

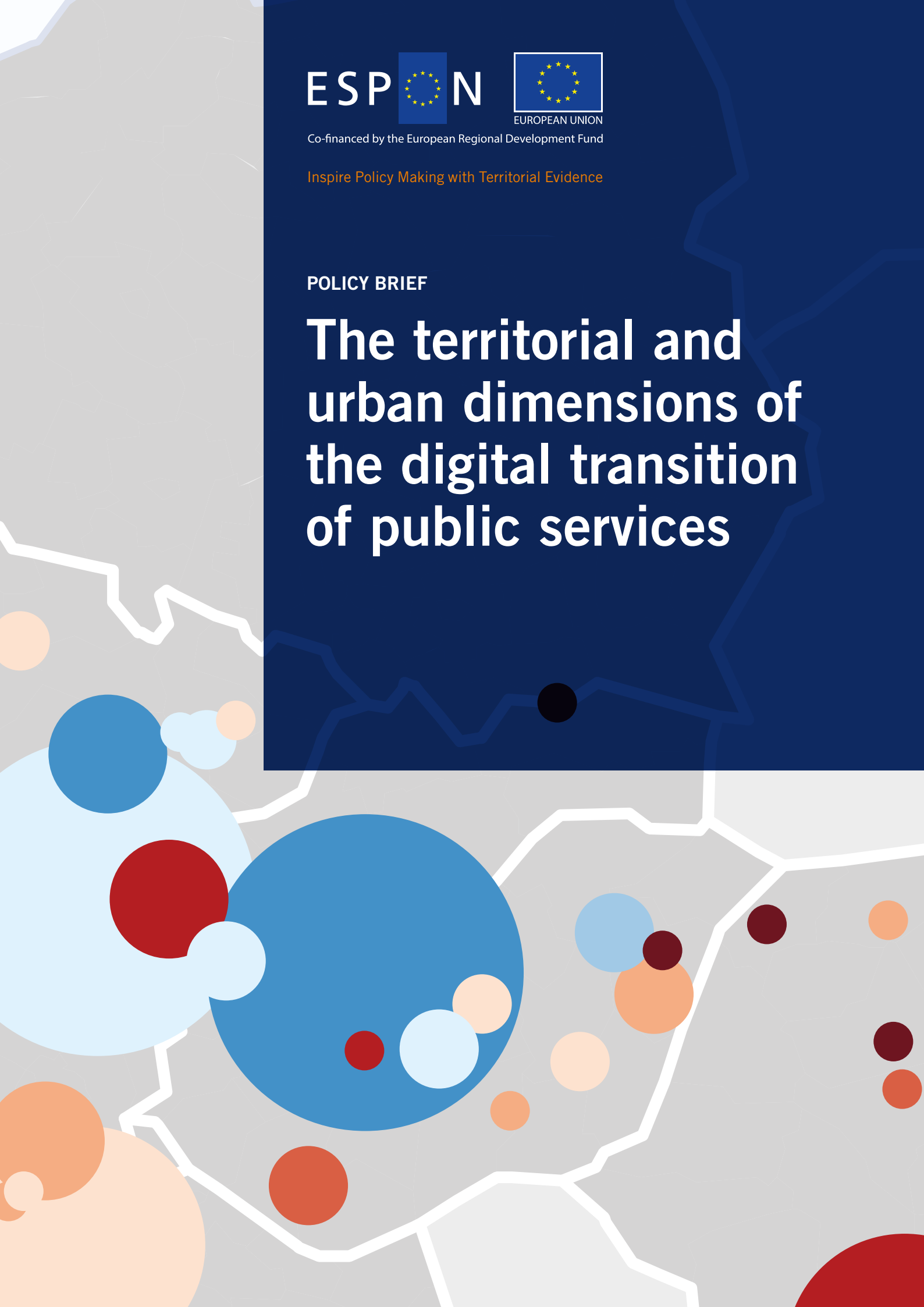


Co-financed by the European Regional Development Fund

Inspire Policy Making with Territorial Evidence

POLICY BRIEF

The territorial and urban dimensions of the digital transition of public services



Digital tools and solutions are transforming public services and how governments respond to citizens' needs. Many cities have been actively engaging in the modernisation and re-engineering of government processes and services and have seen high returns through simplified governance and increased efficiency, effectiveness and outreach. However, cities face many challenges in the processes of digital transformation including re-thinking governance, allocating resources for re-skilling and adopting new technologies, as well as legislative and policy issues.

