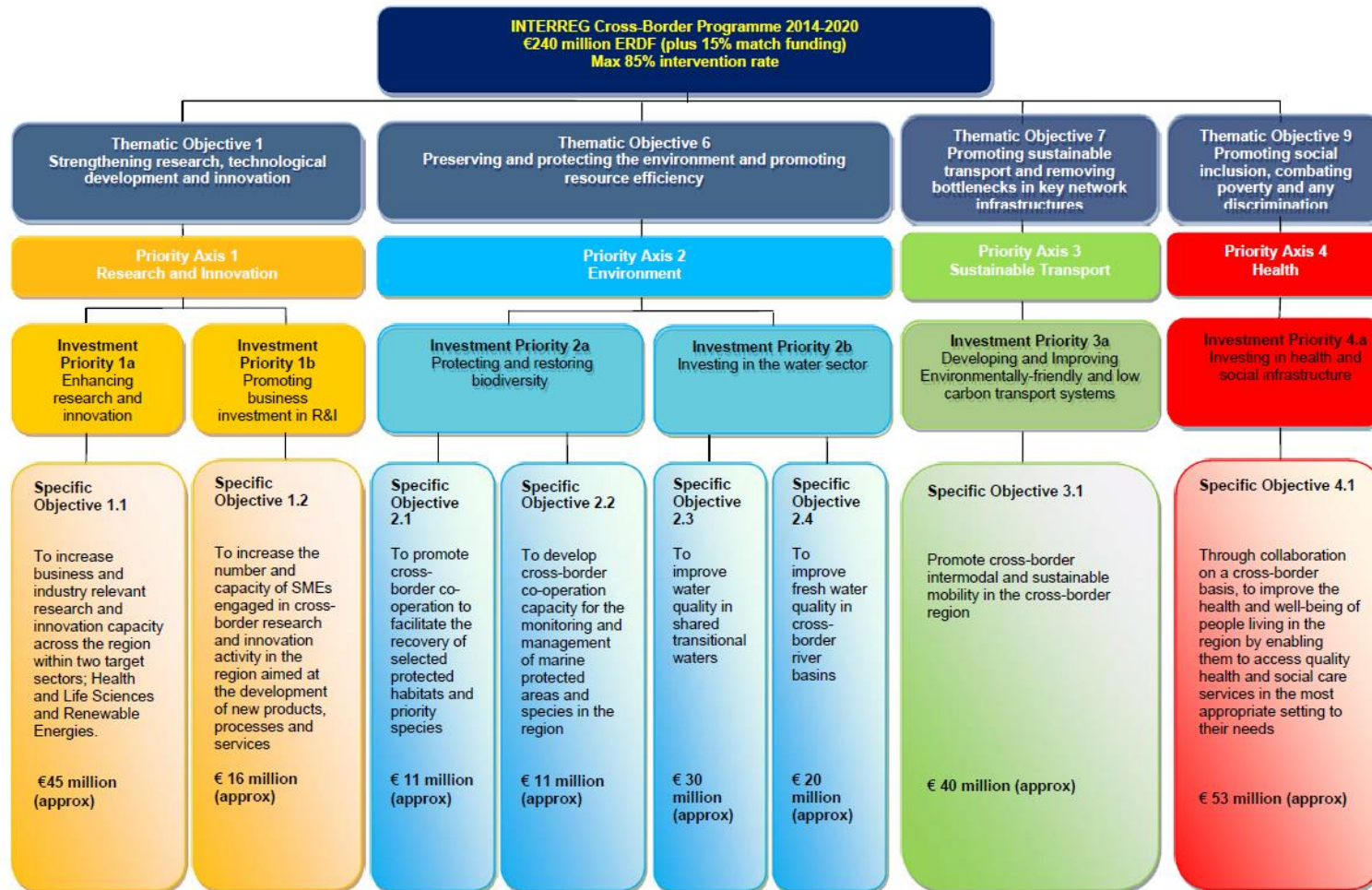
5.3.1 Selection of TOs and TIA area

The financial allocations for the INTERREG A: Cross-border Programme for Territorial Cooperation 2014-2020, NI, Border Region RoI and Western Scotland is illustrated in Figure 5.4, INTERREG A: Funding Priorities and Objectives

The Society SO (4.1) is the entire funding allocation for TO9 at € 53 million, which equates to 22% of the total budget. The selected Environment SO (2.4) of € 20 million, equates to 8% of the total budget and the selected Economy SO (1.2) of € 16 million, equates to 6% of the total budget. SOs were selected to ensure the three legged stool approach of the pillars of sustainability.

In continuous consultation with the Managing Authority and following on from advice, the TIA area of analysis did not include Western Scotland because of the geographic and time requirements for analysing two devolved nations and the Republic of Ireland. The TIA was focused on the land border region between Northern Ireland and the Republic. The TOs and SOs were reduced after the Managing Authority emphasised the difficulties of data collection and in the context of Brexit preparations the possibility of “consultation fatigue” from potential expert participants.

Figure 5.4: INTERREG A: Funding Priorities and Objectives



Source: SEUPB, Output Indicator Guidance (2016) Available at https://www.seupb.eu/sites/default/files/OutputIndicators/IVA_2016-03-30_IndicatorGuidanceDocumentTheme1_2InnovationCapacity.pdf (Last accessed 17/01/19)

5.3.2 Finalized intervention logic

The intervention logic represents the systemic picture of how the programme functions in the programme area. The *needs* identified for the regions are tackled by *measures* funded through the programme. These measures have *effects* on the region, which are depicted via *indicators* in a territorial impact assessment. The indicators are either

- result indicators applied by the programme itself – marked (R)
- common CBC indicators as provided by the methodological handbook – marked (C)
- additional indicators developed by each case study tailored to the programme –marked (A)

The intervention logic is a chain establishing a logical and coherent link between the programme, the effects on the regions and the indicators measuring these effects. It is the necessary basis for all further assessments made.

Table 5.1: Finalised Intervention Logic

Needs	Measures	Effects	Indicators
SO 1.1: SMEs engaged in cross border research and innovation aimed at the development of new products, processes and services			
Develop the innovation capability of local businesses and increase the number of SMEs actively participating in cross border research.	No. of enterprises receiving support (no.1408)	Widen the definition of research institute as currently too narrow (NB. Only 3 institutes in border region) Expand concept of border region as not reflected in operations	No. of SMEs collaborating with research institutes (R)
Target: The percentage of SMEs in the eligible region involved in research and innovation cross border collaborations (22%, no. 223 in 2014 to 33%, no. 676 in 2023)	No. of enterprises receiving grants (no.19)	Increase in CB goods and tradable services	No. of SMEs declaring cross border exports in goods and services (C)
	No. of enterprises cooperating with research institutions (no. 50)	Maintain and strengthen whole Border Region Economy Confirm methods of measurement and monitoring for regional economy	Productivity/Growth in the region (A)
	No. of enterprises participating in cross-border, transnational or interregional research projects (no. 19)	Reduction in threats to free movement of capital and labour Changes in policy and regulations (e.g. Barriers Market)	Creation of digital systems for CB workers/citizens and employers (C)
	No. of research institutions participating in cross-border, transnational or interregional research projects (no.5)	Increases in CB employment for both newly created and maintained SMEs	Measurement of the diversification in the regional economy (C)
	No. of enterprises receiving one to one innovation advice (no. 469)	Generation of added value/innovation through peer support/networking Increases in CB partnerships and research projects	No. of people undertaking innovation development workshops/training (C)
	No. of enterprises in receipt of an Innovation Capability Development Programme (no. 94)		
	No. of enterprises engaging an Innovation Intern (no. 70)		

Needs	Measures	Effects	Indicators
SO 2.4: To improve freshwater quality in cross-border river basins.			
Improve the baseline condition of water quality, physical structure and habitat in a number of cross border river basins to contribute towards the achievement of targets relating to good water quality and ecological status of rivers	Establish citizens water quality monitoring initiative	Compliance with EU Water Framework and Drinking Water Directives Region's sources of water protected Improvement of river basin water in border region Improvement ecological status of river basin water in region	Measure of ecological status against WFD elements (R)
To develop governance structures and procedures for cross border cooperation (CBC) for wider and longer term outputs	No. of farmers on Land Incentive Scheme	Enhanced cross border cooperation on conservation Improved cross border governance on engagement (technical, community, policy and national level)	Research results at sites by monitoring agencies and universities (R)
Harmonise measurement, interpretation and community engagement to enable long term engagement	School Education Programme	Increase awareness of water pollution in region for communities and farmers	Hectares of agricultural land in Incentive Scheme (R)
Target: Increase percentage of cross border fresh water bodies in cross border river basins with good/high quality (WFD compliance)	Construction of sediment traps/pools	Increased methods of education or enforcement for industry Reduction in pesticide/fertilizer run off and developing bank trampling and dredging Reduction in levels of silt due to tree felling	Shared water related activities in irrigated agriculture use of willow for bio remediation (willow supply chain) (A)
	Restore hectares of land to natural peat-land (135 ha)	Capacity build local communities Empowerment of public to participate in improving quality of river basin water and encouraging an on-going legacy beyond project completion	Qualitative feedback from "citizen scientists" volunteers (A)
	Water quality improvement projects Install bore holes (no. 51) Upgrade/construct water treatment facilities	Improvement of waste water treatment assets Restoration of land back to natural peat habitats	No. organisations cooperating across borders post project completion (C)

SO 4.1: Through collaboration on a cross-border basis, to improve the health and well-being of people living in the region by enabling them to access quality health and social care services in the most appropriate setting to their needs.

Challenges to meet the needs within a constrained budget environment. CBC will contribute towards more efficient delivery of health care services in the region. CBC is essential to obtain critical mass and economies of scale for service delivery. Supported by combining shared knowledge, experience and best utilisation of scarce clinical and support skills	Develop new cross-border area interventions to support positive health and well-being and the prevention of ill health (no. 12)	Increased CBC access and provision of Healthcare services beyond the life time of the programme Primary care and older people services, supporting caring communities and independent living	Decrease in chronic disease due to early intervention (A)
Target: No. of episodes of health, community & social care delivered and the no. staff trained on a cross-border basis. (No. 4,700 in 2018 to 41,125 in 2022 – NB target for 5 of the total 7 projects)	Beneficiaries supported by new cross-border area initiatives for positive health and well-being and the prevention of ill health (no. 15,000)	Promotion of CBC mental and emotional resilience and recovery	Decrease in prescribed medicines (A)
	Develop new cross-border area community support services to support disabled people who are socially isolated (including the use of web-based information outlining community assets) (no. 2)	New social model for mental health recovery	Increase in social prescribing (A)
	Beneficiaries supported by new cross-border area initiatives for disabled people of all ages who are socially isolated (no. 4000)	New models of working, better use of scarce physical, financial and human resources	Increase in the no. robotic surgical techniques (R)
	Develop a new cross-border area community and voluntary sector infrastructure to support clients who have recovered from mental illness (including utilisation of e-health e.g. patient records and support services) (no. 1)	New technological solutions to healthcare delivery	Increase in e-Health services (R)
	Cross-border area clients in receipt of mental illness recovery services (no. 8000)	Reduced risks and minimise impact of adversity on children and vulnerable families	No. children cared for near to home/family (A)
	Develop and implement new border area frameworks for early intervention with vulnerable families (no. 2)	Increased cohesion and synergy between Statutory and Voluntary and Community sectors	Increase in educational attainment (A)

Needs	Measures	Effects	Indicators
	Vulnerable families in receipt of an intervention (no. 5000)	Services supported by interoperability of patient records	Distance/accessibility to treatment centre (A)
	Establish cross-border frameworks, for scheduled and unscheduled care streams, to improve utilisation of scarce human, physical and financial resources (no. 4)	Reduction in health inequalities with individuals and groups becoming more active in their own health and wellbeing plans	Increase no of treatments made in patients home (R)
	Patients benefitting from scheduled and unscheduled care streams (no. 15000)		
	Patients availing of e-health interventions to support independent living in caring communities (no. 4500)		
	Patients availing of a shared cross-border framework and service for the identification, assessment and referral of patients identified as "at risk" of isolation and social exclusion (no. 2500)		
	Number of staff trained (no. 4100)		
	Develop infrastructure and deliver cross-border area health care intervention trials for novel but unproven healthcare interventions to prevent and cure illness (no. 10)		
	E-health research and evaluation mechanism for the evaluation of e-health and m-health solution (no.1)		

5.3.3 Indicators

5.3.3.1 Indicator data

Indicators linked to effects in the intervention logic presented above have been populated with quantitative data wherever possible. It was aimed to obtain data for the baseline year as close as possible to 2014, and for the reference year as close as possible to the current year (2018). In this way, quantitative data for three indicators could be collected. For nineteen indicators, no quantitative data is available so a qualitative assessment in an expert workshop was conducted. The metadata for these indicators is provided in Table 5.2.

Table 5.2: Indicators

Name	Source	Baseline Year	Reference Year	Assessment method	Common CBC Indicator (Y/N)
No. of SMEs collaborating with research institutes	Expert Workshop	2014	2018	qualitative	N
No. of SMEs declaring cross border exports in goods and services	Expert Workshop	2014	2018	qualitative	Y
Productivity/Growth in the region	Expert Workshop	2014	2018	qualitative	N
Creation of digital systems for CB workers/citizens and employers	Expert Workshop	2014	2018	qualitative	Y
Measurement of diversification in the regional economy	NISRA/CSO	2014	2016 2018	quantitative	Y
No. of people undertaking innovation development workshops/training	Expert Workshop	2014	2018	qualitative	Y
Measure of ecological status against WFD elements	Daera/Catchments.ie	2010 2015	2015 2018	quantitative	N
Research results at sites by monitoring agencies and universities	Expert Workshop	2014	2018	qualitative	N
Hectares of agricultural land in Incentive Scheme	Expert Workshop	2014	2018	qualitative	N
Shared water related activities in irrigated agriculture use of willow for bio remediation (willow supply chain)	Expert Workshop	2014	2018	qualitative	N
Qualitative feedback from "citizen scientists" volunteers	Expert Workshop	2014	2018	qualitative	N
No. organisations cooperating across borders post project completion	Expert Workshop	2014	2018	qualitative	Y
Decrease in chronic disease due to early intervention	Expert Workshop	2014	2018	qualitative	N
Decrease in prescribed medicines	CSO/HSE	2014	2016 2017	quantitative	N
Increase in social prescribing	Expert Workshop	2014	2018	qualitative	N
Increase in the no. robotic surgical techniques	Expert Workshop	2014	2018	qualitative	N
Increase in e-Health services	Expert Workshop	2014	2018	qualitative	N
No. children cared for near to home/family	Expert Workshop	2014	2018	qualitative	N

Name	Source	Baseline Year	Reference Year	Assessment method	Common CBC Indicator (Y/N)
Increase in educational attainment	Expert Workshop	2014	2018	qualitative	N
Distance/accessibility to treatment centre	Expert Workshop	2014	2018	qualitative	N
Increase no of treatments made in patients home	Expert Workshop	2014	2018	qualitative	N

The following common CBC indicators are classified by European integration, regional competitiveness and cross border cohesion:

European Integration

- Creation of digital systems for CB workers/citizens and employers
- No. organisations cooperating across borders post project completion

Regional Competitiveness

- No. of SMEs declaring cross border exports in goods and services
- Measurement of diversification in the regional economy
- No. of people undertaking innovation development workshops/training
- No. of patent applications
- No. organisations cooperating across borders post project completion

Cross border Cohesion

- No. organisations cooperating across borders post project completion

5.3.3.2 Net impact determination

The indicator data obtained as described above represents a gross value, thus an assessment of how big the net contribution of the programme for each quantitative indicator value has been conducted based on a “small scale counterfactual” approach. Qualitative interviews were held with the beneficiaries within the programme who were able to discuss the benefits and their observations of the programme compared to potential beneficiaries not funded by the programme. These interviews took place with ten of the original workshop participants during the second workshop session.

The regional experts discussing territorial impacts were supported by a number of programme experts who include:

- Programme managers with expertise in transnational and interregional programmes in Northern Ireland, monitoring and evaluation of INTERREG VA and PEACE IV programmes, application, assessment and implementation of European programmes, capturing of monitoring data and management of projects.
- A Statistician from the Northern Ireland Statistical Research Agency
- An Artist, providing illustration skills for a participation technique called Graphic Recording.

The local experts discussing territorial impacts and indicators for river water quality include:

- a Hydromorphologist, responsible for monitoring the water quality under the EU Water Framework Directive for Northern Ireland Environment Agency (NIEA);

- a Professor of Behavioural Biology, and former Special Advisor to the Northern Ireland Assembly on the Environment and Climate Change Inquiry and current member of the Northern Ireland Council for Nature Conservation and Countryside, a statutory advisor to the Department of Environment and Rural Affairs;
- a Senior Engineer, for Donegal County Council, Republic of Ireland, and member of the Catchment Care project, an activity funded to meet Specific Objective 2.4: To improve freshwater quality in cross-border river basins. (see page 10), and
- a Senior Planner, for Armagh, Banbridge and Craigavon Council (a NUTS 3 region) and member of the Local Development Plan team working on master planning for the region.

Local experts discussing indicators and territorial impacts on health include:

- Leading members of the development centre that facilitates cross border cooperation between the health and care sector for both jurisdictions and administrators of European funded programmes in cross border collaboration. The centre works in partnership with the Health Service Executive, the Public Health Authority, the Health and Care Trusts and the Department of Health.

The experts discussing territorial impacts on the economy include:

- Policy Research Manager, from Intertradelreland, an organisation set up over 20 years ago as part of the Good Friday Agreement to support small and medium sized businesses in both countries to explore avenues for increased cross border trading. They also provide a Brexit Advisory Service to help SMEs prepare for the UK withdrawal from the EU. The organisation is funded by the Department of Business, Enterprise and Innovation (RoI) and the Department for the Economy (NI).
- Project Manager, for a funded project “Co-Innovate” which aims to increase the innovation capability of SMEs in the border region and increase the number participating in cross border research. (the project is led by InterTradelreland , Enterprise Northern Ireland, East Border Region and the Local Enterprise Offices in the border counties of Ireland)

5.3.3 Impact Assessment Matrix

The results of each working step of the TIA process have been fed into the Impact Assessment Matrix (IAM), representing the combined input of the case study team as well as the experts taking part in the TIA workshops. The IAM provides a comprehensive overview of those working step results and is the basis on which the textual impact assessment in the following section is formulated. However, the qualitative approaches for indicator selection or design is lacking any data for territorial analysis. The funded projects launched at the end of 2017, and the first workshop was at the end of 2018, means there are data gaps. As impacts are yet to be felt within the different territories. The narrative in section 5.4 summarises the discussions with the experts during both workshops.

Table 5.3: Impact Assessment Matrix

Indicator	Assessment method	Nature of Impact	North Western		Neagh Bann	
			RoI	NI	RoI	NI
Measure of ecological status against WFD elements (see Map 5.3)	Quantitative	Value T0	100		134	
		ValueT1	101		134	
		Gross impact	1		0	
		Net impact calculation method				
		Net impact				
		Justification, notes				
			RoI	NI		
Decrease in prescribed medicines (see Map 5.7)	Quantitative	Value T0	8,922,352		14,505,970	
		ValueT1	9,122,719		15,213,034	
		Gross impact	200,367		707,064	
		Net impact calculation method				
		Net impact				
		Justification, notes				
			RoI	North NI	West & South NI	
Measurement of diversification in the regional economy e.g. No. of Property SMEs (see Map 5.8)	Quantitative	Value T0	1222	345		440
		ValueT1	1310	285		575
		Gross impact	88	-60		135
		Net impact calculation method				
		Net impact				
		Justification, notes				
			7% increase RoI; 17% decrease North NI and 31% increase W&S NI			
Indicator	Assessment method	Nature of Impact		NI	RoI	
Research results at sites by monitoring	Qualitative	Magnitude (0-2)		2		2

Indicator	Assessment method	Nature of Impact	NI	RoI
agencies and universities		Direction against baseline	+	+
		Temporal distribution (short/medium/long term)		SHORT
		Justification, notes In line with the outputs/outcomes of the WFD		
Hectares of agricultural land in Incentive Scheme	Qualitative	Magnitude (0-2)	?	?
		Direction against baseline	?	?
		Temporal distribution (short/medium/long term)		UNKNOWN
		Justification, notes Grant scheme newly open still taking applicants		
Shared water related activities in irrigated agriculture use of willow for bio remediation (willow supply chain)	Qualitative	Magnitude (0-2)	1	1
		Direction against baseline	+	+
		Temporal distribution (short/medium/long term)		ALL
		Justification, notes This is linked to the indicator above as it funds this activity, from local experience with to pilot schemes		
Qualitative feedback from "citizen scientists" volunteers	Qualitative	Magnitude (0-2)	2	2
		Direction against baseline	+	+
		Temporal distribution (short/medium/long term)		ALL
		Justification, notes ,Suggestion of experts based on their experience. Requires data collection at project level		
No. organisations cooperating across borders post project completion	Qualitative	Magnitude (0-2)	1	1
		Direction against baseline	+	+
		Temporal distribution (short/medium/long term)		?
		Justification, notes Depends on the Brexit negotiations		
No. of SMEs collaborating with research institutes	Qualitative	Magnitude (0-2)	1	1
		Direction against baseline	+	+
		Temporal distribution (short/medium/long term)		SHORT

Indicator	Assessment method	Nature of Impact	NI	RoI
		Justification, notes Programme launched at the end of 2017, local experts assume this will increase		
No. of SMEs declaring cross border exports in goods and services	Qualitative	Magnitude (0-2)	1	1
		Direction against baseline	+	+
		Temporal distribution (short/medium/long term)	SHORT	
		Justification, notes Depends on outcome of Brexit negotiations		
Productivity/Growth in the region	Qualitative	Magnitude (0-2)	0	0
		Direction against baseline	0	0
		Temporal distribution (short/medium/long term)	?	
		Justification, notes The effects are measured at a local level, at the regional level this will be difficult to discern from other wider impacts Depends on Brexit negotiations		
Creation of digital systems for CB workers/citizens and employers	Qualitative	Magnitude (0-2)	0	0
		Direction against baseline	0	0
		Temporal distribution (short/medium/long term)	?	
		Justification, notes Regional investment decisions on hold until Brexit negotiations are finalised		
No. of people undertaking innovation development workshops/training	Qualitative	Magnitude (0-2)	2	2
		Direction against baseline	+	+
		Temporal distribution (short/medium/long term)	SHORT	
		Justification, notes Workshops are first stage in capacity building SMEs for further R&I activity		
Decrease in chronic disease due to early intervention	Qualitative	Magnitude (0-2)	1	1
		Direction against baseline	+	+
		Temporal distribution (short/medium/long term)	ALL	

Indicator	Assessment method	Nature of Impact	NI	RoI
		Justification, notes The programme increases the number of initiatives for early intervention; local experts predict a decrease		
Increase in social prescribing	Qualitative	Magnitude (0-2)	1	1
		Direction against baseline	+	+
		Temporal distribution (short/medium/long term)	SHORT	
		Justification, notes Programme provides for additional funding for social prescriptions. Pilot study		
Increase in the no. robotic surgical techniques	Qualitative	Magnitude (0-2)	1	1
		Direction against baseline	+	+
		Temporal distribution (short/medium/long term)	MED/LT	
		Justification, notes Still awaiting purchase of equipment		
Increase in e-Health services	Qualitative	Magnitude (0-2)	1	1
		Direction against baseline	+	+
		Temporal distribution (short/medium/long term)	ALL	
		Justification, notes ITC infrastructure investment by government required		
No. children cared for near to home/family	Qualitative	Magnitude (0-2)	1	1
		Direction against baseline	+	+
		Temporal distribution (short/medium/long term)	MED/LT	
		Justification, notes Local experts predict this will increase with the programme funding		
Increase in educational attainment	Qualitative	Magnitude (0-2)	1	1
		Direction against baseline	+	+
		Temporal distribution (short/medium/long term)	ME/LT	
		Justification, notes The local experts link this indicator to the number of children care for near to home, still to be analysed		

Indicator	Assessment method	Nature of Impact	NI	RoI
Distance/accessibility to treatment centre	Qualitative	Magnitude (0-2)	2	2
		Direction against baseline	+	+
		Temporal distribution (short/medium/long term) SHORT		
		Justification, notes Deep uncertainty due to outcome of Brexit negotiations		
Increase no of treatments made in patients home	Qualitative	Magnitude (0-2)	1	1
		Direction against baseline	+	+
		Temporal distribution (short/medium/long term) SHORT		
		Justification, notes Directly linked to funding, which enables home visits		

5.4 Territorial Impact Assessment

5.4.1 Summary of main findings

The programme is mid-term which means the impact of the funding is still to be realised. Generally between the baseline date of 2014 to current date of analysis 2018 there have been many positive developments which the experts discussed during the workshops, these discussions are outlined in this section. However, the health of the river water quality has decreased in the North Western region and remained the same in the Neagh Bann region. For the health and social care objective, rates of medical prescribing have increased in both jurisdictions, but higher in RoI. For the health of the economy, the numbers of SMEs have increased for all types of business activity in RoI and the West and South of NI, however, the North of Northern Ireland has been the most effected by decreases in the numbers and types of SME activity. The biggest decreases in ITC, finance and insurance, and profession, scientific and technical categories.