This ESPON policy brief on the "Territorial and urban dimensions of the digital transition of public services" aims to help European, national, regional and urban authorities to better understand the level of digitalisation of public services, to learn from others through benchmarking and to design actions for the future.

Driven by the current policy discussions, ESPON launched a Europe-wide survey to gather evidence on current developments in the digitalisation of public services. The survey collected data on the level of digital transition of cities based on the opinions and perceptions of relevant experts at local government authorities and organisations providing public services.

The survey looked into 9 service themes: e-inclusion of citizens to governance; spatial planning and construction; social and welfare services; education; public transport;

road infrastructure and parking; health; culture leisure and sports and tourism. Under each theme, the digital transition of 5 to 8 representative public digital services was assessed, covering a total of 57 services.

Altogether, 136 responses from all the EU Member States as well as from Iceland, Norway and Switzerland were gathered. Half of the responses came from small and medium-sized towns (fewer than 50,000 inhabitants), 30% from small and medium-sized cities (between 50,000 and 250,000 inhabitants) and 20% from large cities (more than 250,000 inhabitants). Southern European cities were the most responsive (37%) followed by Eastern (29%), Western and Northern European cities (both 17%). The respondents were mostly local Chief Information Officers, IT managers and heads of strategies.

KEY POLICY MESSAGES

EU level

- Remove barriers to cross-border interoperability
- Create a European platform for cities to share their data and services
- Create a supportive legal framework for digital solutions in healthcare and social welfare services

National and regional level

- Build partnerships to develop digital solutions in key sectors including education and transport
- Support the digital transition of towns and smaller cities

Medium-sized and large cities

- Invest in ICT infrastructures for local digital services
- Open up to support the development, testing and roll-out of advanced digital solutions

Towns and small cities

- Adopt and implement a digital strategy and appoint a digital leader
- Map and prioritise services to be digitalised at the local level
- Develop collaborations to enhance peer learning and skills development

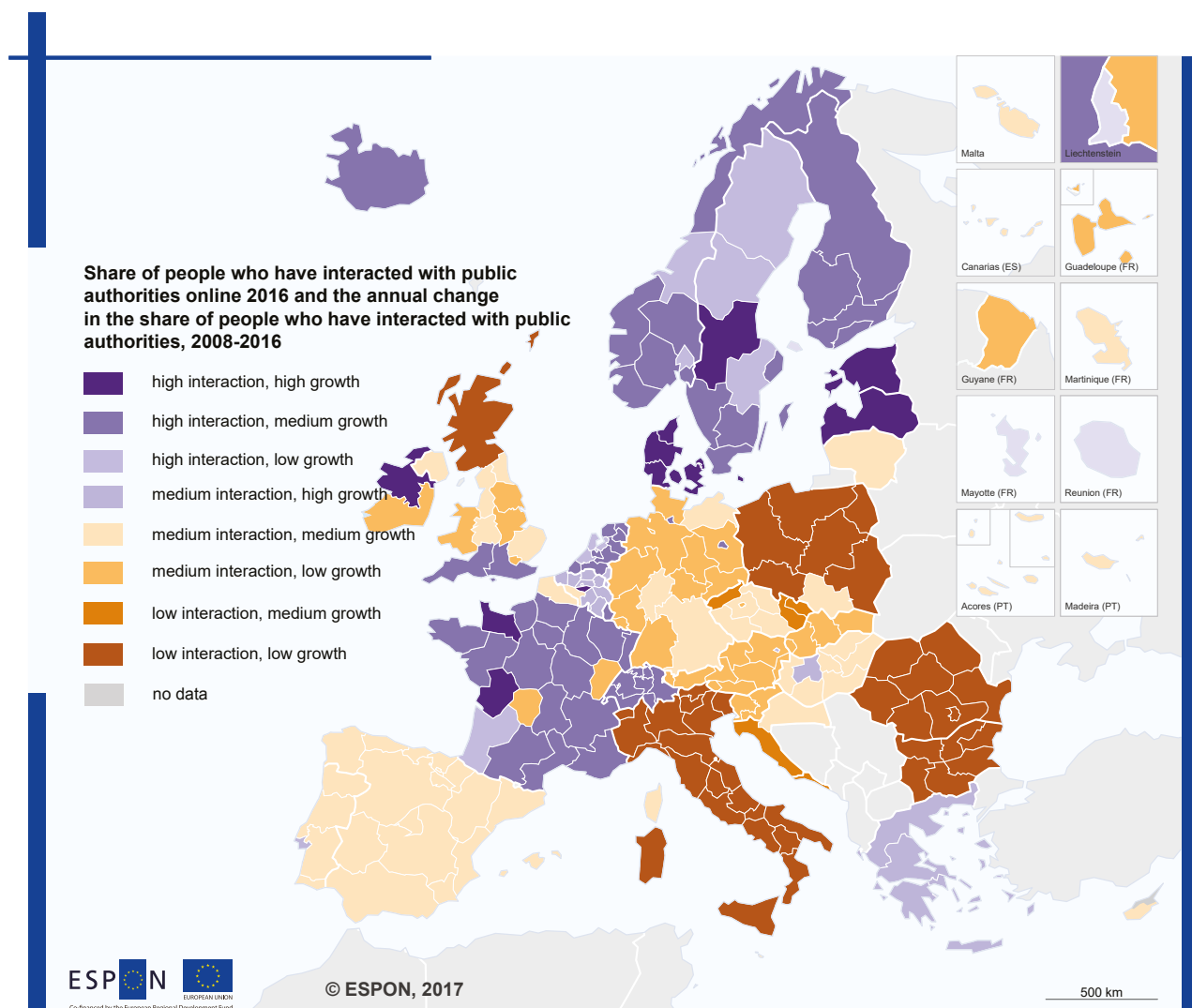
1. Policy context and relevance

One of the thematic objectives of *EU Cohesion Policy during 2014-2020* is to enhance access to, and the use and quality of ICT, including developing ICT products and services and strengthening ICT applications for e-government, e-learning, e-inclusion, e-culture and e-health. Enabling the availability of digital services would be an effective way to guarantee the implementation of the *EU Directive on services in internal market* and the implementation of its core objective of free movement of services within EU. ICT is estimated to account for half of productivity growth in the EU and thus the Digital Agenda – the development of ICT networks and provision of digital

services – is regularly reviewed in the *EU reports on economic, social and territorial cohesion*.

Digital interactions with public services range from obtaining information to managing administrative procedures and online voting. The proportion of individuals interacting with public authorities via the internet has been increasing across Europe in recent years, according to Eurostat. Northern and parts of Western Europe have the highest levels of interaction whereas Eastern and parts of southern Europe have lower levels of interaction (Map 1).

Map 1
Share of individuals who used the internet for interaction with public authorities (2016)



Regional level: NUTS 2/1 (2013)
Source: ESPON, 2017
Origin of data: Eurostat, ESPON 2020 Data and Map Updates, 2017
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The digital transition of sectoral policies and all aspects of government and society with an aim to create a fully functioning EU Digital Single Market has been one of the key EU priorities since November 2014, when the current European Commission took office. The *Digital Single Market Strategy for Europe*, adopted by the European Commission in May 2015, aims at maximising the growth potential of the digital economy. The Strategy underlines that besides digitalising industries and production, EU citizens and businesses must also benefit from digitalisation – digital services such as modernised e-government, e-health, e-energy and e-transport must be made available across EU.

The *EU eGovernment Action Plan 2016-2020* sets out concrete actions to accelerate the implementation of existing legislation and the related uptake of online public services. The Commission also adopted a new *Skills*

Agenda for Europe in 2016 with a series of concrete actions to ensure that the right training, the right skills and the right support are available to people in the European Union. It highlights that access to services, including e-services, is changing and requires that both citizens and public administrations have sufficient digital skills.