5.4.2 Impact on the regions

The regional distribution of impacts are discussed here based on each selected strategic objective within the wider themes of environment and improving the freshwater quality in cross border river basins; society and improving the health and wellbeing of people living in the region with access to quality health and social care; and the economy and the SMEs engaged with cross border research and innovation for new products, processes and services.

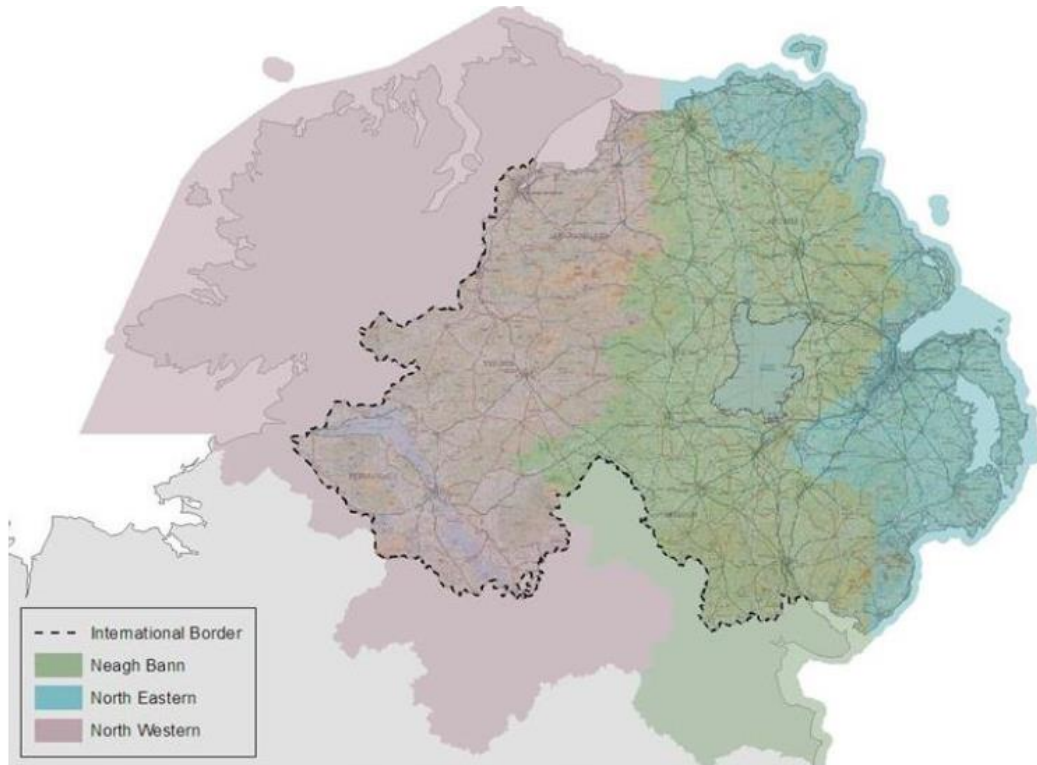
SO: 2.1 To improve freshwater quality in cross-border river basins

There are three river basins that cross the border area of Northern Ireland and the Republic known as the International River Basins District see Map 5.2. The basin district wholly situated in Northern Ireland is the “North Eastern”, the two covering the border area are the North Western and Neagh Bann (used for targeted analysis). The River Management Plans for the basins seek to satisfy the aims of the EU Water Framework Directive (WFD) that the ecological and chemical status of the water bodies are classified as “good”.

Through a process of regular monitoring, the status of the river water quality in the North Western basin is shown to have decreased in quality with a water body moving from “high quality” to “moderate” quality see Figure 5.5.

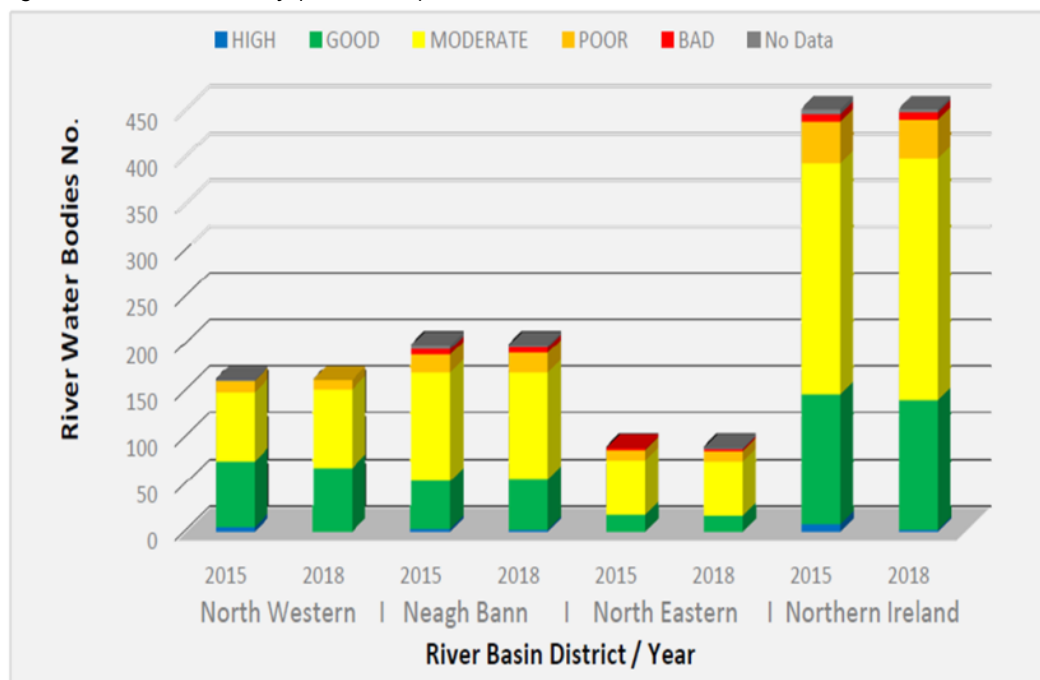
The indicator selected by local experts “*Measure of ecological status against WFD elements*”, used the data from Figure 5.5, to illustrate impacts on the border region at NUTS 3 level of analysis see Map 5.3. The map uses the traffic light system (green – improved, amber – no change and red – worsen) to highlight no change in quality over a three year period for the Neagh Bann River District and a decrease in quality for one water body from “high” status to “moderate”.

Map 5.2: River Basin Districts in Northern Ireland



Source: Northern Ireland Environment Agency (2018)

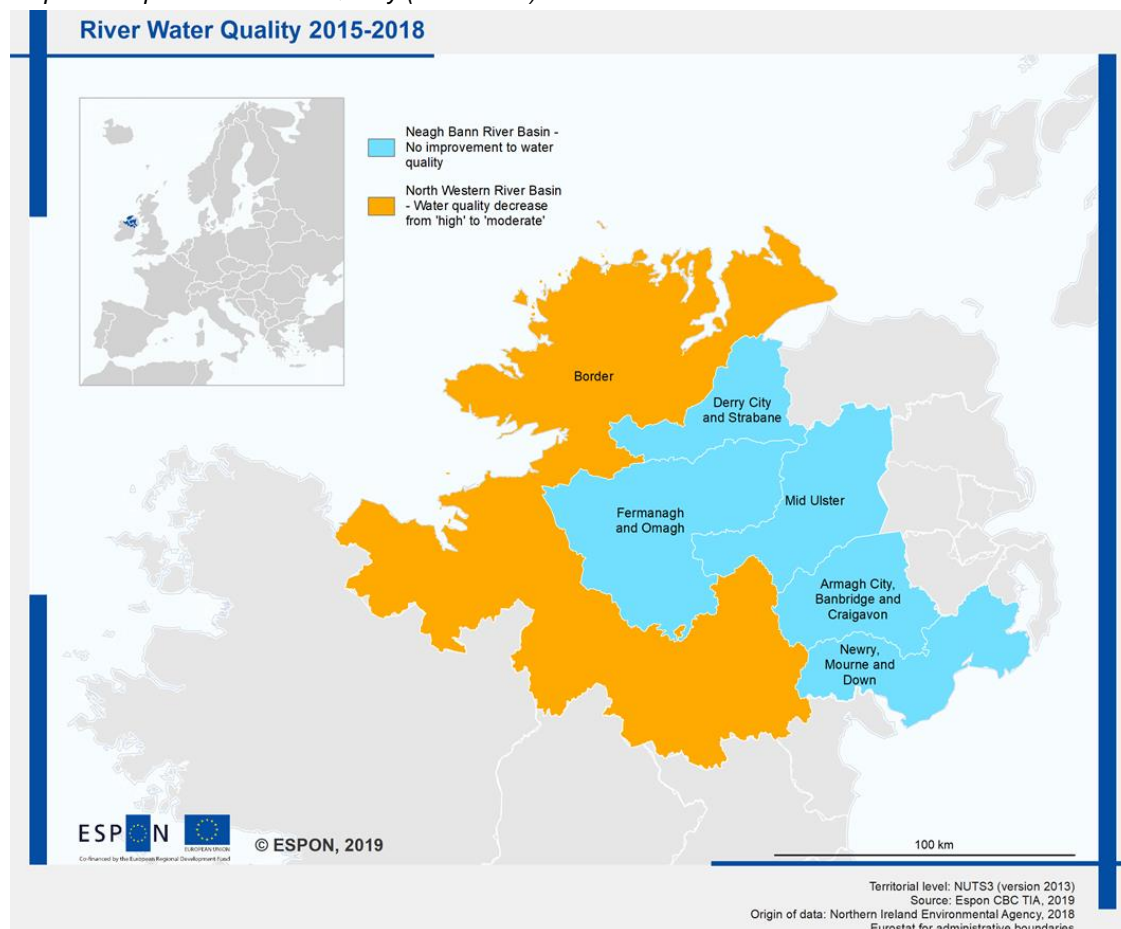
Figure 5.5: NI River Quality (2015-2018)



Source: NI Department of Agriculture, Environment and Rural Affairs (2018) Water Framework Statistics Report⁴³

⁴³ Available at <https://www.daera-ni.gov.uk/sites/default/files/publications/daera/NIEA%20-%20WFD%20Statistics%20Report%202018.pdf> (last accessed 20/01/19)

Map 5.3: Map of River Water Quality (2015-2018)

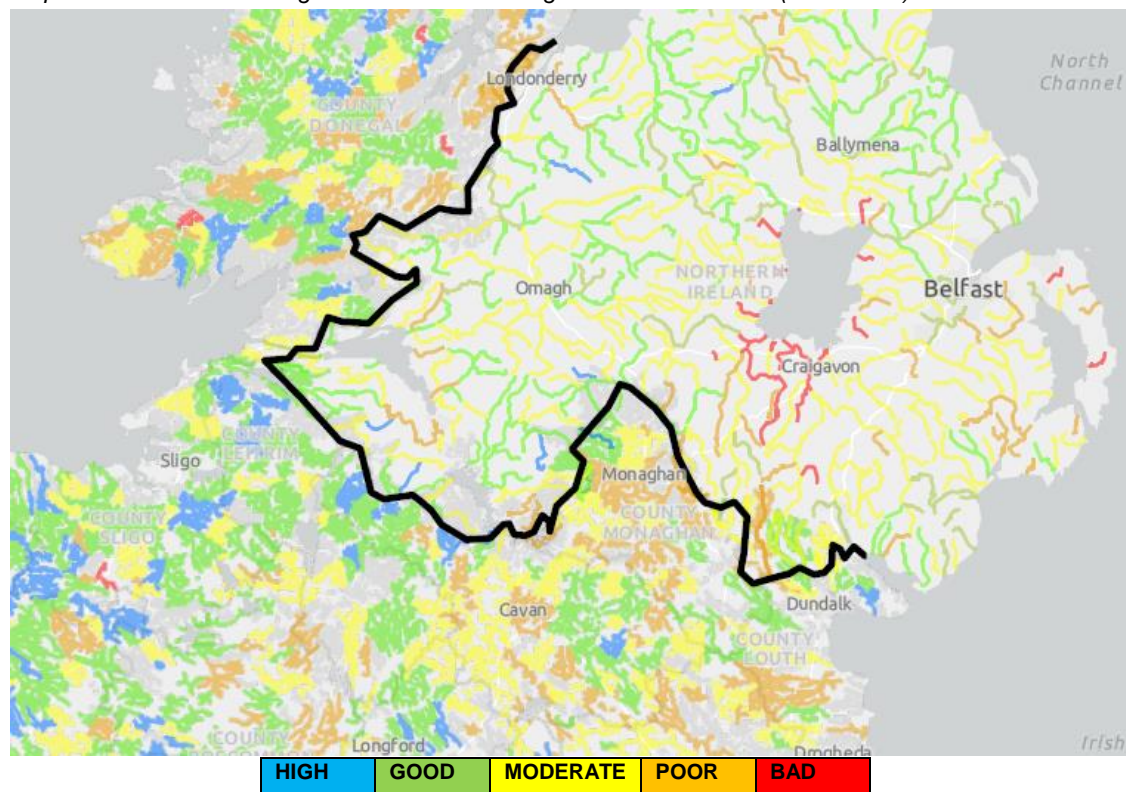


Source adapted from DAERA (2018)⁴⁴ (For illustrative purposes)

As the targeted analysis is based on NUTS 3, this does not correlate accurately with the International River Basin Districts which are used to collate and report on monitoring data. For the purposes of this case study the Northern Ireland NUTS 3 border areas are used as a proxy for the Neagh Bann River Basin and the Republic of Ireland NUTS 3 border area as a proxy for the North Western River Basin. The map for decision making purposes would have been greatly improved at a lower level of analysis for the indicator (Map 5.4), where each river has been colour coded with its WFD status. The data mapped in this way illustrates issues of concern in Craigavon (Neagh Bann RB), classified as bad status and (London) Derry (North Western RB) and Monaghan (Neagh Bann RB) with rivers classified as poor status.

⁴⁴ Available at <https://www.daera-ni.gov.uk/sites/default/files/publications/daera/NIEA%20-%20WFD%20Statistics%20Report%202018.pdf>

Map 5.4: Measure of Ecological Status of Rivers against WFD elements (2010-2016)⁴⁵



Source: Adapted from Source to Tap (2019) Available at <https://www.sourcetotap.eu/explore/> (Last accessed 20/01/19)

In discussion with local experts during the workshops it was important to note that the year 2018 is mid-point in the implementation of the Water Framework Directive (transposed in 2003) second cycle, the current River Basin Management plans last until 2021 and the final cycle completes in 2027. The reasons for the worsening situation in the North Western river basin and the lack of improvement for the Neagh Bann River Basin were given by the experts as mainly due to the altered regulations in water quality directives rather than any 'real' change in water quality. However, local experts also discussed issues of rural diffuse pollution or non-point source of pollution. This means it is difficult to identify the polluting origin from a multiple of potential sources to enforce mitigation measures. In the rural border area of RoL/NI, polluting sources include run-off from agricultural land and silt from quarrying, mining and construction industries. In NI this is compounded by an old sewerage infrastructure that collects both sewerage and storm water, so during times of heavy rainfall, capacity is exceeded and untreated water floods rivers and other water bodies.

During the workshop indicators relating to enforcement through fines, revoking of licences and or criminal court hearings were discussed. However, experts thought these did not work as mitigation options because of the difficulty in policing and evidencing the source of pollu-

⁴⁵ WFD River Status RoL (2010-2012) EPA and WFD River Status NI (2016) NIEA

tion. This was compounded by successive convictions (56 relevant⁴⁶) in civil court, against the water utilities company NI Water, who have been served numerous enforcement fines. NI Water defends itself by confirming £ 500 million investment into the built water infrastructure over the last three years, changes to monitoring practices, improvements in emergency response rates and urge for a change in consumer behaviour for the disposal of waste products.^{47 48}

The local experts proposed the indicators “*research results at sites by monitoring agencies universities*” and “*qualitative feedback from citizen scientists volunteers*”, which are closely related to the indicator “*Measure of ecological status against WFD elements*”. These additional indicators on water quality monitoring were viewed as important sources of information especially within a context of austerity measures, budgetary cuts, restructuring of government departments and Brexit future planning.

The Ireland River Basin Management Plan (2018-2021, p. 10) finds the biggest pressures on water bodies and water quality comes from agriculture, dumping, forestry, industry and domestic waste water treatment systems. The experts selected indicators that address these environmental pressures.

Indicators – “Measure of ecological status against WFD elements” and “research results at sites by monitoring agencies and universities”

The border area river monitoring programme is undertaken by the Environmental Protection Agency (EPA) in RoI and in the Northern Ireland by NIEA. To meet the WFD, monitoring arrangements have changed to a river basin monitoring approach which separates surveillance (ongoing at agreed sites), operational (at risk sites with increased frequency) and investigative (responsive to accidental impacts) monitoring. The EPA has overall responsibility for RoI, but delegates monitoring to other public bodies including:

- Local Authorities – Six border region local authorities in RoI, for example, Donegal County Council has a chemistry and microbiology laboratory that monitors water quality as required by all relevant environmental legislation.
- Inland Fisheries Ireland – monitoring fish fauna in all types of water bodies with over 300 sites on three year rolling programmes. There are two surveillance sites on the International border; Monaghan, Blackwater River and Swanlinbar River.
- National Parks and Wildlife Service – part of the Department of Culture, Heritage and the Gaeltacht, a statutory consultee on matters of habitats and species conservation for national parks, protected sites, nature reserves, and awards permits and licences
- Waterways Ireland – is a cross border agency that manages and maintains the inland navigable waterways aiming to increase use for leisure activities.

⁴⁶ The Irish News 07/06/18 <https://www.irishnews.com/news/2018/06/08/news/ni-water-fined-40-000-for-a-pollution-into-moyola-1350592/>

⁴⁷ The Belfast Telegraph 04/06/18 <https://www.belfasttelegraph.co.uk/news/northern-ireland/northern-ireland-water-pleads-guilty-to-river-pollution-charge-36975079.html>

⁴⁸ BBC News 19/09/18 <https://www.bbc.co.uk/news/uk-northern-ireland-45571570>

- The Marine Institute – . state agency for marine research undertaking activities that include: aquaculture; fisheries and ecosystems; fish health and seafood safety; marine environment; oceanography; shipping, maritime and ports, and seabed mapping.
- Catchments.ie – Catchment Science and Management Unit led by the EPA, working with local authorities, government bodies and local communities to ensure integrated catchment management. There are seven catchment areas in the border region of the RoI.

The NIEA, have a water pollution management team of Environmental Health and Water Quality officers who act as monitoring field officers within the areas of pollution prevention, pollution response, and enforcement and prosecution. The team are supported by monitoring officers working for the:

- the Loughs Agency – a cross border agency set up to manage and maintain the Carlingford (south east) and Foyle (north west) Catchment areas both of which cross the international border. The agency aims to protect and conserve freshwater habitats, fishing, aquaculture and increase marine tourism for both commercial and leisure uses of the Lough catchment areas.
- The Rivers Agency – part of the Department of Infrastructure deals with rivers and flooding, river maintenance, flood risk, drainage, reservoirs, Lough water levels, asset renewals, and river restoration, enhancement and conservation.

The breadth of monitoring data available in relation to improving river water quality means that the indicators selected are unable to illustrate the regional distribution of impacts. This would have been improved by using a specific WFD element, research result or cross border river.

Indicator – “No. organisations cooperating across borders post project completion”

The diverse range of institutions involved in cross border monitoring of river water quality, some of which have been established for twenty years as part of the Good Friday (Belfast) Agreement emphasised the importance for the experts of selecting a cross border cohesion indicator. The concern here was not a lack of cooperation post project completion, but threats to collaborative working post Brexit negotiations and further threats to lack of compliance with EU Environmental legislation. Impacting negatively on cross border governance and ultimately threatening conservation of and improvements to the ecological status of the river basin water quality in the region. Weaknesses in current governance were discussed with reference to the absence of the Northern Ireland Assembly, for over a year, due to a breakdown in power sharing between the two main political parties Sinn Fein and Democratic Ulster Party.

Indicator – “qualitative feedback from citizen scientists volunteers”

Citizen Scientists is a method of participation that encourages scientists to work with public volunteers to collate data, in this case for monitoring river water quality. A funded activity “Source2Tap” (see section 5.2.3) covers the Erne and Derg River Catchment areas in the North Western River Basin on the international border. The environmental pressures relate to contaminants from agriculture, forestry and industry. The project aims to promote catchment management in the area with the effects of capacity building local communities and empowering the public to participate in improving the quality of river water and build a legacy once the project completes. The catchment management approach is administered by the charity, The

Rivers Trust (RT) which covers all of the UK and the island of Ireland. Along the border there are four trusts: Inishowen RT; Strule Tributaries RT; River Blackwater Catchment RT and Erne RT. Each trust's key objective is to raise public awareness of the natural environment through volunteering activities in conservation and protection. For example on the River Blackwater, volunteers have removed invasive fauna like Japanese Knotweed, built otter holts, cleared rubbish from the riverbed and improved access to the river.