The digital transition is also one of the key priority themes in the *Urban Agenda for the EU*, which has been adopted by the Pact of Amsterdam on 30 May 2016. Today over two-thirds of European citizens live in cities and up to 85% of the EU's GDP is generated in cities. The EU Digital Single Market when fully facilitated in urban regions by linking and upgrading infrastructures, technologies and services is expected to increase competitiveness, generate additional growth and create hundreds of thousands new jobs.

2. Key dimensions of the digital transition of public services

The digital transition is reshaping public services and it is clear that its impact is very significant. Nine out of ten cities report that their services have improved as a result of digitalisation. The uptake of digital solutions shortens the time and lowers the cost of obtaining information and carrying out administrative procedures. Two in three cities have seen an increase in the uptake of specific services as a result of digitalisation and two in five even a substantial increase. Over two-thirds of cities use the data gathered to improve services or in decision making processes.

The digitalisation of services has somewhat or substantially reduced operating costs for 85% of cities. Public sector organisations also have to adapt to the impact that digitalisation is having on jobs. Three in five cities has reported reducing staffing as a result of digitalisation. Lack of skills is one of the key constraint factors for the uptake of digital solutions in the public sector. Digital skills for public administrations are essential for making eGovernment happen. Existing staff need new skills to adapt local public services to the digital era and to work effectively across sectors and borders.

Improving services and increasing uptake

91% city services have improved ✓
as a result of digitalisation

39% of cities saw a
substantial ↗ increase in uptake
of specific services as a result of digitalisation

68% use the data gathered from the
use of digitalised service to improve
services or in decision making processes

Impact of digitalisation

1 in 3 cities has seen a
substantial ↘ reduction in operating costs
as a result of digitalisation

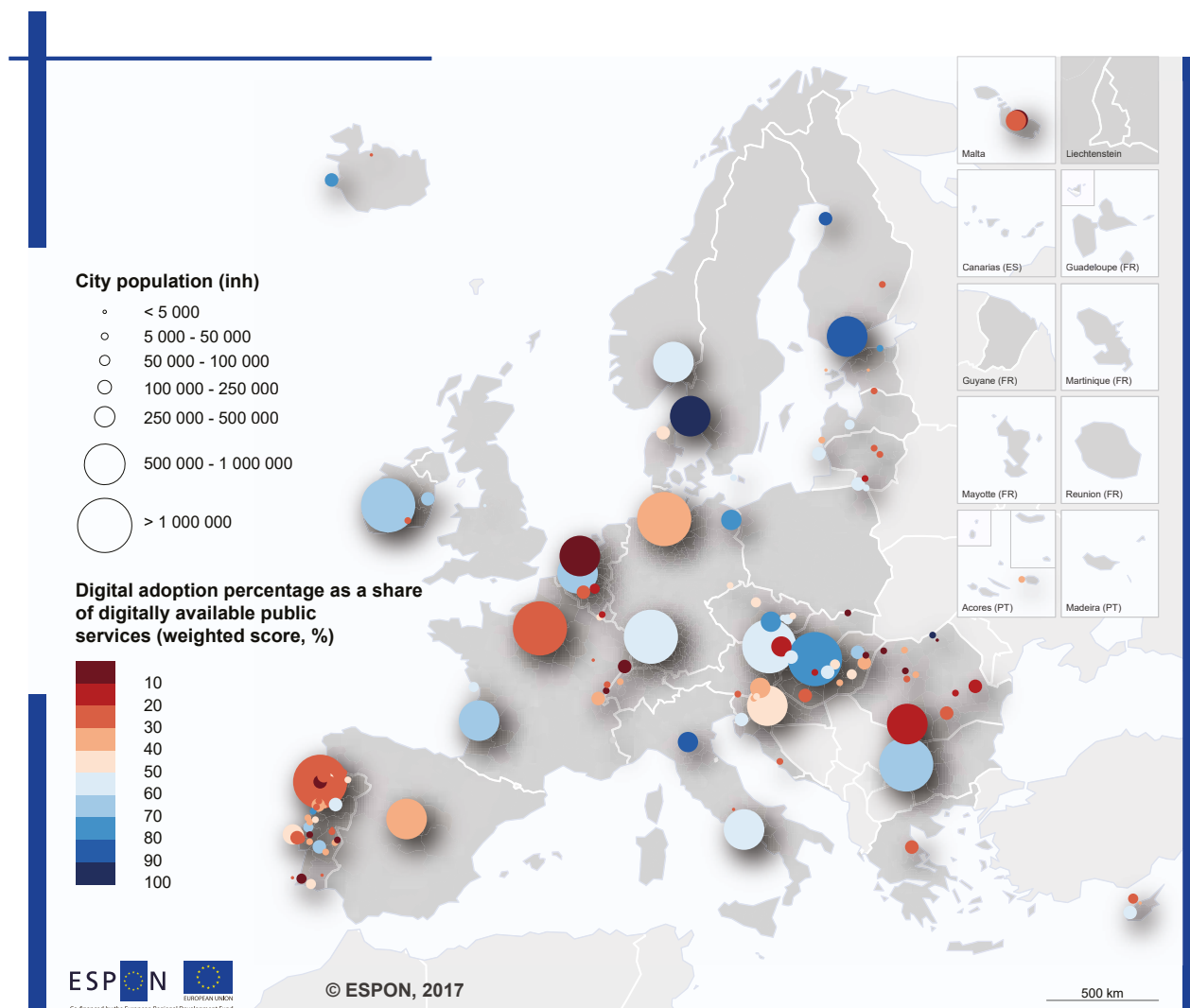
The digitalisation of services has resulted in a
reduction of staffing for 3 in 5 cities

The findings reported in this policy brief are based on the opinions and perceptions of local government authorities and organisations providing public services. As such, they provide local perspectives on the state of digital transition of public services across Europe. The majority of public services are provided at the local level. However, many digital public services are also being delivered by regional or national authorities depending on the nature of the services, the legal framework and institutional competencies. In many instances, different services offered at different administrative levels are complementing one another. The solutions to successful digitalisation are thus delivered at different levels and require multi-level

governance arrangements as well as effective collaborations between the public and private sectors.

There are significant differences in uptake across Europe's cities for the 57 surveyed digital public services (Map 2). Larger cities in general tend to provide a wider range of services at the local level. Towns and smaller cities tend to cover a narrower range of services digitally at the local level. As the detailed exploration in the follow sections will show, in some parts of Europe and for some types of services a higher share of services is provided at regional and/or national levels.

Map 2
Digital transition of city services by city size for services provided at the local level

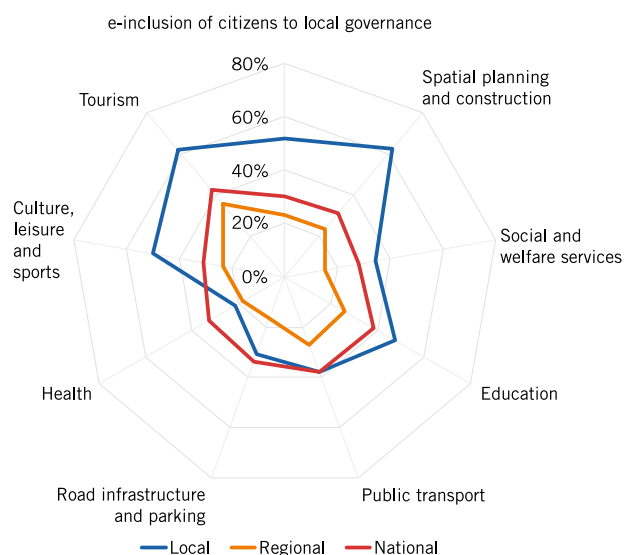


Regional level: LAU2
 Source: Territorial and Urban Aspects of Digital Transition, 2017
 Origin of data: ESPON, 2017
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Transforming public services from spatial planning to healthcare and tourism

Services related to spatial planning and construction; tourism; culture, leisure, sports; e-inclusion to governance; and education present the highest levels of digitalisation in European cities (Figure 1). The most lagging in terms of digitalisation are health; social and welfare services; and road infrastructure and parking related services. Digitalised services are primarily provided at the local level with the exception of health and road infrastructure, where a higher share of services is provided at the national and regional levels due to different competences and the nature of these particular services.