Indicator – “Hectares of agricultural land in Incentive Scheme” and “Shared water related activities in irrigated agriculture use of willow for bio remediation (willow supply chain)”

Key environmental pressures originate from agricultural and forestry practices such as fertilizer and pesticide run off and increase in silt levels due to tree felling. The experts discussed the funded project “The Land Incentive Scheme”, in the River Derg cross border catchment area. Grants are available to farming landowners in the area wishing to reduce the amount of herbicides released into the water by modifying their farming practices. This could include: herbicide and pesticide control and rush management; protection of watercourses from stock and alternative drinking points; reductions in surface flow across farms and peatland management⁴⁹ The grant scheme closed in summer 2018 and outcomes of the scheme are still to be measured. The use of willow for bio remediation, in irrigated agriculture was developed by the NI government's Agri-Food and Biosciences Institute. There is approximately 1,000⁵⁰ hectares growing across NI. A native species that as fuel creates a sustainable source of renewable energy contributes to reduction in greenhouse gas emissions, a multi-functional crop that can also offer bioremediation of agricultural waste such as effluents and sludges. The experts discussed the willow supply chain as an indicator for regional impacts looking to the market for economic returns. However, as willow is multi-functional crop the sale of willow alone or mapping of crops would not provide data on willow used for bio remediation. Data instead could be sourced on grant applicants who use funding to change farming practices to include the use of willow crops in bio remediation.

Society, SO 4.1: Through collaboration on a cross-border basis, to improve the health and well-being of people living in the region by enabling them to access quality health and social care services in the most appropriate setting to their needs.

Local experts discussing indicators and territorial impacts on health include:

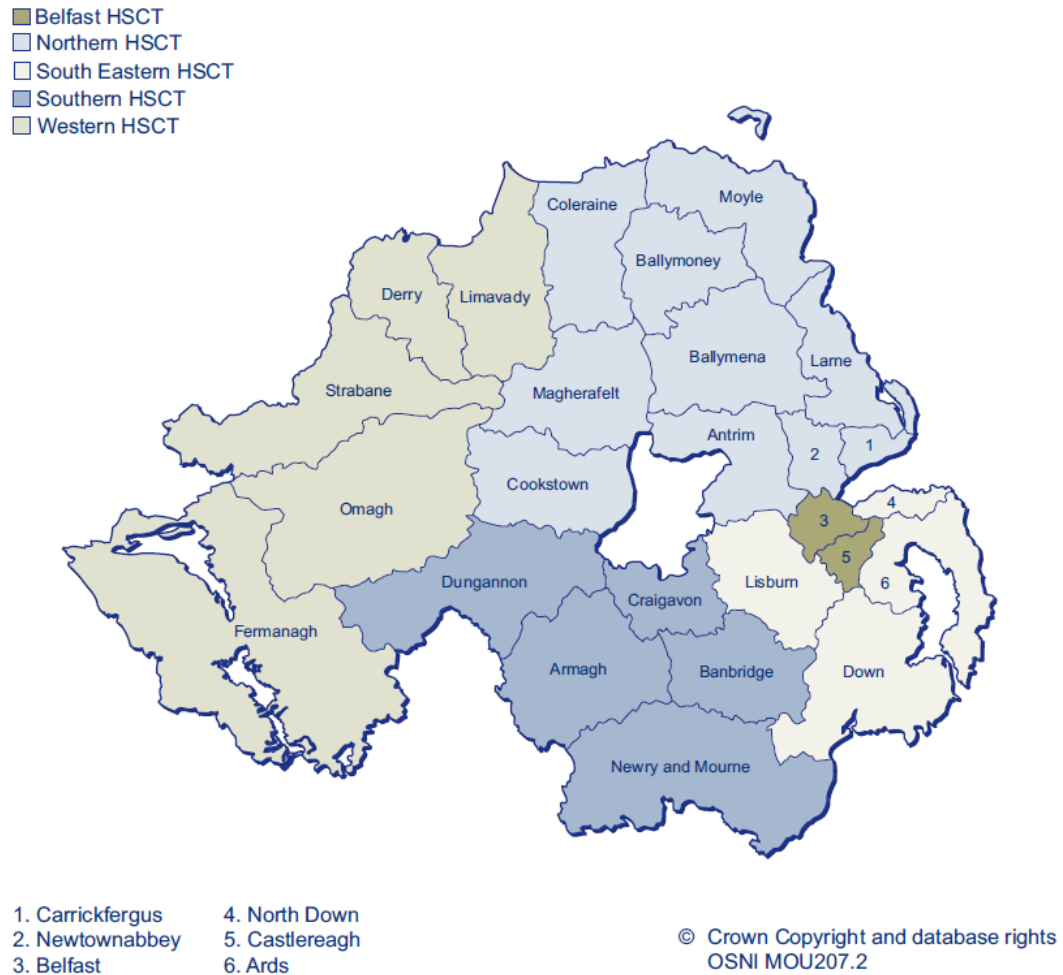
- Leading members of the development centre that facilitates cross border cooperation between the health and care sector for both jurisdictions and administrators of European funded programmes in cross border collaboration. The centre works in partnership with the Health Service Executive, the Public Health Authority, the Health and Care Trusts and the Department of Health.

⁴⁹ Source to Tap (2018) Land Incentive Scheme Handbook available at <https://www.sourcetotap.eu/wp-content/uploads/2018/11/STT1-Land-Incentive-Scheme-Handbook-updated261118.pdf>

⁵⁰ McCracken, A.R. & Walsh, L. (2010) Developments in SRC Willow R & D in Northern Ireland, UK Afbi-ni.gov.uk

In NI, there are six Health and Social Care Trusts (Map 5.5), the border trusts are Western HSCT and Southern HSCT. The sixth trust is the Ambulance Service which covers all of NI. The trusts manage hospitals, health centres, residential homes and other health and social care facilities.

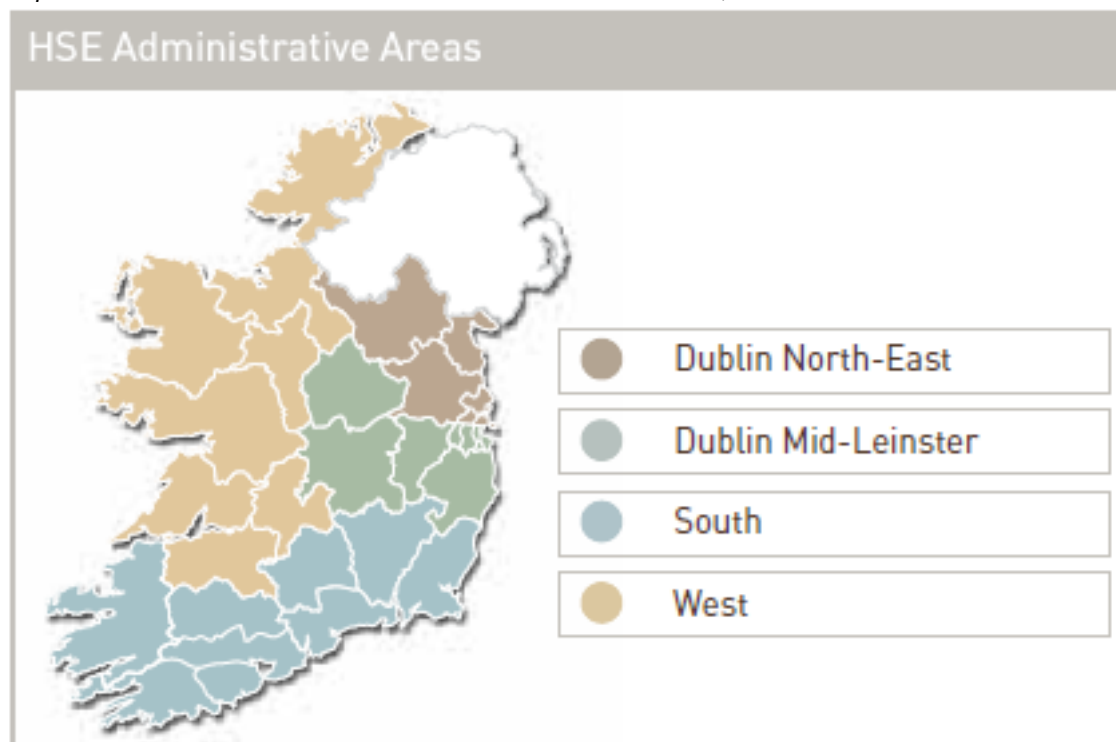
Map 5.5: Location of Health and Social Care Trusts, NI



Source: NISRA (2016)

In RoI there are four Health Service areas, in the border region these are Dublin North-East and West.

Map 5.6: Location of Health Service Executive Administration Areas, RoI



Source: HSE (2018)

In 1992, the border trusts in the NI and RoI signed the Ballyconnell Agreement to provide ongoing collaboration between the two jurisdictions in terms of added value to health and social care provision. The development unit named “Cooperation and Working Together” (CAWT) promotes sharing of working practices, technology, removing barriers to mobility, sharing of data and influencing policy makers in both countries. CAWT secured funding from the INTERREG VA in 2017, for five projects (see section 5.2.3) which aim to improve the health and wellbeing of people in the border region by providing services in locations best suited to their needs.

For data collection purposes the administrative boundaries for health and social care in the two countries is not directly comparable to NUTS 3 classification. For the purposes of the targeted analysis in NI the Southern HSCT has been used as a proxy for NUTS regions: Newry, Mourne & Down; Armagh, Banbridge & Craigavon and Mid Ulster. The Western HSCT, as a proxy for Derry & Strabane, and Fermanagh & Omagh. In RoI, Dublin North-East HSE and West HSE have been used as a proxy for RoI NUTS 3 border region.

The local experts discussed the creation of appropriate measures, indicators and metrics for their discipline. The effects and trends they wished to see, to improve decision making, would be based on the individual rather than territory. For example, an individual (identified by health condition, gender, age, ethnicity etc) may live in place a, work in place b, and receive treatment in place c. The impacts from a change in lifestyle on health may take a number of years to unfold, therefore territorial impacts are less informative. They also confirmed that meticulous data exists within discreet and varied health disciplines, often paper based, sub-

ject to patient confidentiality and ethical rules on access and circulation. The Royal College of Paediatrics and Child Health (RCPCH) recommend in their report on the State of Child Health in Northern Ireland (2017) that they call,

“for richer and more consistent data capture so that information is comparable across the UK. The amount and quality of data readily available from Northern Ireland was significantly less than the other UK nations. There is an urgent need to measure health metrics, services, processes and outcomes more reliably and consistently.” (RCPCH, 2017 p. 5)

It is hoped that the funded e-health solutions will assist with the interoperability of patient data over the two jurisdictions.

Indicators – “decrease in prescribed medicines” and “increase in social prescribing”

The experts viewed the indicator “*decrease in prescribed medicines*” as closely linked to “*increase in social prescribing*”. In Map 5.7, Percentage Change in Prescription Counts by Population (2014-2017). The figure illustrates an increase in prescription counts in both countries over a two and three year period, but the increase was higher in RoI. Over a ten year period Ireland has witnessed increases in the prescribing of opioids, anti-depressants and anti-anxiety drugs, which has been linked to weaknesses in healthcare system (long waiting lists for surgery whilst suffering painful conditions), improving mental health care services (more patients use services) and reliance on traditional medical approaches for mental health issues (lack of social prescribing)⁵¹⁵². Although not as high an increase in NI, it has steadily increased over a three year period for the same reasons including patients building tolerance and requiring stronger prescriptions.⁵³ In addition to this is the concept of “Troubles Trauma”, a form of Post- Traumatic Stress Disorder, due to the legacy of the 30-year conflict in the border region.⁵⁴

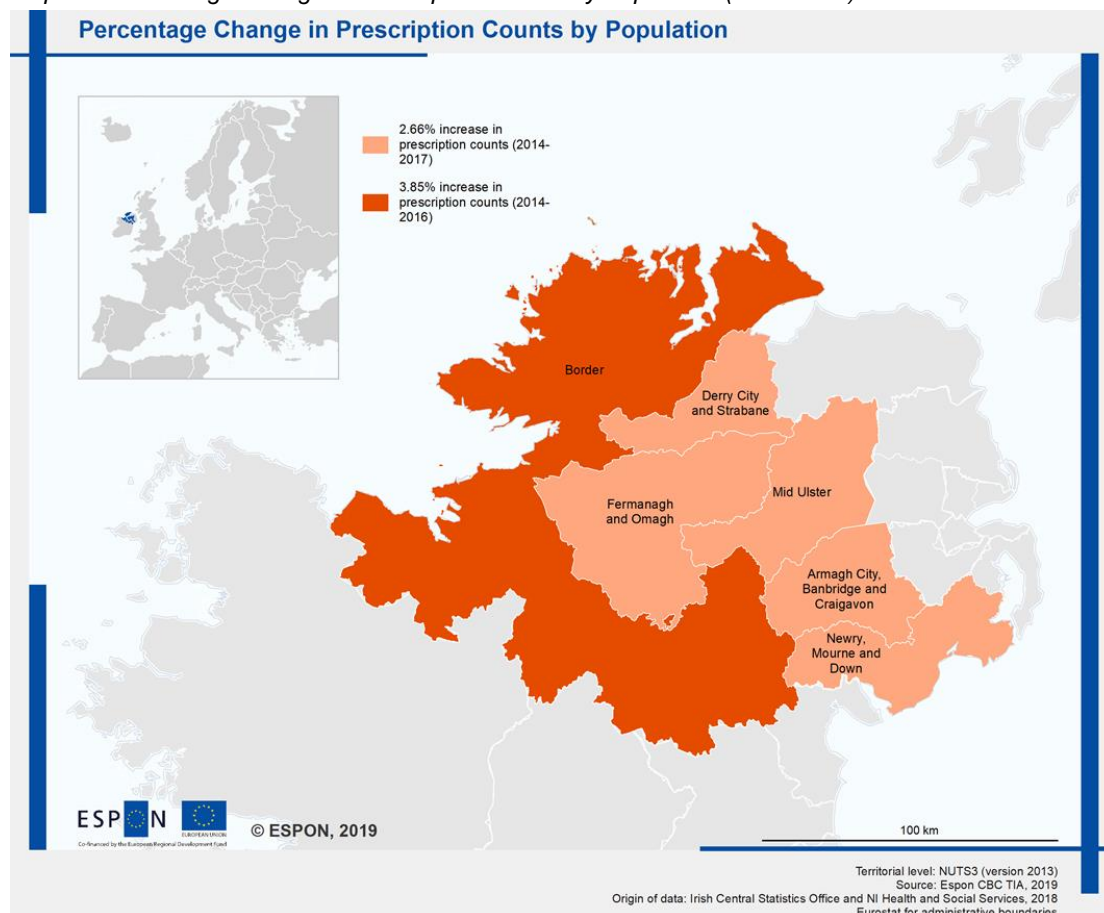
⁵¹ <https://www.irishtimes.com/news/health/broken-health-care-system-to-blame-for-huge-rise-in-opioid-use-say-gps-1.3380432>

⁵² <https://www.thejournal.ie/ireland-antidepressant-anxiety-medicine-prescriptions-4157452-Aug2018/>

⁵³ <https://www.belfasttelegraph.co.uk/news/health/addiction-to-prescription-drugs-in-northern-ireland-at-epidemic-levels-36718064.html>

⁵⁴ <https://www.belfasttelegraph.co.uk/news/northern-ireland/more-than-200000-people-are-struggling-daily-to-cope-with-troubles-trauma-says-expert-36009352.html>

Map 5.7: Percentage Change in Prescription Counts by Population (2014-2017)



Source Adapted from CSO (2017) and HSCNI (2018)⁵⁵ (for illustrative purposes)

To achieve promotion of cross-border area mental and emotional resilience and recovery, social prescribing will be trialled as an alternative to pharmaceutical prescriptions. Social prescribing is a system that allows GPs to refer patients to voluntary and community services. For example a patient may be suffering mental ill health from the effects of loneliness, social exclusion or the impacts of austerity measures on benefit payments causing financial hardship. Medical prescribing and reliance on health professionals can be reduced by referring individuals to new support networks for example, housing and welfare advice, sports and arts classes, volunteering opportunities and meaningful occupation. This offers a new social model for mental health recovery, but is in its infancy. Data collection for the purposes of this targeted analysis is also constrained by patient confidentiality issues. In the future, the data could be collected from referring GPs or the voluntary and community sector groups that accept referrals, mapped and compared to any decrease in prescription counts.

Indicator – “Decrease in chronic disease due to early intervention”

Chronic diseases are long term illnesses such as diabetes, cancer and Alzheimer’s, which require long term health plans and increase the burden on acute health funding and services.

⁵⁵ Available from <https://www.cso.ie/px/pxeirestat/Statire/SelectVarVal/saveselections.asp> and <http://www.hscbusiness.hscni.net/services/1806.htm>

With increases in an aging population, numbers of chronic diseases are rising. Early intervention, helps reduce health inequalities with individuals and groups becoming more active in their own health and wellbeing plans. Early intervention offers a multi-disciplinary approach to care packages which include for example, education, outreach or peripatetic services, telephone or e-solutions and care in the community. The effect of increasing early interventions, will be to reduce the call on for example hospital facilities as people are treated in their homes or in primary care settings. Territorially, chronic diseases can be mapped, but it is too early in the programme to compare this to early intervention approaches.

Indicator – Increase in the no. robotic surgical techniques/Increase in e-Health services

New technological solutions to healthcare delivery are to be offered to the people of the border region. Currently the only robotic arm is located in Belfast which by the end of 2018 had begun offering treatment to patients suffering from prostate cancer. Previously patients would have had to travel to England to receive similar treatment. The number of patients from the border area receiving robotic surgical techniques can be mapped, but at the time of writing this was too early to analyse.

Increase in e-Health solutions, will assist with the effective sharing of medical records and other patient data for treatment and data analysis purposes. E-health strategies also include technological solutions for booking medical appointments, ordering prescriptions online, offering quality information for self-care and increase capacity for peripatetic working. This strategy is linked to investment in broadband infrastructure and connectivity in the border region. Ofcom, the communications regulator has criticised Northern Ireland's government and industry leaders for the lack of performance in broadband and mobile connectivity. This is particularly poor in the rural border areas like Newry, Mourne and Down, Mid Ulster and Omagh and Fermanagh, the latter where one in five premises are unable to get a service.⁵⁶ The strategy to improve connectivity is currently underway.

Indicator – “No. children cared for near to home/family/Increase in educational attainment”

The experts want to reduce risks and minimise impact of adversity on children and vulnerable families. In Northern Ireland, child health is one of the poorest in Western Europe, with 23%⁵⁷ of children living in poverty. Health services are seeing an increase in obesity, mental health issues, alcohol and drug dependency and suicide rates. A new children's hospital is under construction in Belfast, saving travelling from the border region to England or Dublin for treatment. However, the experts emphasised the need for prevention, early intervention and the benefits of this occurring in or close to a child's home. The impact of this approach could

⁵⁶ <https://www.belfasttelegraph.co.uk/business/northern-ireland/patchy-broadband-hitting-northern-ireland-investment-hopes-37639478.html>

⁵⁷ https://www.rcpch.ac.uk/resources/policy-response-northern-ireland-state-child-health-report-2017#_1-tailor-the-health-system-to-meet-the-needs-of-children-young-people-their-parents-and-carers

be measured territorially, by increases in educational attainment for those children receipt of home healthcare.

Indicator – “Distance/accessibility to treatment centre/Increase no of treatments made in patients home”

As with child health care in or near the home, adult home care reduces the burden on waiting lists, supports independent living, offers a new model of working and a better use of scarce physical, financial and human resources, and increase patient satisfaction. However, not all treatments can be made in patients home, so the distances and accessibility of an appropriate treatment centre becomes an important indicator especially for those living in the border region. The experts discussed how crucial the common travel area rights and privileges between the two countries are in terms of health care provision. In light of Brexit, the threat to freedom of movement for UK and Irish citizens living in the region is of great concern. The Good Friday Agreement and the Northern Ireland peace process has meant healthcare provision and protection of public health has been developed between the two countries through various service arrangements for the sharing of emergency, routine and planned healthcare services over many years. The example was given of a patient in the border region suffering a heart attack and in need of a coronary stent, has a 90 minute window for the procedure. Under current arrangements that patient can be taken by ambulance to cardiology services in Donegal, five miles way or to Belfast, 60 miles away which is a 90 minute journey by road. If Brexit changes administrative systems, clinical collaborative relationships, the recognition of qualifications, the continuity of supply of medical goods and drugs, operating procedures, responses to major emergency situations; then lives will be at risk.

Economy, SO 1.1: SMEs engaged in cross border research and innovation aimed at the development of new products, processes and services.

The experts discussing territorial impacts on the economy include:

- Policy Research Manager, from Intertradelreland, an organisation set up over 20 years ago as part of the Good Friday Agreement to support small and medium sized businesses in both countries to explore avenues for increased cross border trading. They also provide a Brexit Advisory Service to help SMEs prepare for the UK withdrawal from the EU. The organisation is funded by the Department of Business, Enterprise and Innovation (RoI) and the Department for the Economy (NI).
- Project Manager, for a funded project “Co-Innovate” which aims to increase the innovation capability of SMEs in the border region and increase the number participating in cross border research. (the project is led by InterTradelreland , Enterprise Northern Ireland, East Border Region and the Local Enterprise Offices in the border counties of Ireland)

In Europe, a SME is defined as a company that has less than 250 employees: a medium sized company, less than 250 employees and a turnover not exceeding € 50 million or a balance sheet less than € 43 million; a small size company less than 50 employees, turnover under € 10 million or a balance sheet under € 10 million and a micro business has less than

10 employees, a turnover under € 2 million or a balance sheet under € 2 million⁵⁸. The trade between RoI and NI is extensive, the value of goods traded South to North in 2016 was € 1.65 billion, whilst North to South trade was € 1.05 billion.⁵⁹ The total number of firms by size and country is outlined in Table 5.4

Table 5.4: Number of SMEs on the Island of Ireland (2018)

All firms on island of Ireland	Size of Firm				Total
	0-9	10-49	50-249	+250	
Total No. Firms (NI)	38,799	10,285	1,260	245	50,589
% by Size (NI)	76.7%	20.3%	2.5%	0.5%	100%
Total No. Firms (RoI)	179,971	13,238	2,382	417	190,008
% by Size (RoI)	91.6%	7.0%	1.3%	0.2%	100%

Source Adapted from Intertradelreland (2018, p. 16) Export Participation and Performance of firms across the island of Ireland

The table shows the importance of SMEs to both RoI/NI economies, with both predominantly shaped by micro businesses especially in the RoI at 92%, and in NI at 77%, the latter also reporting high levels of small businesses at 20%. Due to the importance of SMEs to both countries, support is available to encourage cross border research and innovation for new products, processes and services which will be vital to protect against any vulnerabilities arising from if/when/how the UK leaves the EU Customs Union and Single Market and the changes it will mean for the trading relationship between the UK and the EU.

The experts discussing the methods of measurement and monitoring for the regional economy wanted to examine the types of business activities SMEs undertake in the border area. This would enable an understanding of the territorial impacts on increases in employment for new and maintained jobs and an illustration of the investment and access to SME growth funding in the region. They proposed the indicator “*Measurement of the diversification in the regional economy*”.