Figure 1
Share of digitalised services provided at local, regional and national levels, by type



Source: ESPON Survey on the digital transition of cities, 2017

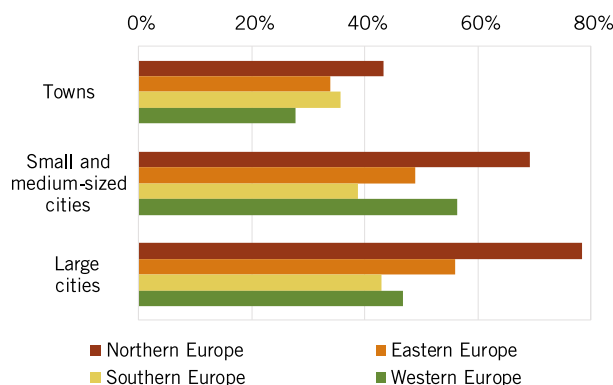
The assessment of the level of digitalisation for the nine themes is based on whether specific services under each theme are provided digitally. A detailed breakdown by service is provided in the next section. More basic services such as finding relevant information on a website or online applications and registrations are almost universally digitalised. Services that require a more complex

transformation of systems and processes within the administrations providing them – such as electronic payment services and accessing personal records electronically – are less likely to be available digitally.

The urban and territorial dimensions of digital transition of public services

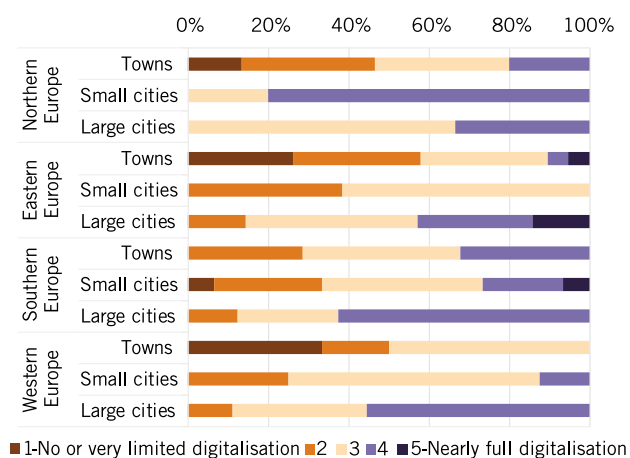
There are considerable differences in the range of services that are digitally available when looking at different city sizes in Northern, Southern, Eastern and Western parts of Europe (Figure 2). For the 57 services included in the survey, fewer towns and smaller cities provide digitalised services compared to the larger cities. Northern European cities are the most digitally advanced, independent of city size. Western European towns have the lowest share of digitalised services available.

Figure 2
Share of digitalised services by city size and region



Whereas the previous figure is based on the share of surveyed services that have been digitalised, respondents were also asked about their assessment of the level of digitalisation of their city's services. The overall picture is similar, with a significant share of towns in Northern, Eastern, Southern and Western Europe indicating that they have no or only a very limited digitalisation of services (Figure 3). Large cities in Southern and Western Europe, and small towns in Northern Europe reported the highest levels of digitalisation. Very few cities indicated that they perceive to be at nearly full digitalisation.