Indicator – “Measurement of the diversification in the regional economy”

Map 5.8 shows the percentage change in business count by activity. The data uses NACE, which is a European statistical classification system for business activities. This data was available at NUTS 3 for NI (pre 2017 reorganisation, see Map 5.10), but not for the RoI. The data for the purposes of the territorial impact for RoI shows all SMEs in RoI over a shorter time period (2014-2016), but does not include the category “agriculture, forestry and fishing” as this is calculated separately. Difficulties arose in using mapping to illustrate the variety of business types, means the map illustrates just one type of business – Property⁶⁰ SMEs as an

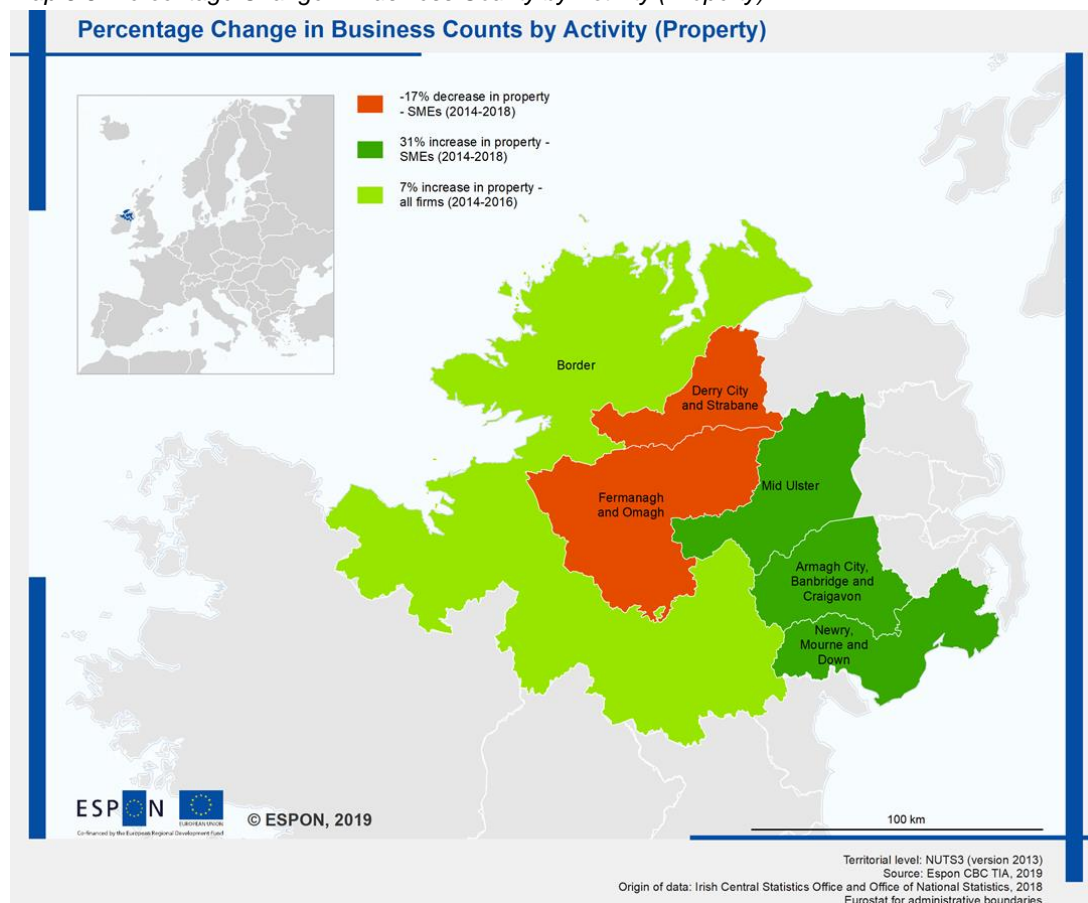
⁵⁸ OECD (2005) Glossary of Terms available at <https://stats.oecd.org/glossary/detail.asp?ID=3123> last accessed 20/01/19

⁵⁹ Intertradelreland (2018)

⁶⁰ Property (or real estate activities) within NACE classification means buying and selling of freehold property; renting and operating of leased property; managing property, and estate agent activities.

example. The traffic light system of red, amber and green has been used to illustrate the decrease in the number of property SMEs in the northern end of the international border by 17% between 2014-2018, but also shows a significant increase in the number of property SMEs in the southern end of the international border by 31% during the same period.⁶¹

Map 5.8: Percentage Change in Business County by Activity (Property)



Source adapted from CSO (2018) and ONS (2018) (for illustrative purposes)

The percentage changes in property related activities is strongly linked to the wider territorial effects of the increases in the construction industry, rises in house prices and mortgage lending. The construction sector reported a 5.5% increase in private sector new build residential housing across NI in 2018.⁶² Northern Ireland historically has the cheapest house prices in the UK. The number of first time buyers has increased with relatively low interest and inflation rates, and the lowest unemployment rate in the UK, even though there is a background of uncertain political and economic conditions. Simultaneously, decreases in SME property companies can be linked to housing shortages especially with the number of first time buyers being at its highest in a decade and the patchy broadband connectivity in the region meaning

⁶¹ The location of an SME is based on where the headquarters are registered rather than from where the enterprise operates.

⁶² <https://www.belfasttelegraph.co.uk/business/northern-ireland/increase-in-number-of-new-houses-drives-5-5-surge-in-ni-construction-output-37722601.html>

buyers are pulling out of deals.⁶³ Nationally, High Street estate agents are in decline as online competitors undercut commission rates and the law has changed to ban letting fees to prospective tenants impacting on estate agents profit margins. In RoI, the steady increase in property SME activity relates in part to an increase in demand for commercial premises linked to a favourable corporate tax rate and increasing demands for residential properties.

Indicator – “Productivity/Growth in the region”

The experts discussed the best way to measure the strength of the border region economy in light of SMEs innovation activity. With particular reference to policies and regulations that may hinder or increase productivity for example, barriers to market entry. They selected productivity/growth to provide a quantitative link between productivity and innovation. Innovation here is as defined by the OECD

“is the implementation of a new or significantly improved product (goods or service), or process, a new marketing method, or a new organisational method in business practices, workplace organisation or external relations” (Hall, 2011 p.5)⁶⁴

However, innovation surveys and researchers tend to use share of sales for products (goods and services) as the innovation measure. At its simplest, productivity is the ratio between goods and services and, labour, capital and materials. Productivity growth can be measured in a number of ways at business or national levels; commonly used are multifactor productivity and labour productivity. Multifactor, is the efficiency of labour and capital when used in the production process. Labour productivity, is the output per employee over a given time. Figure 5.6 show SME productivity growth for the NUTS 3 regions (prior to reorganisation) of NI from 2014-2017.

Figure 5.6: Percentage Increase in Productivity Growth for SMEs in NI (2014-2017)



Source adapted from Enterprise Research Centre (2018)⁶⁵

⁶³ <http://www.irishnews.com/business/2018/06/12/news/why-sustainability-is-key-to-northern-ireland-s-housing-market-1351806/>

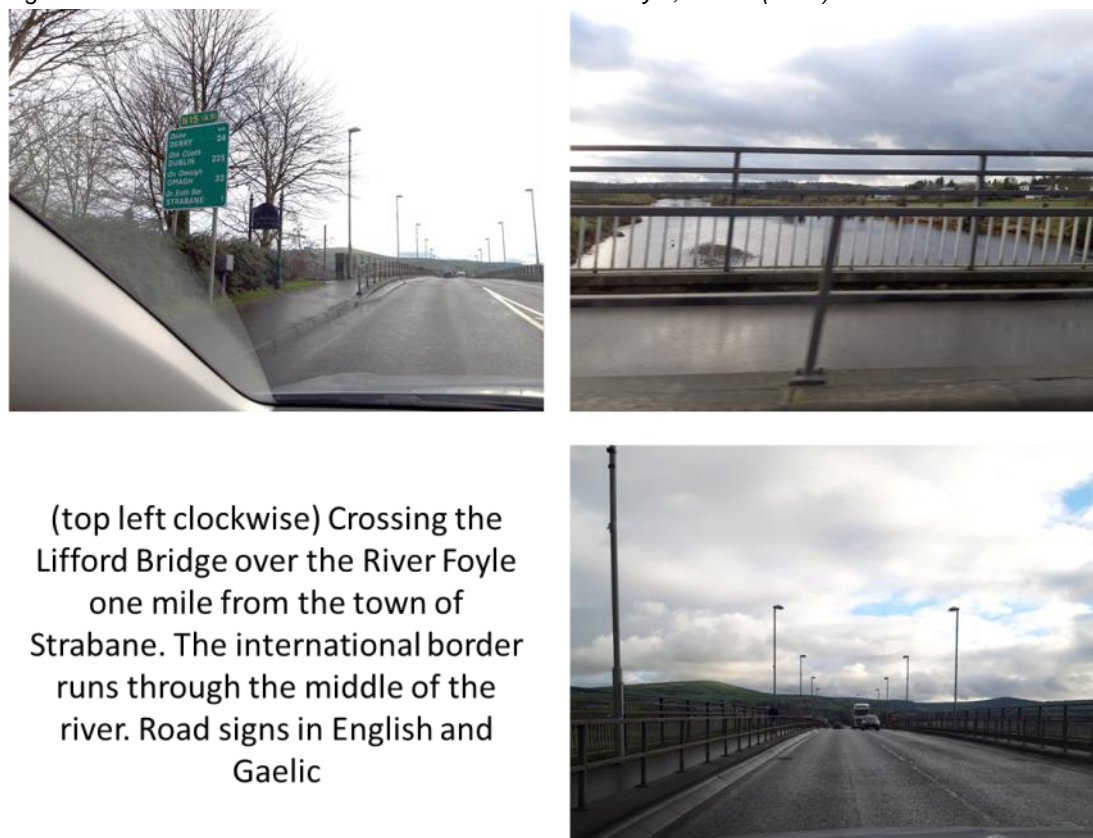
⁶⁴ Hall, B.H. (2011) Using Productivity Growth as an Innovation Indicator *European Commission*

Productivity growth in job creating SMEs in Belfast is the highest in the UK during 2014-2017, with the UK average at 8.4%. Reasons for the success have been reported as early years growth with SMEs reaching £ 1 million turnover growth faster than employment growth within their first three years ERC (2018). Experts regarded the geographic mapping of productivity growth as an effective way to analyse impacts for funding decision making and the health of the border region economy . At the time of writing, comparable data from RoI was not readily available for targeted analysis.

Indicator – “No. of SMEs declaring cross border exports in goods and services”

Local experts felt there was a lack of understanding of the concept of border region for the island of Ireland, which was being reflected in SME operations. That is, the likelihood of collaboration depending on the distance from the border. After a generation of the peace process, there are no discernible signifiers to determine which country you are in. Experts report that road signs stating “Welcome to Northern Ireland” were erected by local government, but were quickly vandalised or removed by residents. Figure 5.7 illustrates how the road signs in both Gaelic and English, are the only reference to crossing the invisible border from Northern Ireland to Republic of Ireland. At Lifford Bridge the border runs through the middle of the River Foyle.

Figure 5.7: The Invisible International Border at the River Foyle, RoI/NI (2019)



Source: Authors own (11/01/19)

⁶⁵ Available from <https://www.enterpriseresearch.ac.uk/wp-content/uploads/2018/06/180604-ERC-conference-news-release-Dashboard-NORTHERN-IRELAND.pdf> (last accessed 01/02/19)

There are 208 border crossings (roads, paths and dirt tracks) along the 500 km (310 miles) partition. This includes sections of the motorway linking Dublin to Belfast where the carriageway is in a different country depending on your direction of travel.⁶⁶ To indicate the territorial effects of this, the experts selected an indicator to show increases in cross border SME goods and services.

Clarification is offered by Northern Ireland Statistical Research Agency (NISRA) on what is counted as a cross border delivery for their Cross Border Supply Chain Report (2015/2016),

“Trade in goods and associated services by NI businesses registered for VAT or PAYE

- NI export to Ireland – from a NI business to an IE business or household...
- NI import from Ireland – from an IE business to a NI business...” (NISRA, 2018 p.3)⁶⁷

Cross border (land) deliveries do not include movement of goods within NI or RoI for example Fermanagh to Newry (NI) via Monaghan (RoI) or Donegal to Dublin (RoI) via Armagh (NI). From their survey they estimate registered businesses made 758,000 cross border export deliveries to RoI in 2016 worth £ 3.4 billion and 410,000 import deliveries from the RoI worth £ 2 billion in 2015 (NISRA, 2018 p.2). They also found that the majority of cross border trade was undertaken by micro (33%) and small businesses (74%) (NISRA, 2018 p. 6). Threats to the current freedom of movement of capital because of the UK Exit from the EU will also impact upon labour. NISRA calculated 110 million people crossing the border in 2016: 14% heavy goods vehicles; 7% regular commuters for work and study; 5% overnight tourism trips, and 74% including business trips; visiting friends & family; shopping; day trips (tourism); medical treatment; travelling to an airport.⁶⁸

Indicator – “Creation of digital systems for CB workers/citizens and employers”

A strategic priority for both countries is to improve digital systems in the rural border region. The Irish government have committed € 175 million towards their national broadband plan which aims to give everyone access in RoI to at least 30 Mbps (superfast) broadband by 2020. The NI government have given £ 60 million in subsidies to service provider British Telecom for broadband connectivity. This has been used to leverage in a cocktail of match funding. This has led to a lack of transparency and confusion as to where and how the money has been used (ICBAN, 2017, p 4) as connectivity remains patchy especially in the border region. As part of the confidence and supply election agreement with the Conservative government and the DUP, the NI Assembly have committed a further £ 150 million for broadband investment for 2017-2019.⁶⁹ The funding aims to ensure up to 100,000 premises currently without super-

⁶⁶ <https://www.irishtimes.com/news/ireland/irish-news/ireland-has-208-border-crossings-officials-from-north-and-south-agree-1.3474246>

⁶⁷ NISRA (2018) Cross Border Supply Chain Report (2015/16) Available from https://www.nisra.gov.uk/sites/nisra.gov.uk/files/publications/SCS_JUNE2018_FINAL.pdf

⁶⁸ NISRA (2019) Available from <https://www.nisra.gov.uk/publications/eu-exit-analysis-publications>

⁶⁹ ICBAN (2017, p2) Towards an All Fibre Access Network Available from <http://icban.com/site/wp-content/uploads/2018/03/Towards-an-All-Fibre-Access-Network-Proposals-for-the-%C2%A3150-million-funding-20.10.17.pdf>

fast broadband a service. The importance of broadband connectivity for SMEs in the border region is well researched as a barrier to market and a competitive disadvantage. However, the government is yet to release the funds due to the lack of power sharing leadership at the Assembly. At the time of writing the data was not available to examine the territorial impact.

Indicators – “No. of local SMEs collaborating with regional research institutes” and “No. of people undertaking innovation development workshops/training”

The experts judged both indicators to be closely linked. They concluded that the definition of research institute should be widened to include pure and applied research and widen the subjects of research in the border region as currently focused on food, engineering and IT.

The research institutes include:

- Mid Ulster; *CAFRE Food*, offering courses in Food Technology, Food Supply Management and, Communications and Packaging Technology
- Derry and Strabane; *North West Regional College of Engineering and ICT*, offering further and higher education and skills
- Derry; *University of Ulster (Magee Campus)*, Faculty of Engineering and the School of Creative Arts
- Armagh and Newry; *Southern Regional College of Engineering and the College of Computing and Engineering*, both offering specific support to local SME development and training.
- Sligo; *Institute of Technology*, business, engineering, humanities engineering and science
- Sligo; *St Angela’s Food Centre*, food technology, packaging, product development
- Letterkenny; *Letterkenny IT*, engineering and ITC

The programme funds a project called Co-Innovate see section 5.2.3, which is offering fully funded innovation training workshops, business status reviews, innovation audits, academic research, business to business partnerships and network/cluster partnerships to a pool of 2500 SMEs. In both jurisdictions, companies with qualifying research and development expenditure are able to claim tax relief and offer employee incentive schemes for research staff. The effects the experts wished to analyse include increases in cross border partnerships and research projects and increases in cross border investment and access to SME growth funding. However, at the time of writing the researchers were unable to collate data to test the territorial impacts of these indicators because the project was launched to SMEs at the end of 2017, for outcomes in 2020, the workshop with experts was held at the end of 2018.

5.5 Methodological commentary

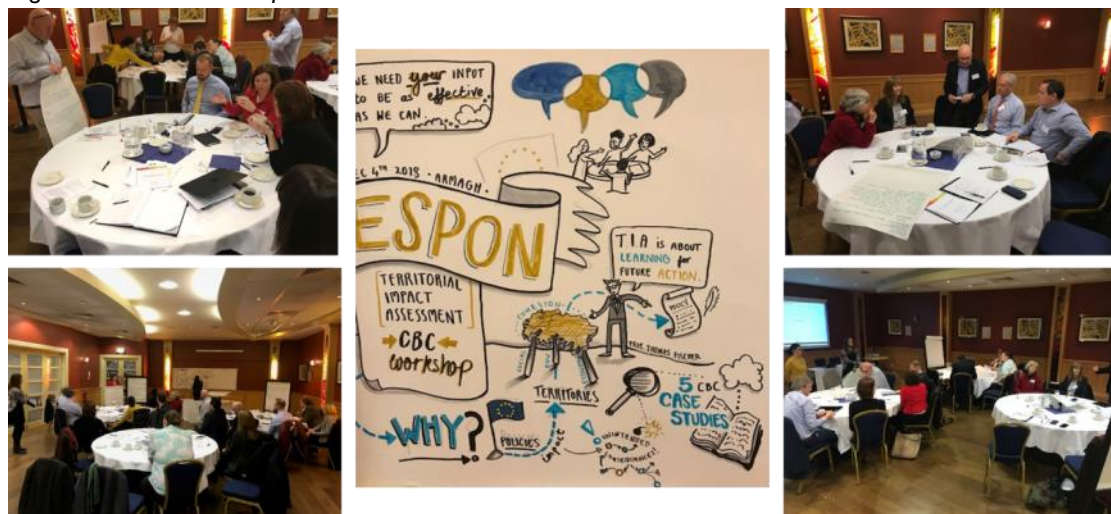
Discussed here are the key methodological issues this case study encountered, outlining the TIA process, structure and the strength of the participation techniques. Problems with data collection and data comparability between countries is described in light of the level of data analysis that is NUTS 3 and the timeline of analysis that is ex-ante, mid-term or ex-post.

5.5.1 TIA Process

The templates provided, offer clear instructions; however, they have been designed with an assumption that those following the process have previous experience with statistical research, GIS, ESPON protocols or the language of EU funding programmes generally. This would need to be adapted depending on your audience. Alternatively, training prior to the process or a presentation on the contents of the handbook with completed examples would be very beneficial. The use of shared Dropbox files with the other case study partners is welcome, but was underutilised by the partners so did not allow for peer support. Also helpful was the project team Skype calls, although the number of members proved a technological challenge.

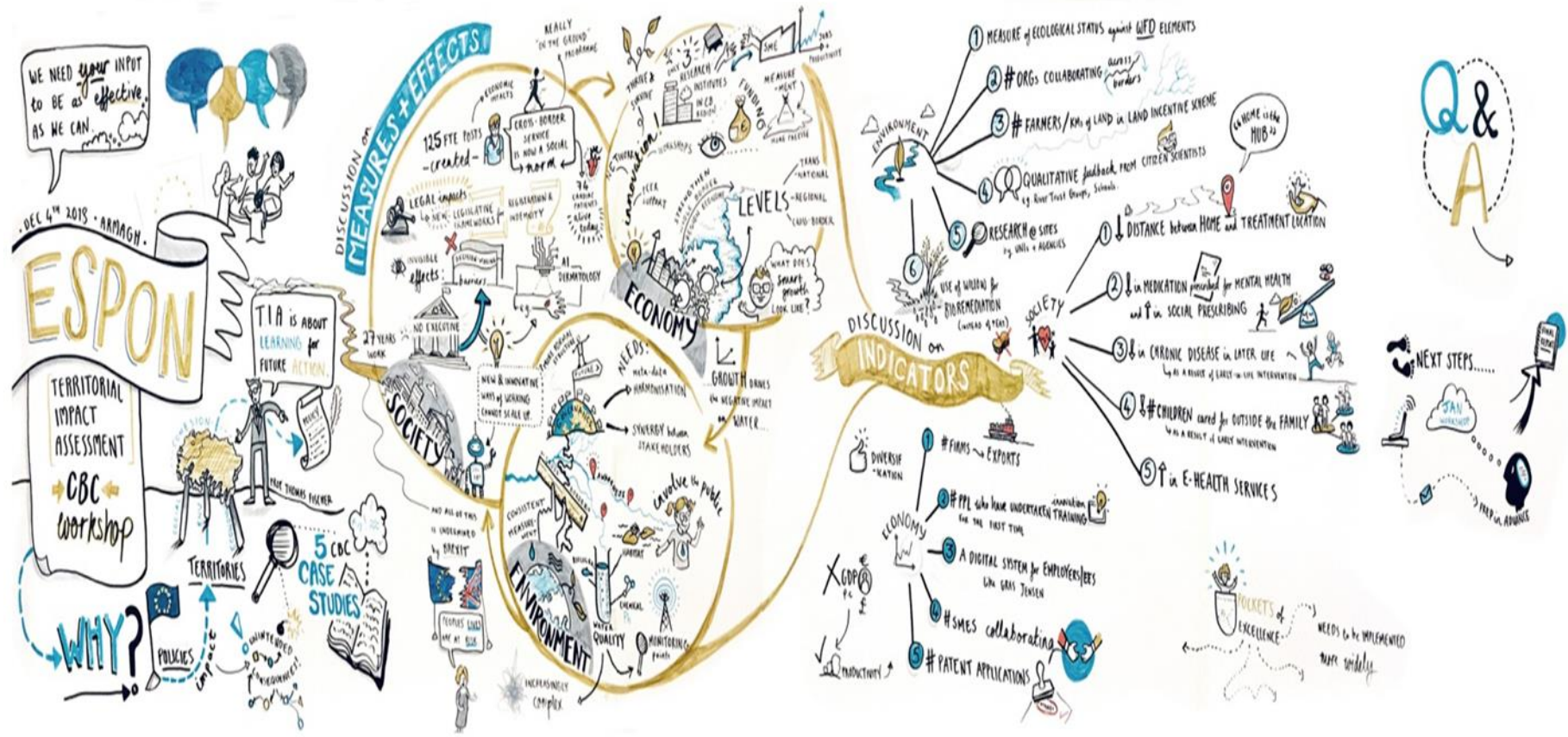
The structure of the process needs reviewing. The experts offered original insight into local conditions and devised effective indicators for their subject areas. This created a requirement for sometimes “exotic” data, which was difficult to source. More time between workshops to collate data would aid meeting the wishes of the local decision makers. Bottom-up decision making was aided by the use of graphic recording as a participation technique (see Figure 5.9). The local experts reacted positively to this approach as it facilitated thinking about big concepts, the connections between ideas and provided a visual representation of the workshops aims and outcomes (see Figure 5.8).

Figure 5.8: RoI/NI Participants



Source: Authors own (2018)

Figure 5.9: Graphic Facilitation Participation Technique



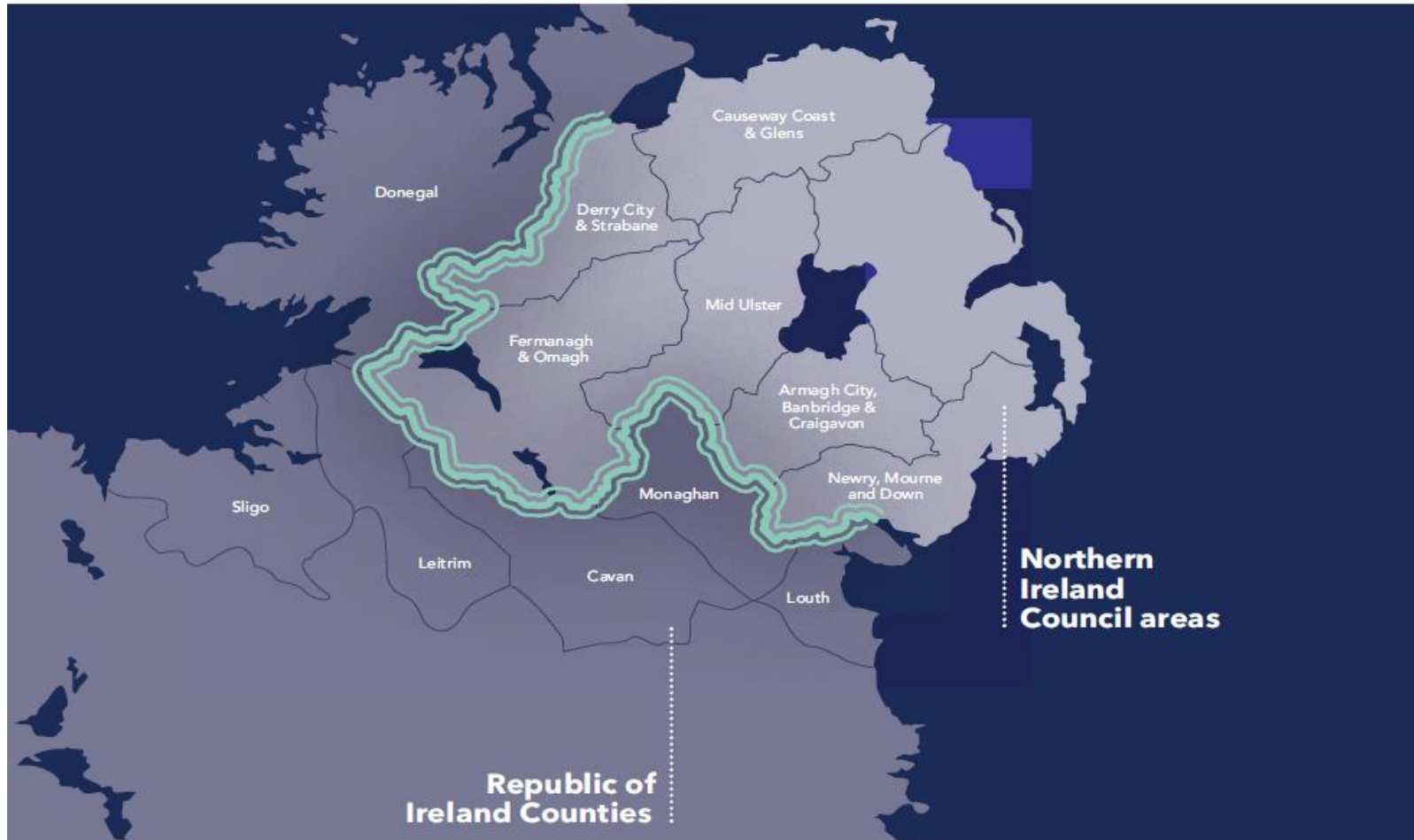
The experts felt that all the indicators would be important to have, but understood that there would be problems with data collection. For example, the Health specialists foresaw issues with patient confidentiality and sharing of data even between health organisations. They ensured that their staff collated relevant data for evaluation and future funding rounds, but many of the funded projects have only recently become operational or are yet to produce outcomes. For the purposes of this TIA, data was not readily available at this time. Alternatively, funding for collating data at project level should be included in the funding application. For this case study many of the funded projects went live at the end of 2017 early 2018, the workshop held at the end of 2018 for a funding round due to finish in 2020 has meant that this analysis is not ex-post. This could be improved by applying the methodology ex-ante, during the last year of operations or after the programme completes. Facilitating one workshop instead of two would work, if moderators were creating maps during the workshop. This would require readily available datasets at the relevant level of analysis. However, this means either local experts are not creating the indicators or potential indicators are selected by experts prior to the workshop session.

5.5.2 Intervention logic/Upscaling of Methodology

The intervention logic applied in the TIA is suitable for CBC programmes if there is comparable data available. In this case study a major problem for analysis has been the recent changes to territorial boundaries. That is, at the end of 2017, the administrative boundaries in NI for NUTS 3 level of analysis were changed to match the Local Government Districts. Effectively increasing the number of NUTS 3 areas from five to eleven. Therefore the baseline data from 2014-2017 covers different territories from 2017 onwards. This is compounded by how different disciplines collate data. In RoI the single NUTS 3 border area includes six county councils each of similar size to the Local Government Districts in NI. Yet they are grouped together for one NUTS area therefore any territorial analysis through a mapping process is not detailed enough to be an effective tool for decision making. The strength of the case study is the role local decision makers have in creating indicators that assist them in analysing the impact of their programmes. Imposing a top down methodology, negates this power. Instead the methodology appears to be about testing a GIS mapping system rather than listening to local experts or bottom-up approaches on how impact is effectively measured. The vast territorial area that NUTS 3 covers especially in RoI, means that even if data was comparable between the jurisdictions, the maps do not offer us much more information than a chart, table or graph would. If NUTS 3 is the preferred level of analysis, then any CBC programme requires similar geographic coverage (land mass/population) for each country for the information to be usefully comparable.

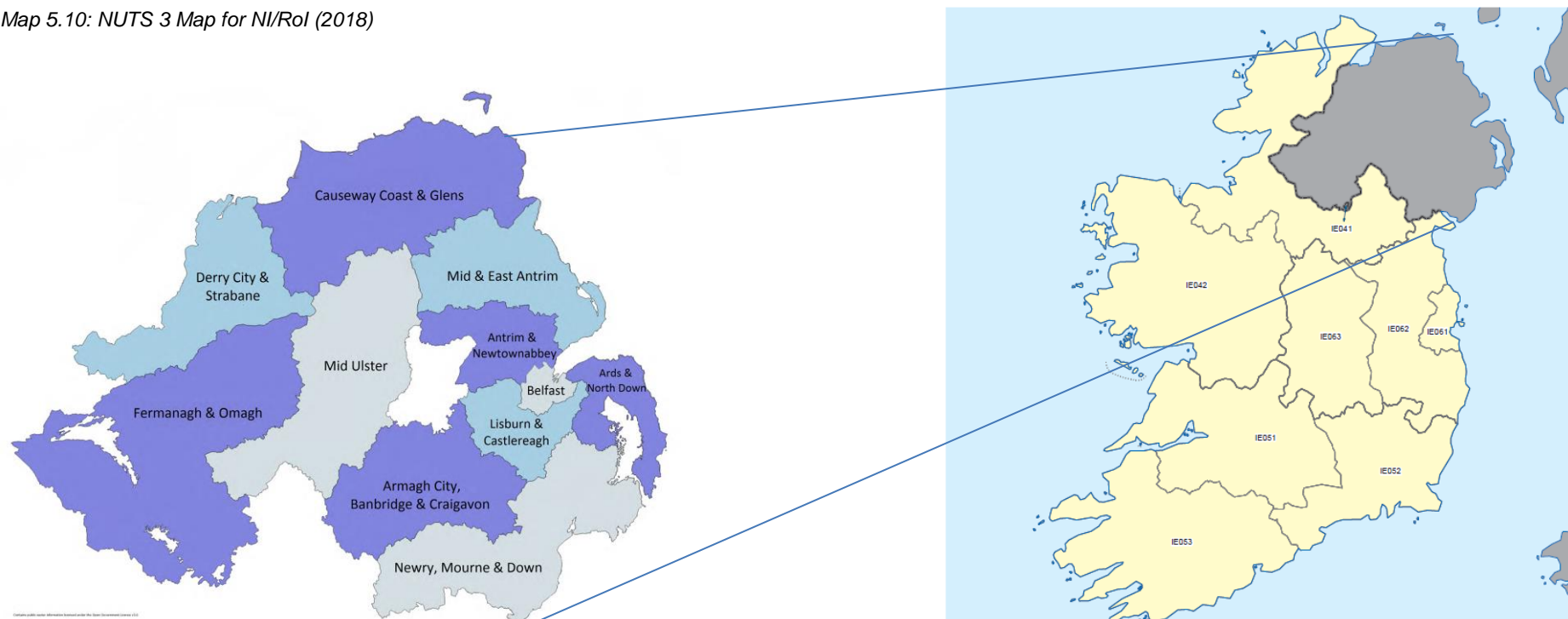
5.6 Appendix chapter 5

Map 5.9: Map of Border Territory Northern Ireland and Republic of Ireland



Source: Newry Mourne and Down District Council

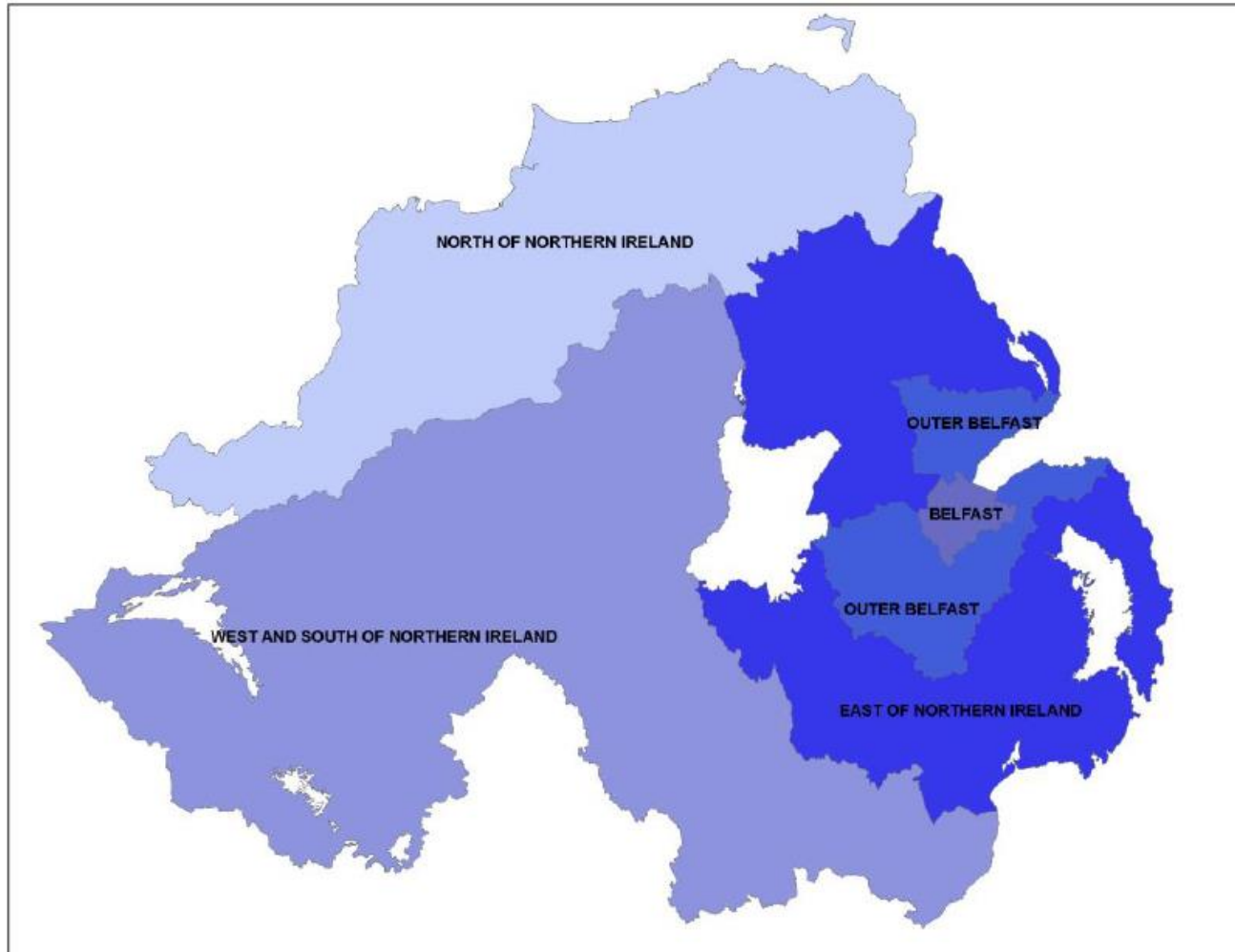
Map 5.10: NUTS 3 Map for NI/RoI (2018)



Source: NI Department for Communities (2017) Available at <https://www.communities-ni.gov.uk/sites/default/files/publications/communities/dfc-ni-councils-map.pdf>, Eurostat (2018)

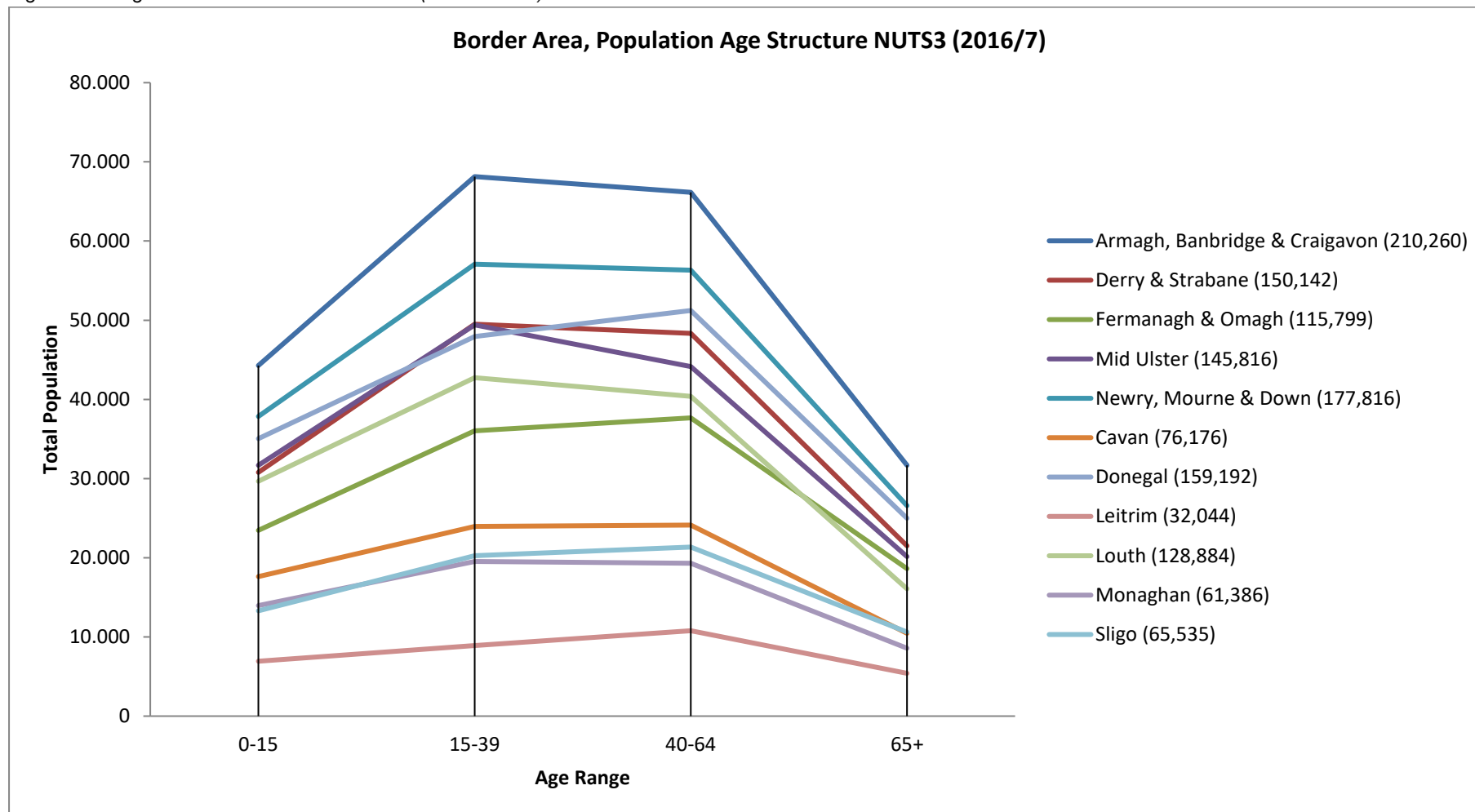
NUTS 3 boundaries in Northern Ireland were changed after review in 2017 increasing the NUTS 3 areas from 5 to 11, the border area including: Derry City & Strabane; Fermanagh & Omagh; Mid Ulster; Armagh City, Banbridge & Craigavon; Newry, Mourne & Down. In the Republic of Ireland there are a total of 8 NUTS 3 areas, the two along the border covers five county councils: Cavan; Donegal; Leitrim; Monaghan and Sligo (NUTS IE041), and Louth (NUTS IE062, note this also includes the counties of Kildare, Meath and Wicklow)

Map 5.11: NUTS 3 Areas for Northern Ireland prior to Review in 2018



Source: NISRA (2014) Available at <https://www.ninis2.nisra.gov.uk/public/documents/NISRA%20Geography%20Fact%20Sheet.pdf> (last accessed 12/01/19)

Figure 5.10: Age Structure of Irish Border Area (2016 & 2017)



Source: Adapted from NISRA (2017) available from <https://www.nisra.gov.uk/publications/2017-mid-year-population-estimates-northern-ireland> and COS (2016) Available from Ireland Central Statistics Office (2016) available at <https://www.cso.ie/px/pxeirestat/Statire/SelectVarVal/Define.asp?maintable=EY003&PLanguage=0>

6 Common CBC indicators

European Integration

Waiting time due to border controls
Duration and cost of recognition of professional qualifications
Access to housing market cross-border (number of cross-border housing)
Access to employment services in the neighbouring country
Number of cross-border workers
Number of cross-border placements (EURES)
Access to digital systems of for cross-border workers, employers and citizens
Development of the situation of cross-border citizens/workers/companies with respect to

- taxes,
- social security
- education
- housing

compared to previous years
Potential accessibility of the cross-border territory by/road/rail/air compared to previous years
Educational attainment: number of cross-border bi-diplomas
Number of hours of courses taken in the respective foreign language
CB difference: Gender balance employment
RCR 85 – Participants in joint actions 6-12 months after project completion

Regional competitiveness & sustainable economic development

Cross-border territory GDP, unemployment rate
Export in the cross-border territory
Investments by companies in the cross-border territory
Prices real estate
Investment/numbers of Social Housing
Household Income, number of households receiving social benefits
environmental indicators (air pollution, water, land-use, biodiversity, share of renewable energy, number of cars per household)
Number of SME/Companies with cross-border business
Cross-border public transport connections (compared to previous years)
Cross-border energy network connections (compared to previous years)
Employment in different sectors (agriculture, R&I, technology...)
Economic growth (GDP/capita)
Economically active population per km²
Patent applications/Mio inhabitants
Development Regional ICT infrastructure
RCR 79 – Joint strategies/action plans taken up by organisations at/after project completion
RCR 80 – Joint pilot activities taken up or up-scaled by organisations at/after project completion
RCR 81 – Participants completing joint training schemes

Cross-border Cohesion

The development of the cross-border governance system
The number of cross-border institutions (number of EGTC, etc.)
General Understanding neighbouring languages
Percentage of pupils/students learning the neighbouring language (different schools, higher education)
The quality of cross-border cooperation of

- Municipalities
- employment services
- educational institutions
- cultural organisations
- hospitals/ambulances
- tax authorities
- police forces
- disaster management
- public transport organisations

compared to previous years

The number of cross-border infrastructure projects in the sectors of traffic/energy (compared to past numbers)

Citizens/companies mind-set towards

- the border
- cross-border institutions
- the neighbouring region
- EU
- European Projects (INTERREG)

RCR 82 – Legal or administrative obstacles addressed or alleviated

RCR 83 – Persons covered by signed joint agreements signed

RCR 84 – Organisations cooperating across borders 6-12 months after project completion

RCR 86 – Stakeholders/institutions with enhanced cooperation capacity beyond national borders

7 Intervention logic tool

Programme				1 st assessment				Workshop 1				Data		Final indicators			
Pro-gramme identified needs	Pro-gramme measures	#	probable effects	pro-gramme indicators	common indicators	addition-al indicators	gaps	pro-gramme indicators	common indicators	addition-al indicators	gaps	data sources proposed	data sources used	pro-gramme indicators	common indicators	addition-al indicators	Qualita-tive/Qua-ntitative

9 Impact assessment matrix

Indicator	Assessment method	Region 1	Region 2	Region 3	Region 4	Region 5	Region 6	Region 7	Region 8	Region 9	Region 10	Region 11	Region 12	Region 13	Region 14	Region 15	Region 16	Region 17	Region 18	Region 19	Region 20	
Quantitative	Value T0																					
	Value T1																					
	Gross impact																					
	Net impact																					
Qualitative	Magnitude (0-4)																					
	Direction against baseline																					
	Temporal distribution (short/medium/long term)																					
	Justification, Notes																					

10 Programme Characterisation Report [template]

10.1 Introduction

This document acts as a summary report for the programme characterisation. It can be used as a working document throughout the process along with the corresponding excel tool. The purpose is to provide workshop participants in the next step of the TIA with information necessary to complete their tasks.

For the report, two types of information are to be collected, qualitative and quantitative. Qualitative information covers, inter alia, the programme area description, description of the needs and challenges. This information is mainly extracted and reported following the structure outlined in section 2 of this document. Quantitative data are likewise retrieved and include programme indicators, baseline values, target values, annual values among other data which can help depict each programme's current situation, needs and priorities. For this purpose, an excel tool is provided.

Documents necessary as a minimum to complete the report are:

- *Latest version of the Cooperation Programme document*
- *All Annual Implementation Reports – if only a short overview (or just the Citizens' summary) on the status of the implementation is available, please ask your contact to provide you with the full version of the report(s).*
- *Programme Manual*
- *Ex-ante evaluation report*

In addition to those documents, ask the programme stakeholders to provide you with any other internal working documents which could bring valuable information, especially with regards to the assessment of existing indicators. Any other additional documents providing valuable input to the characterisation of the programme and the programme area can be included at your own discretion.

The aim is to collect information on the relevant aspects of the general context in which a programme is implemented and that are likely to have an influence on the performance of the programme. As such, strengths and weaknesses within the programme region shall be identified and a clearer picture on the intended and unintended impacts presented.

Keep in mind, that this document is intended as input to the following workshop. The conclusions presented in here are not final, but subject to adjustments based on the outcome of the workshop. As the documents content should be easily digestible by workshop participants, keep your descriptions brief but exact – around 5-7 pages in total (excluding annexes) should not be exceeded

10.2 Programme Characterisation

10.2.1 Programme ID

Title of the programme:

Version:

First year:

Last year:

10.2.2 Context and programme area description

Geographical & territorial characteristics (e.g. demographic data, main economic characteristics). Focus on special/exceptional features as well as intra-regional disparities. Any context maps produced should be annexed in full size.

Sources: Cooperation Programme, National/Regional Statistical Offices, Literature on the Region

10.2.3 Programme framework characterisation

Describe the Thematic Objectives (TO), corresponding to the Priority Axis (PAx), Investment Priority (IP) and Specific Objective (SO) selection justification and relevance in line with the main challenges, lessons learnt from the previous programming period...etc.

Per SO, please describe the expected results and main change sought. Additionally, briefly describe the activities undertaken and the beneficiaries who have received funding as well as the total budget available. Information on that will have to be retrieved both from the cooperation programme as well as the AIRs. Also take note of any major changes to the programme area as described in the handbook.

The structure to be used could look like the following:

Specific objective **X**: Name

Priority Axis **X**: Title (TO**X**, IP **XX**)

- Brief justification: ...
- Main change sought: ...
- Activities undertaken: ...
- Beneficiaries: ...
- Funding: ... €

Sources: Cooperation Programme, Annual Implementation Reports

10.2.4 Reconstruction of the intervention logic

Please insert here the logic chains developed describing the intended and unintended programme effects. They should be available in the excel tool, however inserted here in an easy to read format for the workshop participants.

Needs	Measures	Effects

10.2.5 Programme effects – indicators

Please insert your preliminary assessment of indicators to be used for measuring each effect. Again, this should be available in the excel tool, but transformed in an easy to read format for the participants.

Effect	Indicator	Justification

10.2.6 Data assessment

Please provide a list of data sources available based on your initial assessment of data availability. Ideally, this is done by annexing the corresponding excel file as it should be in an easy to read format already. Additionally, note which indicators are likely not to have data available to populate them.

10.2.7 Additional funding instruments

Please describe the programme coordination and synergies with the ESI Funds and other EU instruments (Horizon 2020, LIFE, COSME...). This information is included in the cooperation programme. If available, also add information about any national level funding schemes.

11 Territorial Impact Assessment Report [template]

11.1 Introduction

This document acts as a scientific report for the ex-post Territorial Impact Assessment procedure for the CBC Programme **XXX**. The purpose of the report is twofold:

- Brief politicians and policymakers about the results of the Territorial Impact Assessment
- Give extensive evidence for the Territorial Impact of the Programme

For policymakers, an executive summary (section 2.2) is included in the report, giving an overview of the results in around **3** pages and informing about the main conclusions derived from the TIA. All this information is backed in detail by the technical summary of the TIA process (section 2.4) and by the comprehensive description of the territorial impact assessment (section 2.5).

Furthermore, the report shall serve as an input to future CBC programmes regarding the indicators used and gathered to conduct a territorial impact assessment. Thus within section 2.6 suggestions for indicators to be collected in the upcoming programming period are recorded.

Disclaimer: as the methodology applied to produce evidence of the territorial impact of the **XXX** CBC programme includes expert workshops and bases various steps on expert knowledge and opinions. Several measures are undertaken to ensure sound and well justified results, however an element of subjectivity based on the participating experts is inherent to the process. The results are meant to be used for decision support only.

11.2 Executive summary

Title of the programme:

Version:

First year:

Last year:

The executive summary should be usable as a standalone document, presenting results of the TIA to e.g. politicians. Keeping in mind this target audience, give a brief overview of the TIA focusing on the results. The suggested structure is either along the Thematic Objectives or Specific Objectives, depending on what makes sense for your programme. An example of an introduction and the key points per TO is provided below. It is suggested to produce this section after completing the rest of the report, as section 5 will provide a good “template” for the executive summary.

The concept of a territorial impact assessment (TIA) for cross border programmes aims at showing the regional differentiation of the impact of a cross border cooperation (CBC) programme on the programme region. The results are based on the methodology of the ESPON TIA CBC project, which combines both quantitative data and qualitative expert assessments

to produce evidence of the territorial distribution of impacts. In the course of the TIA, **two** expert workshops have been held on the **xxx in xxx** and on the **xxx in xxx** with participants from **(name exemplary backgrounds)**. The input gathered from and expert discussions held in these workshops have been translated into the present report by the authors from **(name your organisation)**.

SO 1: xxx

- *Main undertakings of the programme in that SO – actions, beneficiaries?*
- *Main effects that could be created by the programme*
- *Distribution of effects – territorial pattern: are there regions that were more affected than others? Which? What do they have in common?*
- *On which actions by the programme is that distribution based? What funding was made available?*

11.3 Initial programme assessment findings

The following sections can be copied directly from the initial programme report. They are included here to have a comprehensive final report standing for itself.

11.3.1 Context and programme area description

Geographical & territorial characteristics (e.g. demographic data, main economic characteristics). Focus on special/exceptional features as well as intra-regional disparities.

11.3.2 Programme framework characterisation

Describe the Thematic Objectives (TO), corresponding to the Priority Axis (PAX), Investment Priority (IP) and Specific Objective (SO) selection justification and relevance in line with the main challenges, lessons learnt from the previous programming period...etc.

Per SO, please describe the expected results and main change sought. Additionally, briefly describe the activities undertaken and the beneficiaries who have received funding as well as the total budget available. Information on that will have to be retrieved both from the cooperation programme as well as the AIRs. Also take note of any major changes to the programme area as described in the handbook.

The structure to be used could look like the following:

Specific objective X : Name

Priority Axis X: Title (TOX, IP XX)

- *Brief justification: ...*
- *Main change sought: ...*
- *Activities undertaken: ...*
- *Beneficiaries: ...*
- *Funding: ... €*

Sources: Cooperation Programme, Annual Implementation Reports

11.4 TIA Process

The territorial impact assessment process leans on desk research as well as expert input in a workshop setting. The systemic picture of the programme functioning (Intervention logic), the indicator selection, the net impact determination as well as the conclusions are never attributed to one method alone, but are always the result of a joint effort. The core element of the process is the Impact Assessment Matrix (IAM) which is presented in section xxx. In this section, the working steps are described which are undertaken to produce the evidence of the territorial impact, the elaboration of the impacts and the conclusions derived thereof are presented in the following section xxx.

11.4.1 Selection of TOs and TIA area

(if relevant)

If you have either reduced the number of SOs/TIOs or the regions included in the TIA, please give your justification for that. An important rationale here are the financial allocations (state the shares of the total budget!) but also the thematic priorities.

11.4.2 Finalized intervention logic

The intervention logic represents the systemic picture of how the programme functions in the programme area. The needs identified for the regions are tackled by measures funded through the programme. These measures have effects on the region, which are depicted via indicators in a territorial impact assessment. The indicators are either

- result indicators applied by the programme itself – marked (R)
- common CBC indicators as provided by the methodological handbook – marked (C)
- additional indicators developed by each case study tailored to the programme –marked (A)

The intervention logic is a chain establishing a logical and coherent link between the programme, the effects on the regions and the indicators measuring these effects. It is the necessary basis for all further assessments made.

Add the representation of the intervention logic for all SOs following the example of the table below. Structure it per SO, also giving the title. Please mark indicators according to the described system with (R), (C) and (A)

Table 11.1: SO **number: title**

Needs	Measures	Effects	Indicators

11.4.3 Indicators

11.4.3.1 Indicator data

Indicators linked to effects in the intervention logic presented above have been populated with quantitative data wherever possible. It was aimed to obtain data for the baseline year as close as possible to 2014, and for the reference year as close as possible to the current year (2018). In this way, quantitative data for (number) indicators could be collected. For (number) indicators, no quantitative data is available so a qualitative assessment in an expert workshop was conducted. The metadata for these indicators is provided in Table 5.2.

For each indicator, provide information on: name, source, baseline year, reference year considered for the TIA, the assessment method (qualitative/quantitative) and if the indicator is a common CBC indicator as provided in the handbook. Please name all indicators, even those who had no quantitative data available.

Table 11.2: Indicators

Name	Source	Baseline Year	Reference Year	Assessment method	Common CBC Indicator (Y/N)
.....					

Additionally state here, out of which of the three groups (European Integration, Regional Competitiveness, Cross Border Cohesion) you selected common CBC indicators. For each of the three groups you did NOT select an indicator out of, briefly explain why not (e.g. because the funding in this sector was too low compared to others, the experts identified no relevant effects...)

11.4.3.2 Net impact determination methods

The indicator data obtained as described above represents a gross value, thus an assessment of how big the net contribution of the programme for each indicator value has been was conducted. Based on the varying nature of the indicators, different approaches have been applied as provided by the methodological handbook of the ESPON TIA CBC project.

For each indicator (or groups of indicators, if they were assessed alike), provide a description of how the net impact was assessed. If one of quantitative the approaches provided by the handbook was used, state e.g. who was interviewed for the “counterfactual” approach or which other funding data was used in the “funding framework” approach. briefly describe the calculations done in those cases to arrive at the net impact. It is not necessary to name the values per region here, as they will be presented in the IAM.

11.4.3.3 Impact Assessment Matrix

The results of each working step of the TIA process have been fed into the Impact Assessment Matrix (IAM), representing the combined input of the case study team as well as the

experts taking part in the TIA workshops. The IAM provides a comprehensive overview of those working step results and is the basis on which the textual impact assessment in the following section is formulated.

Please fill in the content of the IAM. As the table size could be quite large depending on the number of regions included, we will not produce a default table here –do that as you see fit for your table.

Table 11.3: Impact Assessment Matrix

Indicator	Assessment method	Nature of Impact	Region 1	Region 2	Region 3	Region ..
		Value T0				
		ValueT1				
	Quantitative	Gross impact				
		Net impact calculation method				
		Net impact				
		Magnitude (0-4)				
	Qualitative	Direction against baseline				
		Temporal distribution (short/medium/long term)				
		Justification, notes				

11.5 Territorial Impact Assessment Results

11.5.1 Summary of main findings

Give a brief summary of the main results that are described in the next section. What are outstanding effects on the regions? Which regions have been mostly effected, which have been subject minor effects only? In which thematic fields could effects mostly been generated?

11.5.2 Impact on the regions

In this section, the regional distribution of impacts should be described and explained. Depending on your results and your programmes structure, it is suggested to again structure either along SOs or TOs here. Maps are an important part of this section – there has to be at least one for each SO or TO, which depicts the regional impact distribution. Base your assessment on the discussions in the workshops, the data you obtained and calculated and the justifications the experts gave for their judgement. It is not necessary to provide values for single regions, but rather describe patterns for the effects, e.g. if mostly urban regions are affected, or if mostly regions on one side of the border are, or if the distribution of impacts is equal across the regions. After all, the focus of this section is on the effects, not on the indicator values – indicators are just a means of “translating” effects on the regions.

Keep in mind, that there are no “absolute truths” presented here but results based to some extent on expert opinions.

11.6 Methodological commentary for the programme set-up

This section should include comments and conclusions to the methodological set-up of the programme that came up during deeper analysis of the programme in the impact assessment. These are, e.g. comments on existing indicators and their limitations; they serve as additional input for future programming and indicator selection. These kinds of observations gained during impact assessment can be compiled with expert observations about the programme set-up made previously during the initial stages of the process (analysis of the intervention logic, selection of indicators for the TIA) and summarized in this section. Methodological comments can be structured per SO/TO.

12 Guidance on utilisation of ex post TIA results for CBC programmes

12.1 Introduction: A guidance made for CBC programme implementers

ESPON projects produce their results based on scientific work and evidence base. The results are presented in comprehensive reports. This ESPON project has chosen a path that directly leads to one of the key target groups – i.e. the CBC Programme stakeholders:

This document is written in a compact way and in a less scientific language. It is designed for direct use by the CBC programme representatives, but also as an inspiring read for the policy decision makers.

The “Guidance on integration of ex post TIA and of utilisation of ex post TIA results for CBC programmes” is an integrated document that comprises an umbrella guidance and a set of three instruments that are designed for direct use:

- The main text of the present guidance is designed as a comprehensive tool that helps programme actors and policy makers to better understand the relevance of an ex post TIA in various programme processes and to receive concrete guidance in how to implement different scenarios on the use of ex post TIA results.
- an overview on the lines of communication for 60 CBC programmes which will be a relevant basis for categorising and recommending suitable communication on an individual programme level.
- a set of Terms of Reference (ToR) for tendering an ex post TIA that will be a tool based on the insights of the overall guidance that helps programmes to tender an ex post TIA.
- a “Communication guidance” that provides concrete steps for organising the communication of the ex post TIA results and for communicating the carrying out of an ex post TIA. Furthermore, the communication guidance will help programmes to identify their own communication profile and select their own communication tools.

Due to the fact that the three deliverables represent tools that concretely help programmes to plan, tender, carry out and communicate an ex post TIA, they can be seen as implementation tools based on the general guidance.

This document provides an integrated prospect on the different options how to use the results of an ex post TIA in cross-border Interreg programmes.ex post. It explores a variety of options how an ex post TIA results can be useful for not only the programming process, but also for steering, monitoring and dissemination of the programme and its project. Furthermore, the document provides practical guidance on how to integrate an ex post TIA into the real conditions of Interreg A programming cycle, identifying barriers and constructive pathways.

The document will thus be a tool for both policy makers and CBC programme bodies in order to initiate and push the following procedures:

- Room for discussion of barriers and drivers within the programme bodies
- Concrete guidance and tools (see Annexes) that help the programmes to manage the integration of an ex post TIA in their working routines
- Different scenarios that show how an ex post TIA can be used.

Table 12.1: Different ways on how CBC programmes could use this guidance

Purpose	Activity
Room for discussion of barriers and drivers	Based on the guidance, a structured discussion about the relevance of an ex post TIA is possible within the programme representatives and possibly also stakeholders. Different advantages and barriers can be reflected and concrete implementation scenarios point towards synergies and benefits of the ex post TIA process.
Concrete Integration of the ex post TIA into the working routines of the programme cycle	Every CBC programme follows a typical lifecycle with different stages and different tasks are assigned to these stages. This guidance “thinks along” and proposes smooth ways how to integrate an ex post TIA into these working routines
Choosing between different scenarios on how to use an ex post TIA	The guidance proposed different scenarios how to use ex post TIA results. These scenarios comprise concrete proposals for activity.
Concrete help for practical working steps	To implement an ex post TIA comes along with tasks like “communication” and “procurement”. The guidance will provide practical support with concrete tools to be used that are listed in the Annex.

Source: consortium

12.2 Using ex post TIA CBC in real conditions – Approach, Drivers and barriers

12.2.1 General approach: Exploring multiple uses along the programme’s life cycle

The CBC programme cycle

The options for the implementation and use of an ex post TIA and its results go far beyond the mere revision of the programme design. In fact, it is recommended to reflect the integration of an ex post TIA and the use of its results along the complete programme life cycle. In fact, a more integrated approach opens up new opportunities for territorial learning, more refined programme impact and for substantial communication with target groups such as wider public, stakeholders and policy makers.

A programme life cycle of a CBC programme can be typically described in four phases:

- Programme development, where a cross-border decision-making group, together with EU representatives, agrees on the interpretation and profile of the programme, based on a socio-economic analysis that has been carried out.
- programme implementation, which is – in many programmes - organised in a series of “calls for proposals” and which requires continuous monitoring whether the programme proceeds towards its chosen objectives and targets.
- programme evaluation, where the programme’s performance and impact is assessed and documented by external experts and which leads to insights for both the fine-tuning of the implementation and the future design of the next programme.
- dissemination of the programme’s achievements which connect the aggregated programme results to different stakeholders such as potential applicants, general public and regional, national and EU policy makers.

These phases are overlapping and have subsequent starting points. However, the dissemination function has distinct foci that are complementing the different phases that can also take place before the end of the programme. For the demonstration of the use of the ex post TIA, however, the focus lies especially on the phase where the programme’s has accumulated a

critical mass of achievements to be assessed and communicated and not in the day-to-day communication activities along programme implementation.

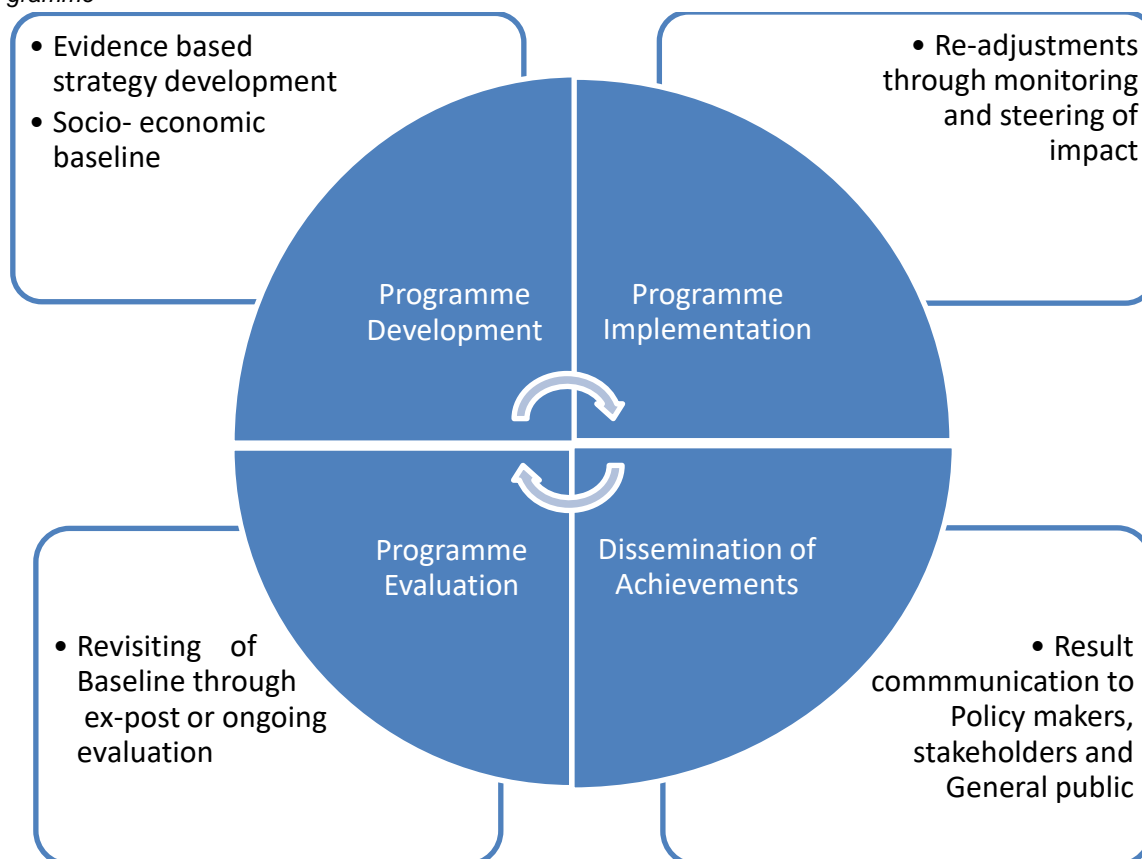
To obtain most complete results of an ex post CBC TIA, it is, thus, recommended to conduct a CBC TIA towards the end of implementation and as part of programme evaluation. This is when most significant effects can be identified given the likelihood of data availability. Once these results have been identified, their communication can take place at different stages of the programming cycle, as described below.

Needs for territorial fact based information along the programme cycle

All these phases have a strong connection to territorial needs and a measurement of these needs would therefore have the potential to make the process more transparent, more tangible and understandable.

The following picture shows an overview of the different territorial needs within these different phases:

Figure 12.1: Different phases and related territorially relevant tasks along the life cycle of a CBC programme



Source: consortium, 2019.

Use of ex post TIA results to better get a grip on the territorial changes in the programme area

In fact, the following use of an ex post TIA and its results can be closely connected to the different phases of the programme cycle, because it has the potential to substantiate these phases by delivering fact based evidence on the territorial status of the area.

The different phases of the programme cycle do include distinct instruments to carry them out:

- Within the programme development, the actors refer to especially two documents: The analysis of recommendations from the evaluation as well as the socio-economic analysis as a fundamental basis for the further selection of programme priorities.
- During the project implementation, various monitoring and steering functions are to be carried out: Continuous monitoring of targets, results and impacts as well as decision-making on steering and fine-tuning during the implementation.
- Programme evaluation: Here, an external evaluation document is being developed, either during the programme (ongoing evaluation) or at defined stages of the implementation (ex post, mid-term, ex-ante)
- Dissemination of programme achievements: Here, various documents for different stakeholder groups (policy makers, general public, potential applicants) are being developed.

The following table gives an overview on how the results of an ex post TIA can be integrated into the projects life cycle. Furthermore, it shows how the programmes routine tasks along the programme cycle can concretely be connected to the implementation of an ex post TIA.

Table 12.2: Overview: Integration of ex post TIA and use of ex post TIA results in different stages of the CBC programme's life cycle

Programme phase	Use of ex post TIA results	Integration of the use of ex post TIA results into the process
Programme development for next period	Better understanding of socio-economic baseline Evidence based and targeted strategy development	Findings from an ex post TIA from the previous programme can be used as an input to development of a new programme
Programme implementation: monitoring and steering of impact	Revisiting the programme strategy and refining financial allocations or development of targeted calls	Ex post TIA results to contribute to monitoring and steering: Ex post TIA results covering the entire programme strategy or targeted selection of ex post TIA results focusing on a specific aspects
Dissemination of the programmes achievements	Improved evidence for targeted communication to policy makers, sectoral stakeholders or potential or approved applicants	Ex post TIA results as part of the documents
Programme evaluation	Use of and evidence based evaluation	Ex post TIA and ex post TIA results as part of the programme evaluation, contributing to answering evaluation questions
Programme communication with policy makers	Communicating results of the programme performance to policy makers; Evidence based consultation phases for the preparation of upcoming programmes	Ex post TIA results as part of the documents

Source: consortium

12.2.2 Benefits for carrying out an ex post TIA

Apart from the fact that an ex post TIA can be carried out in different ways, intensities and details, the focus on this document is to describe opportunities how to make use of an ex post TIA. There are various benefits that compensate for the extra administrative burden of the performance:

- An ex post TIA can serve as an integrated instrument contributing to programme actions that are obligatory and that can be financed out of the Technical Assistance such as evaluation, development of a socio-economic analysis, evaluation and/or dissemination and communication of programme achievements.
- An ex post TIA can assist a better understanding of the concrete effects and contribution of CBC programmes to the regional development of a cross-border region. An ex post TIA can help to understand how cross-border projects generate effects in the region as a whole.
- The communication of ex post TIA results to the wider public can help to contribute to a better cross-border identification of the citizens with “their” region. A ex post TIA can demonstrate how regions grow together and how interdependent they are.
- In the course of the upcoming EU directives on the structural funds, the policy objective of “Europe for the citizens” can be supported through projects of which the effects can be measured through an ex post TIA. It can make programmes and their impact more concrete and better communicable to the audiences.
- Policy makers can be informed in a more concrete and evidence-based way about the achievements and effects of a CBC programmes.
- Evidence base about the effects can also help to better inform representatives of different sectors that are normally not acquainted with CBC programmes at all.

12.2.3 Reality of the CBC programme’s life cycle

In order to make an ex post TIA a useful and desired tool for CBC programme bodies, it is relevant to be acquainted with concrete working routines of the programme in order to better understand and tackle barriers that might prevent the use of an ex post TIA.

In fact, there are both organisational and structural aspects that are relevant:

- Programme representatives face enormous time pressure and would have problems to concentrate on an additional task, also, if the use and benefits are fully acknowledged. Here, it is relevant to demonstrate that the execution of an ex post TIA can be closely combined with the elaboration of obligatory documents such as evaluation reports, socio-economic analyses etc. Furthermore, it has to be demonstrated that an ex post TIA can significantly improve the quality of these documents.
- The procedures to initiate, tender, carry-out and measure the results of an ex post TIA must be understandable for the people who need to manage and control these procedures. In most cases, these are the programme bodies. However, the programme bodies of a CBC programme are staffed with experts representing different levels of expertise. It is of crucial relevance that they receive enough comprehensible guidance to execute the task without the need to become a spatial planning expert.
- The programme development and implementation is subject to complicated decision-making procedures. On the one hand, CBC programme committees require the cooperation of neighbouring regions. Furthermore, there are ongoing decision-making procedures (programme approval, reporting of the programme achievements) between the EU commission and the regions that represent the programme. It is relevant that an ex

post TIA does not lead to more complicated procedures, but is perceived as an instrument that contributes to cohesion. Consequently, the carrying out of an ex post TIA needs to provide pathways how the cross-border region can be better integrated.

- During the programme implementation, there is a continuous, obligatory monitoring and communication need which is time consuming and needs good evidence to push the process. Here, it is relevant that ex post TIA results are prepared in a way that they fit smoothly into the process.

The following table lists the most significant barriers that arise from the reality of an ex post TIA implementation process.

Table 12.3: Barriers for ex post TIA integration and possible solutions

Barriers	Challenge	Possible solution
Time pressure in programme development due to complex decision-making procedures	ex post TIA might be looked as an additional burden	Use in synergy with the results of the ex post evaluation or as part of socio-economic analysis Both information are strongly needed in the programme and an ex post TIA could contribute to the results.
Time pressure during programme implementation	Difficult to determine the right timing, difficult to make capacities available	Use ex post TIA as part of ongoing monitoring and evaluation, use it as tool for steering and revisiting programme impact
Sectoral stakeholders are sometimes not very interested in CBC programmes as a whole	ex post TIA results might be too complex and too integrated to be processed by the target group	Use sectoral aspects (e.g. only information on mobility) as part of a targeted communication
Different levels of expertise among programme bodies	ex post TIA might be too complex and requires too much expertise	Providing "easy-to-implement" guidance

Source: consortium

12.3 Scenarios for the use of an ex post TIA results: Fact-Sheets

12.3.1 Implementation Scenarios for use of ex post TIA results: An approach to a practice-oriented and comprehensive user guidance

The use of an ex post TIA and its results can be reflected from the perspective of territorial need. However, this does not fit to the practical needs of the programme bodies and the staff that needs to implement the work.

It is significant that the implementation of an ex post TIA and the use of ex post TIA results are guided in a practical way and that the management of the implementation has to be done in co-operation between the programme bodies, experienced moderators and service providers.

Therefore, a series of implementation scenarios comprise not only the territorial significance, but do also answer to more practical questions with regards to the "when", "why" and "how".

The following scenarios have been chosen to be reflected in more detail through a scenario based fact sheet:

- Scenario 1: ex post TIA contributing to improved understanding of the socio-economic framework condition of the programme area.
- Scenario 2: Using ex post TIA results for improved monitoring and steering of the programme implementation
- Scenario 3: ex post TIA as a basic ingredient for a citizen-oriented communication

- Scenario 4: ex post TIA results as a contribution to successful communication with policy makers

In order to make the different options for using an ex post TIA and its results, the following chapter describes and reflects different scenarios more closely.

12.3.2 Scenario 1: ex post TIA contributing to improved understanding of the socio-economic framework conditions of the programme area

The ex post TIA provides valuable information on the status and the dynamics of territorial information in the programme area. It can provide examples for measurable territorial changes or contribute to the interpretation of observed changes.

Both of these information could also be used as valuable contributions to two activities that a can be part of the programme performance during its life cycle:

- The ex post evaluation which is tendered and procured after the programme has been finalised. This evaluation can provide valuable information for the next programme.
- The socio-economic analysis which represents a key starting point for the determination of the thematic programme priorities by assessing the socio-economic status and the territorial needs of the programme region.

Both programme tasks manage highly territorial information. If this would be synchronised in a timely way, the activities could support each other. It would also be imaginable that the tenders could be merged and that an ex post TIA could be “incorporated” into the other assignments. It would require a broader range of expertise to be provided by experts, but it would significantly deepen the understanding of the territorial development of the areas.

Table 12.4: Overview table summarising scenario 1 "ex post TIA contributing to improved understanding of the socio-economic framework conditions of the programme area"

Which scenario for use of ex post TIA results?	Contributing to improved understanding of socio-economic framework conditions of the programme area
Purpose?	Deepening the knowledge about the programme area Use of the ex post TIA and its results to better define a precise strategy and programme contribution in a wider socio-economic context Improve understanding of the original socio-economic analysis that was the basis of the programme document Improve better understanding of the effects of the CBC programme Development of a referenceable baseline for the development and monitoring of the programme strategy.
When?	Timely synchronisation, co-ordination or technical merging of the ex post TIA with the tendering and implementation of the Ex-Post Evaluation or the Socioeconomic Analysis
Main obstacles and success factors	The timely achievements of ex post TIA results is crucial for a proper synchronisation with the programme development. The constructive use of ex post TIA results can be boosted if the results are connected to the new programming phase on time.
Desired outcome	The ex post TIA provides a more general understanding of the programme area and its socio-economic settings, thereby making a connection to the areas of influence of the programme content. Furthermore, the ex post TIA results can serve as a basis for a better evidence based baseline. This would e.g. include an improved choice of programme indicators that could partly be measured through an ex post TIA.
Target groups	Programme bodies, EU-Policy level

Source: consortium

12.3.3 Scenario 2: Using ex post TIA results for support of monitoring and steering of the programme implementation

Programme bodies have to undertake a multitude of parallel activities during the programme implementation: Besides managing calls, selecting and approving projects, assisting and supervising the project implementation, they also have to monitor the programme progress following the indicators chosen during the programme development.

This monitoring is also strongly connected to thematic steering activities. For example, the monitoring might lead to the insight that a specific thematic target has already been achieved and that funds could be re-allocated to support other thematic priorities in the remaining programme phase.

Here, the implementation of an ex post TIA can substantially help to create a sound baseline more measuring the programme's progress. Based on this, key indicators can be selected that can show the progress in a specific thematic field. Mutually, the projects can also be asked via the reporting rules to provide information on selected key indicators.

Table 12.5: Overview table summarising scenario 2 "Using ex post TIA results for improved monitoring and steering of the programme implementation"

Which scenario for use of ex post TIA results?	Support of monitoring and steering of programme implementation
Purpose?	Refined calls for improved acquisition of projects with regards to the programme strategy or development of specific additional guidance on the thematic profile or applications.
When?	In the second half of the programme implementation
Main obstacles and success factors	Time pressure
Desired outcome	Feedback on gaps in the implementation of the programme strategy Evidence basis for targeted calls or re-allocation of funds between priorities
Target groups	Programme bodies implementing the programme

Source: consortium

12.3.4 Scenario 3: ex post TIA results as a basic ingredient for a citizen-oriented communication

It is a key objective of good communication to start an effective stakeholder communication by addressing aspects and facts that are both familiar and relevant for those target groups. In this context, CBC programmes often face the challenge that information is either very project specific or quite abstract due to aggregated programme information (e.g. how many funds have been allocated etc.).

Here, the concrete indicators measured and assessed through carrying out an ex post TIA have the potential to deliver more understandable and accessible information that is closer to the day-to-day life of the citizens.

Table 12.6: Overview table summarising scenario 3 "ex post TIA results as a basic ingredient for a citizen-oriented communication

Which scenario for use of ex post TIA results?	Citizen oriented communication
Purpose?	Better identification of the citizen with the cross-border nature of the programme area Improved awareness of the citizen about the impact of Interreg
When?	Either – using the ex post TIA results of the Ex-post or the programming phase: First half of the programme implementation or – a new ex post TIA during the programme implementation: Second half of the programme implementation.
Main obstacles and success factors	Citizens not aware or not interested, need for good storytelling
Desired outcome	Improved awareness of different sectors
Target groups	Citizens from different sectors.

Source: consortium

12.3.5 Scenario 4: ex post TIA results as a contribution to successful communication with policy makers

Policy makers can be defined as people especially in a government or political party, who decides on new policies⁷⁰. In the context of a CBC programme, especially the following policy makers are relevant to be addressed:

- Policy makers on European Commission level: These are the responsible co-ordinators on the level of the European commission who prepare and implement decisions on new regulations for Cohesion Policy and who are the responsible officers for the respective CBC programmes who approve the financial flows and the reports. From the viewpoint of the CBC programme bodies, it is of major interest to demonstrate progress and success of the funding instrument and to report interesting facts that are memorable and show the specificity of different CBC territories.
- Policy makers in the CBC regions that are responsible for the decision-making on development and implementation of the CBC programmes. They need to receive clear and convincing information that they can identify with and that is compliant with the overall regional policies.
- Policy makers on local and regional level in the regions that are potential applicants and therefore relevant programme stakeholders. They need to receive convincing information that their institutions can benefit from CBC programmes and that these deliver tangible and communicable success.

In all four cases, the benefit of using ex post TIA results remain the same: It is possible to tell “tangible stories” and, at the same time, deliver precise and place-based territorial data that show dynamics and that can underline the programme impact. An ex post TIA can be considered to provide a pool of data from which data can be prepared to address individual governance levels or sectoral target groups.

⁷⁰ <https://dictionary.cambridge.org/de/worterbuch/englisch/policy-maker>

Table 12.7: Overview table summarising scenario 4: ex post TIA results as a contribution to successful communication with policy makers

Which scenario for use of ex post TIA results?	Communication with policy makers
Purpose?	Underline the relevance of CBC programmes through highlighting their effects
When?	Final phase of programme cycle and transition phase to new programme
Main obstacles	Regional policy makers are not aware of the relevance of CBC, need for precise and sectoral communication
Desired outcome	Evidence-based feedback to policy makers that decide on future of CBC programmes Convincing success stories that fit the sector or the level of the policy maker
Target groups	Policy makers on regional, national and EU level

Source: consortium

12.4 Appendix 1, chapter 12: Communication guideline for four scenarios for the use of ex post TIA results

Figure 12.2: Quote from the Interact Communication Toolkit 3.0.

“The two words information and communication are often used interchangeably, but they signify quite different things. Information is giving out; communication is getting through.”

Sydney Harris

Source: www.interact-eu.net

12.4.1 Background and use of this guidance

The present guideline on communication is designed to be a direct step-by-step help for programme actors who are planning to perform an ex post TIA under one of the four scenarios mentioned in the guidance.

The guideline is based on an analysis of the communication priorities set by the ETC programmes themselves. Especially the Interreg B programmes invest significant capacities in integrating all project actors into their activities.

The communication performed by Interreg and CBC programmes is anchored in a legal basis as set out in the EU Common Provisions Regulation (CPR) No 1303/2013 and the IPA Implementing Regulation. All CBC programmes are required to develop and conduct a communication strategy. For this guidance, it is relevant to reflect how to integrate the communication of the ex post TIA results into these obligations and how to enable programmes to improve their communication through ex post TIA results.

For the present guideline, it is relevant to make the connection to the communication working routines of Interreg programmes. As an overarching umbrella programme, the INTERACT programme provides help and facilitation to all Interreg programmes. Within this context, INTERACT has developed a guidance “Project communication”⁷¹ in which reference is made to the “Communication toolkit”⁷² that represents a concrete step-by-step guide for project communication. The present guideline will follow the causal logic of the toolkit when applying the principles to the communication of the scenarios. The toolkit is described as a “compilation of global recommendations for effective communication tailored to Interreg-specific context to help programmes plan and carry out their communications more effectively and in synergy with other programmes.”.

12.4.2 Who exactly is communicating what in Interreg CBC programmes?

Interreg programmes are managed by a co-operating set of programme bodies and committees who develop, implement, disseminate and evaluated the programme with distinct roles. With regards to the main communication needs, the tables 12.8 and 12.9 show the distribution of obligator communication tasks among these programme bodies, namely the Joint Secretariat (JS), the Managing Authority (MA), the Contact Points (CP), the Monitoring Committee (MC) and the National Authorities (NA). Within these tables, a clear tendency can be observed that is relevant for the planning of ex post TIA CBC scenario related communication:

- (1) The communication tasks that are pointed towards the general public and relevant and potential applicants are mainly performed by the JS, the CPs and the MA.
- (2) The communication to policy makers on a European scale are mainly performed by the National Authorities.

This insight is fully applicable to the integration of ex post TIA results in the communication tasks, as shown in the following table:

Table 12.8: Performance of different scenarios by programme bodies

Scenario from overall guideline	Target group category	To be implemented by
Scenario 1: ex post TIA contributing to improved understanding of the socio-economic framework conditions of the programme area	Both: Within programme area and to EU Level	JS, MA, NA
Scenario 2: Using ex post TIA results for improved monitoring and steering of the programme implementation	Within programme area	JS, MA, MC
Scenario 3: ex post TIA results as a basic ingredient for a citizen-oriented communication	Within programme area	JS, MA, NA
Scenario 4: ex post TIA results as a contribution to successful communication with policy makers	Both: Within programme area and to EU Level	MC, NA

Source: consortium

⁷¹ www.interact-eu.net/download/file/fid/13786

⁷² http://www.interact-eu.net/library?title=&field_fields_of_expertise_tid=19#798-handbook-communication-toolkit-0

Table 12.9: Programme communication tasks and the responsible bodies as set out in the Interact Communication Toolkit, part 1

Daily task / programme body	Joint Secretariat	Managing Authority	Contact/Info points	Monitoring Committee	National Authorities
Overall control over project promotion activities	● ●	●			
Collecting information and creating the project stories	● ●		●		
Identifying projects and channels through which they are promoted	● ●	●			
Inviting highlighted projects to major programme and external events	● ●		●		
Direct contact with authorities regarding the promotion of projects	● ●		●		
Allocating tasks among programme bodies or asking for assistance in promoting highlighted projects on their channels	● ●	●			
Attending project events	● ●	● ●	● ●		● ●
Providing guidance related to the visual identity, to programme bodies and projects partners	● ●		●		●
Providing guidance to projects, training, informing and inviting to EU wide events to showcase the project results	● ●		●		
Approving JS proposals, guidelines, procedures etc		● ●		● ●	● ●
Procuring the tools/services needed for promotion, including projects		● ●			

Source: www.interact-eu.net

Table 12.10: Programme communication tasks and the responsible bodies as set out in the Interact Communication Toolkit, part 2

Daily task / programme body	Joint Secretariat	Managing Authority	Contact/Info points	Monitoring Committee	National Authorities
Attending higher profile events	●	●●		●●	●
Reaching out to programme stakeholders' institutional channels (e.g. ministry website, municipal journal, etc)	●	●●	●	●●	●●
Reaching out to media through organisations' press offices		●●		●●	●●
Participation in best practices or other types of project promotion activities.		●●	●		
Distributing products prepared for project promotion to local target groups			●●		●●
Organising promotion events of project with partners from specific countries			●●		●●
Collecting information for JS and maintaining contact with NA			●●		
Inviting projects to the national events			●●		●●
Support at national level, especially with events			●●		●
Reaching out to policy makers		●		●●	●
Disseminate information about the programme and its projects			●●	●●	
Participating to local project promotion events	●●			●●	●●
Support in national, specific rules and project promotion opportunities			●●		●●

Source: www.interact-eu.net

12.4.3 General tasks to get started: Self-assessment on programme specific communication profile and on the most powerful storylines

Territorial facts are fun to read! Although the overall term might sound theoretical and abstract, the results of an ex post TIA are good sources to tell concrete “stories of change” with whom people can connect. Therefore, storytelling is a powerful tool to communicate Interreg results. Most of the Interreg programmes use exemplary stories to tell how changes were achieved. Often, these stories should be rather sectoral, because the target groups often represent different sectors. However, the stories should be told from the viewpoint of the specific sector and demonstrate, how the programme could help to also solve problems that had to do with the interface to other sectors. The integrated character of the projects represents a big asset.

Generally spoken, all CBC programme are developed and implemented following the same EU regulation and selecting from the same thematic menu with a very big variety. It is highly relevant to emphasise also the differences between the programmes, to tell their unique story and to understand specificities of the target groups. For this reason, a self-assessment has been developed that helps to optimise the integration of ex post TIA results into the programmes communication strategy.

Before deciding on one or many possible communication scenario(s), the programme representatives need to identify two main aspects:

- (1) Assessment of communication channels: What are the main communication instruments used by our specific CBC programme and how do they work?
- (2) Assessment of communication strategy: How can we integrate more territorial evidence into our CBC programme communication strategy?

These two aspects are described in more detail below:

(1) Options to integrate territorial information into the communication channels

In order to assess the main communication instruments, it is relevant to not only develop an individual assessment, but to also benchmark the own CBC programme against other CBC programmes in order to get inspired through mutual learning and understanding.

For this reason, an overall assessment table has been produced that is more closely explained in Annex 3. The table is the result of a desk research comprising the communication lines of all CBC programmes that are fully accessible to the public.

The table allows a self-assessment. Furthermore, this assessment could be combined with the potential how to add more territorial information from an ex post TIA. The programme bodies are invited to self-check their own communication performance by assessing the following questions:

Table 12.11: Key questions to assess the communication channels of an individual CBC programme

Self-Assessment on programme level:	
How well are the programme's communication channels developed?	
Benchmarking exercise: Please check the overview table on the communication lines of all CBC programmes (https://docs.google.com/spreadsheets/d/1YSc4YuWPQKpX1w-Kpzzvm_iRmVC5RXQ45QInUKwj3Tw/edit?usp=sharing) and compare them generally with the other programmes. Then, answer the following questions:	
Website	How well is our website developed? Does it contain information about the territory and its changes? Do we have the technical option to include more territorial information to the website? Do we have a login-function where we could be a platform for exchange on territorial aspects as well?
Social media	How well developed are our social media channels? Do we have readers and followers? Can we attract target groups through territorial facts?
Newsletter	Do we have a newsletter? Is it developed in a participatory way? Could it be upgraded through territorial information?
Languages	Besides the two CBC languages, do we also communicate in English? Do we have the opportunity to make our territorial facts also accessible for other stakeholders in Europe and to the EU policy level?

Source: consortium

As a result of this self-assessment, better choices can be made with regards to the further use of the communication guide.

(2) Assessment of the communication strategy

In a second step, the programme representative should reflect how they can integrate the results of an ex post TIA into their communication strategy. For this reason, the following questions from the Communication toolbox are being complemented by suggestions how the results of an ex post TIA can be integrated:

Table 1: Key questions to assess how to integrate ex post TIA results into the programmes communication strategy

Self-Assessment on programme level: How to combine the results of the ex post TIA with the programmes communication strategy?	
Element of the programmes communication strategy	Option to integrate an ex post TIA
Development of the communication strategy	In case the communication strategy is not written yet (early development stage of the programme), try to integrate the ex post TIA results not only as a direct information source, but to integrate the implementation of the ex post TIA into the communication strategy.
Follow the theory of change to be made by the programme: Check out the current or the previous programme strategy	On a general level, before looking at one of the different scenarios, compare the ex post TIA results with the programme strategy: <ul style="list-style-type: none"> – Is there anything that helps you to communicate a specific profile that shows a unique character of the area? This will help in all scenarios to tell a unique and convincing story. For target groups in the area, it helps to identify with the programme and to build up ownership. For target groups at EU policy level, it helps to better memorize the programme and its relevance. – How can you connect to the different sectors? One of the main problems of Interreg communication is the cross-cutting general approach. Try to look at unique sectors-specific information in the ex post TIA results that will help the target groups in specific sectors to better understand the change achieved by the programme.
Get and overview over your target groups and your access to them	Before deciding on one or several scenarios, try to combine all relevant sources of information to gather as much target group information as possible and to categorise it in three ways: policy level, language, sector. <p>Furthermore, add a fourth category, the possible interest in the information from CBC programmes for their own work. This helps you to take on the perspective of your target group. Here, ask yourself the following questions:</p> <ul style="list-style-type: none"> – Can I imagine the daily working routines of this target group? – What information might help them to have a positive impetus on their work? – What information could strengthen their position in their working context?

Source: consortium

12.4.4 Selecting a scenario from the guidance: how to integrate ex post TIA results in the communication routines of the programme

Subsequent to the general tasks of self-assessment, the following table shows how the communication within the different scenarios described in chapter 3 of the general guidance can be organized. It needs to be kept in mind that with regards to general communication advice (How do I write, How do I organise events etc) the communication toolbox of Interact is strongly recommended as guidance. Here, an additional approach is presented how to organize the integration of the territorial information from the ex post TIA.

Table 12.12: Guiding aspects for communication in the four scenarios

Aspect to be considered	Scenario 1 Ex-post TIA contributing to improved understanding of the socio-economic framework condition of the programme area	Scenario 2 Using ex post TIA results for improved monitoring and steering of the programme implementation	Scenario 3 ex post TIA as a basic ingredient for a citizen-oriented communication	Scenario 4 Ex-post TIA results as a contribution to successful communication with policy makers
Aspect 1 Before starting the planning of communication measures: Is there a chance that you could co-ordinate or merge the ex post TIA itself with a relevant programme procedures such an evaluation?	Option to synchronise and co-ordinate or even merge the ex post TIA with the ex post evaluation or with the socio-economic analysis of the next programme	Option to integrate ex post TIA indicators into the monitoring system and to integrate (parts of the) data collection into the application and reporting procedures	Option to either integrate ex post TIA results in the programme's communication products or use the execution of the entire ex post TIA as a participatory, interactive communication exercise by using "citizen science" ⁷³	Option to integrate ex post TIA results into the programme reporting to the EU or to integrate ex post TIA results into the policy documents on member state level.
Aspect 2: Who will be responsible for implementing the communication in this scenario	MA and JS, steered by MC	JS, in co-ordination with MA	JS, in co-ordination with MA	MA and NA
Aspect 3: Who will be the responsible contact person	Staff of MA or JS	Staff of JS	Staff of JS	Staff of MA and NA
Aspect 4: From the general self assessment: Which aspects do I want to communicate from the ex post TIA	All	All or certain aspects or sectoral	All or certain aspects or sectoral	All or certain aspects or sectoral
Aspect 5: From the general self assessment: Who is the main target group and what are they interested in?	The target are policy makers on different levels that take part in the decision-making process about the programme development. They are interested in receiving convincing data with regards to the – supportive information that	The target group are policy representatives and potenex post TIAI applicants of the programme area. Both groups have different interests: – The policy representatives are interested in confirmative information that shows that the	The target group are all inhabitants of the programme area. Their interest can be assumed as follows: – General interest in the region – Readiness to memorise interesting stories.	Similar to scenario 1, the target are policy makers on different levels that take part in the decision-making process about the programme continuation. They are interested in receiving convincing data with regards to the – supportive information that facili-

⁷³ Citizen science enables participants to make a direct contribution to research, increase their scientific understanding, and immerse themselves deeply afield in learning about topics. These opportunities provide personally transformative experiences while collecting information. In the context of an ex post TIA, the citizens could participate in the assessing, estimating or counting of selected indicators that would be used for measuring the impact in the territory. This personal experience might generate more ownership with the region and a deeper understanding of the programme area.

Aspect to be considered	Scenario 1 Ex-post TIA contributing to improved understanding of the socio-economic framework condition of the programme area	Scenario 2 Using ex post TIA results for improved monitoring and steering of the programme implementation	Scenario 3 ex post TIA as a basic ingredient for a citizen-oriented communication	Scenario 4 Ex-post TIA results as a contribution to successful communication with policy makers
	<ul style="list-style-type: none"> facilitate decision-making – “value for money” to be achieved by the programme 	<ul style="list-style-type: none"> programme is on the right track. – Potential applicants are interested in what sectors the programme is looking for additional projects 	<ul style="list-style-type: none"> – Readiness to be identify themselves with “their” region 	<ul style="list-style-type: none"> tate decision-making – “value for money” to be achieved by the programme (for regional representatives: especially for their region)
Aspect 6 From the general self-assessment: Which communication channels do I want to use?	Integration of the territorial data into the evaluation or socio-economic analysis documents	Integration of the territorial data into the programmes indicator- and monitoring system and the related monitoring reports	Integration of the territorial data into the full range of the programmes communication channels (social media, newsletter, website, etc.). Storytelling for citizens a) Definition of a storytelling ⁷⁴ narrative, based on <ul style="list-style-type: none"> – Either the unique profile of the CBC region or – Selected examples or aspects for stakeholders from different sectors or levels b) Choice of a communication channel and an appropriate format of the “story” (twitter, newsletter, etc)	Integration of the territorial data into the project reporting documents Storytelling for policy makers a) Definition of a storytelling (see footnote) narrative, based on <ul style="list-style-type: none"> – Either the unique profile of the CBC region or – Selected examples or aspects for stakeholders from different sectors or levels a) Choice two communication channels : <ol style="list-style-type: none"> Direct oral presentation Easy-to-read factsheets

⁷⁴ <https://en.wikipedia.org/wiki/Storytelling>: Storytelling is a means for sharing and interpreting experiences. Peter L. Berger says human life is narratively rooted, humans construct their lives and shape their world into homes in terms of these groundings and memories. Stories are universal in that they can bridge cultural, linguistic and age-related divides. Storytelling can be adaptive for all ages, leaving out the notion of age segregation. Storytelling can be used as a method to teach ethics, values and cultural norms and differences.^[18] Learning is most effective when it takes place in social environments that provide authentic social cues about how knowledge is to be applied. Stories function as a tool to pass on knowledge in a social context. So, every story has 3 parts. First, The setup (The Hero's world before the adventure starts). Second, The Confrontation (The hero's world turned upside down). Third, The Resolution (Hero conquers villain, but it's not enough for Hero to survive. The Hero or World must be transformed). Any story can be framed in such format.

Aspect to be considered	Scenario 1 Ex-post TIA contributing to improved understanding of the socio-economic framework condition of the programme area	Scenario 2 Using ex post TIA results for improved monitoring and steering of the programme implementation	Scenario 3 ex post TIA as a basic ingredient for a citizen-oriented communication	Scenario 4 Ex-post TIA results as a contribution to successful communication with policy makers
Aspect 7 Check out the advantages or visualisation	Visualisation via graphs and maps	Visualisation via graphs and maps	Visualisation via graphs, maps or supporting pictures	Visualisation via graphs, maps or supporting pictures
Aspect 8 Organisation of the timing or the use of ex post TIA information	Highly relevant: If the information of the ex post TIA is delivered too late, it can't be integrated into the preparatory documents for programme development (such as a socio-economic analysis) and is not part of the reference framework that forms the basis for the programme implementation	Flexible timing	Flexible timing	Flexible timing from the second half of the programme implementation on.

Source: consortium

12.5 Appendix 2, chapter 12: Model ToR for tendering an ex post TIA for CBC programmes

12.5.1 General context

As outlined in the methodology of the ex post TIA for CBC programmes, “an emphasis has to be placed on the fact that a high quality ex post TIA can only be produced in close co-operation between experts and the programme authorities. In addition to this, an ex post TIA can also include outreach to citizens, especially in scenario 3 that might include citizen science.

In order to assist the smooth implementation of an ex post TIA, a model version for the tendering of an ex post TIA is developed. It contains the list of actions to be implemented following the elaborated methodology for all 4 scenarios as well as an estimation of person-days to be invested. The latter represents external person days to be tendered. In order to complement the work that is subcontracted, staff from the programme bodies needs to be appointed, too. However, this staff can also integrate the ex post TIA into the working routines which makes the capacity investment more efficient and has the potential to upgrade the programme products.

The table in chapter 5.2. gives overview with regards to the technical specifications. It does not include further required documents such as introduction, selection criteria, documents and declarations to be signed etc., as these documents need to be developed for every programme individually and in line with the regional legal framework and rules.

Furthermore, the following additional aspects can influence the costs that need to be indicatively calculated for the different tasks:

- For which scenario (explained in the overall guidance) do we want to use an ex post TIA?
- Is the ex post TIA connected to a process finance from technical assistance (evaluation, monitoring, communication)?
- How many thematic sectors does the ex post TIA cover?
- Will the ex post TIA be carried out for full coverage of the programme area or for selected, exemplary territories.

12.5.2 Specifications for four scenarios

Table 12.13: Costs for the tender in the different scenarios of an ex post ex post TIA: The working steps refer to the TIA-CBC case Study Handbook that has been developed by the Lead Partner and that served for the implementation of the case studies.

Working steps during implementation of an ex post TIA	Specifications for Scenario 1 Ex-post TIA contributing to improved understanding of the socio-economic framework condition of the programme area	Specifications for Scenario 2 Using ex post TIA results for support of monitoring and steering of the programme implementation	Specifications for Scenario 3 ex post TIA as a basic ingredient for a citizen-oriented communication	Specifications for Scenario 4 ex post TIA results as a contribution to successful communication with policy makers
Working step 1 Programme Characterisation	A) In-depth analysis of the programme document and supporting documents as a basis for the following sub-steps:	A) In-depth analysis of the programme document and supporting documents as a basis for the following sub-steps:	A) In-depth analysis of the programme document and supporting documents as a basis for the following sub-steps:	A) In-depth analysis of the programme document and supporting documents as a basis for the first following sub-steps:
Costs and capacities 6-12 days	<ul style="list-style-type: none"> - Characterisation of the programme area, context maps (Socioeconomic analysis) - Characterisation of the programme framework - Reconstruction of the intervention logic (Programme document) <p>B) Identification, data availability analysis through desk research, interviews and combination of indicators.</p>	<ul style="list-style-type: none"> - Characterisation of the programme area, context maps (Socioeconomic analysis) - Characterisation of the programme framework - Reconstruction of the intervention logic (Programme document) <p>B) Identification, data availability analysis through desk research, interviews and combination of indicators.</p>	<ul style="list-style-type: none"> - Characterisation of the programme area, context maps (Socioeconomic analysis) - Characterisation of the programme framework - Reconstruction of the intervention logic (Programme document) <p>B) Identification, data availability analysis through desk research, interviews and combination of indicators.</p> <p>C) Identification of key-indicators that are suitable for improved identification of the citizen with his/hers region</p>	<ul style="list-style-type: none"> - Characterisation of the programme area, context maps (Socioeconomic analysis) - Characterisation of the programme framework - Reconstruction of the intervention logic (Programme document) <p>B) Identification, data availability analysis through desk research, interviews and combination of indicators.</p> <p>C) Identification of key-indicators for specific sectoral or governance level-oriented</p>
Working step 2 Identification of programme effects	<i>Preparation and implementation of a 1-day stakeholder workshop in compliance with the case study handbook to present framework, verify indicators and jointly define the overall aim of the use of the indicators and the methodology for the socio-economic understanding of the area.</i>	<i>Preparation and implementation of a 1-day stakeholder workshop in compliance with the case study handbook to present framework, verify indicators and jointly decide how to create synergies between the need to monitor and steer and the measuring of key-indicators that In this context, it is relevant that</i>	<i>Preparation and implementation of a 1-day stakeholder workshop in compliance with the case study handbook to present framework, verify indicators and jointly define which indicators are most suitable for communication with the citizens.</i> <i>In this context, the timing of this working step, similar to the</i>	<i>Preparation and implementation of a 1-day stakeholder workshop in compliance with the case study handbook to present framework, verify indicators and jointly define the overall aim of the use of the indicators for the socio-economic understanding of the area.</i> <i>In this context, the timely synchronization with the ex post TIA for the</i>
Costs and capacities 4-7 days (+2 days per additional workshop if a split is envisaged)				

Working steps during implementation of an ex post TIA	Specifications for Scenario 1 Ex-post TIA contributing to improved understanding of the socio-economic framework condition of the programme area	Specifications for Scenario 2 Using ex post TIA results for support of monitoring and steering of the programme implementation	Specifications for Scenario 3 ex post TIA as a basic ingredient for a citizen-oriented communication	Specifications for Scenario 4 ex post TIA results as a contribution to successful communication with policy makers
Estimation of costs and capacities	<i>In this context, the timely synchronization with the ex post TIA for the use further use in the preparation of the follow-up programme is very relevant in order to be able to the results. The participants shall be mainly the programme bodies, accompanied by sectoral experts for the different thematic areas.</i>	<i>the indicators are extremely easy-to-measure and that this can be done repeatedly for monitoring purposes. The participants shall be the programme bodies, especially the JS</i>	<i>entire ex post TIA, is quite flexible. The participants shall be the programme bodies responsible for communication, especially the JS.</i>	<i>use further use of the results within the context of the respective policy framework is needed. The participants shall be mainly the programme bodies, accompanied by sectoral experts for the different thematic areas.</i>
Working step 3 Indicator population	<i>The task follows the guidance of the case-study handbook and requires expert assessments and in-depth applied research</i>	<i>The task follows the guidance of the case-study handbook and requires expert assessments and in-depth applied research</i>	<i>The task follows the guidance of the case-study handbook and requires expert assessments and in-depth applied research</i>	<i>The task follows the guidance of the case-study handbook and requires expert assessments and in-depth applied research</i>
Costs and capacities 10-20 days				
Working step 4 Impact assessment	<i>The task follows the guidance of the case-study handbook and requires expert assessments and in-depth applied research</i>	<i>The task follows the guidance of the case-study handbook and requires expert assessments and in-depth applied research</i>	<i>The task follows the guidance of the case-study handbook and requires expert assessments and in-depth applied research</i>	<i>The task follows the guidance of the case-study handbook and requires expert assessments and in-depth applied research</i>
Costs and capacities 10-15 days	<i>The workshop requires a skilled moderator. It can be carried out as</i> – <i>round table among programme bodies</i> – <i>input to monitoring committee meetings</i> <i>wider, cross-sectoral, joint assessment</i>	<i>The workshop requires a skilled moderator. It can be carried out as a series or back-to-back of contributions to regular programme co-ordination meetings</i>	<i>The workshop requires a skilled moderator. It can be carried out as a citizen – oriented information event. Furthermore, the workshop is part of a process that also includes phases of expert assessment. The results of the workshop will later be assessed thoroughly by by experts on territorial impact analysis.</i>	<i>The workshop requires a skilled moderator. It can be carried out as targeted presentation and discussion with the respective policy makers. Furthermore, the workshop is part of a process that also includes phases of expert assessment and interpretation of the results by experts on territorial impact analysis.</i>

Working steps during implementation of an ex post TIA	Specifications for Scenario 1 Ex-post TIA contributing to improved understanding of the socio-economic framework condition of the programme area	Specifications for Scenario 2 Using ex post TIA results for support of monitoring and steering of the programme implementation	Specifications for Scenario 3 ex post TIA as a basic ingredient for a citizen-oriented communication	Specifications for Scenario 4 ex post TIA results as a contribution to successful communication with policy makers
Estimation of costs and capacities				
Working step 5 Wrap up	<i>Thorough process documentation as a prerequisite, translating the results of the 4 previous working steps into a report detailing the impacts identified following guidance in the handbook and using the template provided is a straight forward task</i>	<i>Thorough process documentation as a prerequisite, translating the results of the 4 previous working steps into a report detailing the impacts identified following guidance in the handbook and using the template provided is a straight forward task</i>	<i>Thorough process documentation as a prerequisite, translating the results of the 4 previous working steps into a report detailing the impacts identified following guidance in the handbook and using the template provided is a straight forward task</i>	<i>Thorough process documentation as a prerequisite, translating the results of the 4 previous working steps into a report detailing the impacts identified following guidance in the handbook and using the template provided is a straight forward task</i>
Costs and capacities 2-3 days				

Source: consortium

12.5.3 Profile of a possible subcontractor

A subcontractor should preferably combine different experiences and skills:

- Knowledge and experience in ETC programmes
- Knowledge and experience in monitoring and measuring of regional development
- Knowledge and experience in data collection and visualization methodologies
- Knowledge and experience in stakeholder management including communication, event and workshop management.

12.6 Appendix 3, chapter 12: Analysis of lines of communication for all CBC programmes

How to use this tool

The task represents a benchmarking and orientation tool for CBC programmes with regards to their communication set-up. It serves as reading material for the communication procedure recommended under ANNEX 1.

This task is finalised and an extensive, searchable EXCEL-table has been elaborated that lists all CBC programmes (internal and external borders).

The document has been imported to a shareable Google document

https://docs.google.com/spreadsheets/d/1YSc4YuwPQKpX1w-Kpzzvm_iRmVC5RXQ45QInUKwj3Tw/edit?usp=sharing

In more detail, the lines of communication can serve as orientation with regards to the following aspects:

- Provide an overview for policy makers on the lines of communication for all 60 CBC programmes.
- Raise awareness for policy makers on the differences between CBC programmes that will lead to a wide variety on how to utilise and communicate an ex post TIA
- Help CBC programmes to self-check their lines of communication in a wider context, compared to other CBC programmes.
- Help the project team to better categorise CBC programmes with regards to the further use and communication of ex post TIA and its results.
- Help CBC programmes to better understand recommendation given in the “communication guidance” with regards to individualised recommendations.

Rough categorisation of 60 CBC programmes

For an effective use of a ex post TIA for programme purpose, communication in line with the programme’s working routines are a key principle. This concerns two aspects:

- Communicating with CBC programmes on how and when to use the ex post TIA: Identifying the active communicators within the programme,
- Anticipating the CBC programme’s communication routines with their “customers” (projects, potential applicants, interested citizens) and suggesting ways how to use an ex post TIA.

Within the present ESPON project, all 60 cross-border programmes have been checked concerning their lines of communication, comprising both the inner-European Interreg A-programmes as well as the CBC-programmes covering the external EU borders.

The analysis provides relevant input with regards to the understanding of how the programmes operate and how they organise the outreach to their target groups.

In order to provide effective and usable guidance on the, it should be emphasised that not all CBC programmes are similar. In fact, many differences lead to the fact that the use of an ex post TIA and its results can be handled differently by respective programmes:

- *Differences in territory/population covered*
CBC programmes can vary significantly with regards to their territory. This does for example affect the identification of the population with the region and has therefore an impact when designing the communication lines. Very small programmes do only cover a small cross-border area, while multinational programmes rather have the character of small transnational programmes.
- *Differences in social media outreach*
CBC programmes are very different when it comes to their Social Media performance. While some programmes use social media with great success, others do not use it at all. This is relevant when guidance will be given on how to communicate ex post TIA results to interested stakeholders.
- *Differences in communication with applicants and potential applicants*
CBC programmes are different when it comes to the communication with their “customers”, which are potential applicants or approved applicants. For example, programmes are performing differently with regards to the use of an electronic monitoring or and electronic application system. However, this can be a very relevant tool to get project stakeholders acquainted with the idea of an ex post TIA and to also collect data.
- *Differences in programming process*
CBC programmes do basically follow a common pathway when the programme content is developed. However, differences exist in how many stakeholders participate in the process and who plays the role of the main driver. This affects the complexity of the decision making process and does also affect the chances to integrate e.g. an ex post TIA into a programme development phase.

Appendix 1 – Experts taking part in the TIA workshops

Germany – The Netherlands

- Svenja Arntz (Rahmenprojekt Priorität II [People to people] Euregio Rhein-Waal)
- Tom Cornelissen (Oost NL)
- Eske Kadijk (Ems Dollart Region/Projekt Net(z)werk+)
- Ingrid Klinge (New Energy Coalition)
- Peter Paul Knol (JTS INTERREG Germany-Netherlands)
- Barbara Lugthart (JTS INTERREG Germany-Netherlands)
- Jarno Meenink (Regional Programmmanagement EUREGIO)
- Peter Moorman (Provincie Overijssel)
- Ingrid Möller (MB Niedersachsen)
- Dorothea Palenberg (blue! Advancing European Projects)
- Markus Rahm (Bundesagentur für Arbeit Regionaldirektion NRW)
- Leo Reyrynk (Duits-Nederlands Grenspark Maas-Swalm-Nette/diverse Projekte)
- Wolfgang Seifert (IT.NRW, project Arbeitsmarkt in Grenzregionen D-NL)
- Doede Sijtsma (Provincie Gelderland)
- Lambert Teerling (Projekt Lerende Euregio doet het)
- Julia Wengert (JTS INTERREG Germany-Netherlands)
- Sjoerd Zoete (Regional Programmmanagement Euregio Rhein-Waal)

Sweden – Norway

- Mr Bjørn Terje Andersen (JTS Interreg Sweden-Norway)
 - Ms Trine K. Berentsen (Inner Scandinavia Cleantech Network, Kunnskapsbyen Lillestrøm)
 - Mr Daniel Bügel (Innovation Centre Lillestrøm)
 - Mr Erik Hagen (Norway MA Interreg Sweden-Norway)
 - Mr Rune Johannessen (Inland Norway University of Applied Sciences)
 - Mr Arild Løvik (Norway South East Mountain Region Association)
 - Mr Ola Rostad (Tretorget AS)
 - Dr Atle Rustadbakken (County Governor of Hedmark)
 - Dr Bjørnar Sæther (University of Oslo)
 - Dr Jon Samset (Oslo Metropolitan University)
- Institutions and organisations involved in the territorial impact assessment:
JTS Interreg Sweden-Norway, Norway MA Interreg Sweden-Norway

Romania – Bulgaria

- Marcela Glodeanu – MA, MRDPA
- Simona Vasile – MA, MRDPA
- Amalia Virdol – MRDPA
- Cristian Radu – CBC RO Calarasi JS
- Andrada Piperea – CBC RO Calarasi JS
- Jessica Papusa – JTS Black Sea Basin Programme
- Poting Razvan – General Inspectorate for Emergency Situations
- Droyos-Olivio Vritopeomu – General Inspectorate for Emergency Situations
- Giuroiu Laurendiu – General Inspectorate of Romanian Gendarmerie
- Leon Paul Dacian Diaconu – Gendarmerie Mehedinti
- Tiucsan Gheorghe – Gendarmerie Mehedinti

- Dorina Fulga – Gendarmerie Mehedinti
- Marius-Eugen Fulga – Calarasi County Council
- Simona Petu – Calarasi County Council
- Silvia Iuliana Tranca – Mehedinti County Council
- Crisa Carmen Ivanescu – Gendarmerie Inspectorate Dolj
- George Meleaca – County School Inspectorate Calarasi
- Florin Ciocam – Gendarmerie Inspectorate Mehedinti

Spain – Portugal

- Marili Parissaki (Red2Red CONSULTORES S.L.)
 - Chiara Assirelli Pandolfi (Red2Red CONSULTORES S.L.)
 - Ana Magalhães (Instituto de Ciência e Inovação em Engenharia Mecânica e Engenharia Industrial, Porto)
 - Hihinio Mougán (Asociación Galega de Cooperativas Agrarias – AGACA)
 - Maria Jose Moura (Agência Portuguesa do Ambiente, I.P. – APA, Área Metropolitana de Porto)
 - Duarte Figueiredo (Instituto da Conservação da Natureza e das Florestas)
 - Xosé Lago Garcia (Dirección Xeral de Relacións Exteriores e coa UE, Xunta de Galicia)
 - Graça Fonseca (CCDR-Norte)
 - Mario Guimaraes (CCDR-Norte)
 - António Pereira Torres (AECT Rio Minho)
 - Bruno Miguel Fernandes Caldas (CIM Alto Minho)
 - Borja Navarro (GNP AECT)
 - Isabel Esteves (GNP AECT)
 - Carmen Juliani Aguado (Dirección Xeral de Relacións Exteriores e coa UE)
 - Susana Fernández Nocelo (Axencia Galega para a Xestión do Coñecemento en Saude (ACIS) – Consellería de Sanidade da Xunta de Galicia)
 - Raúl Rodríguez Couto (Agencia Gallega de Innovación)
 - Manuel Soliño Bermúdez (Asociación Galega de Actividades Náuticas – AGANPLUS)
 - Lucía Vázquez Salinas (Diputación de Pontevedra)
 - Iván Cacheiro Villamizar (ntidad Pública Empresarial Aguas de Galicia – Consellería de Medio Ambiente e Ordenación do Territorio, Xunta de Galicia)
 - Eugenio José Marcote Carballo (Diputación de Pontevedra)
 - José Antonio Piñeiro Sineiro (Diputación de Pontevedra)
 - Sónia Fernanda Duarte Antunes (Município de Vila Nova de Cerveira)
 - Pablo Rivera (AECT Eurocidade Chaves-Verin)
 - José Sousa (AECT Eurocidade Chaves-Verin)
 - Silvia Villar Rivera (Diputación de Pontevedra)
- Institutions and organisations involved in the territorial impact assessment:
GNP AECT, Xunta de Galicia, Spain, CCDR-Norte, Portugal

United Kingdom – Ireland

- Bernie McGrory (CAWT)
- Paula Keon (HSENI)
- Jonathan Sands (HSENI)
- Kerry Curran (Intertradelreland)
- Sue Christie (CNCC)

- Con McLaughlin (Donegal County Council)
- Mary Toland (NIEA)
- Colm Gallagher (Armagh, Banbridge and Craigavon Council)
- James Russell, Declan McGarrigle, Thomas McGarry, Paul Boylen and David Clarke (SEUBP)
- Judith Scott (NISRA)

- Institutions and organisations involved in the territorial impact assessment:
Special EU Programmes Body (Programme Managing Authority), Donegal County Council, Armagh, Banbridge and Craigavon Council, Intertradelreland, Cooperation and Working Together (CAWT) Health & Social Care, Health and Social Care Northern Ireland (HSENI), Council for Nature Conservation and Countryside (CNCC), Northern Ireland Environment Agency (NIEA), Northern Ireland Statistics Research Agency (NISRA)

Appendix 2 – Template Programme Characterisation Report

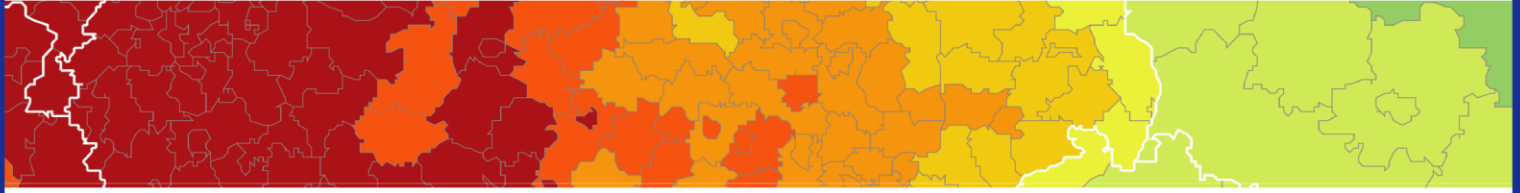
The template is provided separately as a word file:

TIA-CBC_D4_scientific-annex_A2_programme-characterisation-report_10.docx

Appendix 3 – Template Territorial Impact Assessment Report

The template is provided separately as a word file:

TIA-CBC_D4_scientific-annex_A3_TIA-report_10.docx



ESPON 2020 – More information

ESPON EGTC

4 rue Erasme, L-1468 Luxembourg - Grand Duchy of Luxembourg

Phone: +352 20 600 280

Email: info@espon.eu

www.espon.eu, [Twitter](#), [LinkedIn](#), [YouTube](#)

The ESPON EGTC is the Single Beneficiary of the ESPON 2020 Cooperation Programme. The Single Operation within the programme is implemented by the ESPON EGTC and co-financed by the European Regional Development Fund, the EU Member States and the Partner States, Iceland, Liechtenstein, Norway and Switzerland.