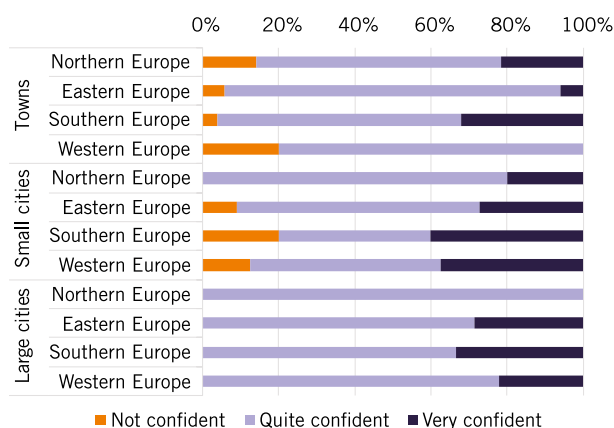
Figure 3
Assessment of the level of digitalisation of city services



Confidence levels regarding the readiness of cities to respond to digital trends and seize the opportunities of digitalisation are generally quite high across Europe (Figure 4), especially among large cities. Representatives from a small share of towns and smaller cities reported that they are not confident about tackling the digital tran-

sition. All large cities expressed confidence. In most cases survey respondents were Chief Digital Officers, heads of IT departments or IT managers so these results, although encouraging, may not reflect confidence levels throughout local government authorities. The fact that less than one in four are very confident suggests though that there are still challenges to be overcome.

Figure 4
Confidence about city readiness to respond to digital trends and seize the opportunities of digitalisation



3. The digitalisation of different types of public services at local, regional and national levels

The share of services that are digitalised at the level of towns, small and medium-sized cities and large cities, at the regional level and at the national level is reported on Figure 5 (page 8). The figure shows the share of service digitalisation for 57 public services under 9 different themes.

For e-inclusion of citizens in local governance, a majority of cities enable citizens to trace the council decision-making process online. Tracing applications and checking personal data from databases and registers are provided by fewer cities. These services are also more likely to be offered at the national level rather than the local level, for example in Northern Europe and Southern Europe.

For spatial planning and construction, digital services are primarily provided at the local level, although a higher share of some services is also provided at the national level in Northern Europe. A high share of cities offer online applications for planning and building permits and dedi-

cated GIS services to explore land use plans and proposals. Northern and Eastern Europe are more advanced in terms of online public consultations on plans.

Social and welfare services are less digitalised compared to other services. Information is commonly available online and in some cities applications for support can be filed online but online support services via chat or video call are provided by very few cities.

For education, digitalised services are primarily provided at the local level. Northern and Western European cities are leading the digital transition in education. Northern cities in particular provide a very wide range of digital services with online applications for admission, online monitoring of progress and learning materials made available online. PCs and interactive displays have entered classrooms in primary education in most cities across Europe with lower levels of adoption only in the larger cities in Eastern and Southern Europe and towns in Western Europe.

Larger cities are leading the way in digitalising public transport services with more advanced services such as tracking journeys in real-time and receiving information about service disruptions made widely available. Electronic payments have also been adopted by the majority of larger cities. Services are primarily delivered at the local level although a high share of more advanced services are also provided at regional and national levels,

particularly in Northern and Western Europe. Southern Europe is lagging behind in the digitalisation of public transport. Very few cities offer more advanced services, including the larger cities. In Eastern Europe, service provision at the national level is more limited but large cities in Eastern Europe are leading the way in offering a wide range of more advanced digital services.

BOX 1

Open data for urban mobility

Sofia is the capital and largest city of Bulgaria. In 2015, the City Council of Sofia developed its own Smart Specialisation Strategy and was the first one to design a regional innovation strategy for smart specialisation in Bulgaria. The capital Sofia was Bulgaria's first city to open data. Sofia's urban mobility website has been providing detailed information on urban transport, schedules and routes. The Innovation Strategy cultivates an environment with a high quality of life for citizens and good governance, and stimulates the creation of better conditions for synergy of the major economic sectors in an innovation ecosystem and through the efficient use of ICT. The Sofia Development Agency is responsible for the coordination and implementation of Sofia's Smart Specialisation Strategy.



For road infrastructure and parking, information is available online in most cities. Tracking real-time information on parking vacancies, road congestion and roadworks is available in some of the larger cities. Towns offer very limited digital services on road infrastructure and parking as they are also less likely to face the congestion challenges of larger cities.

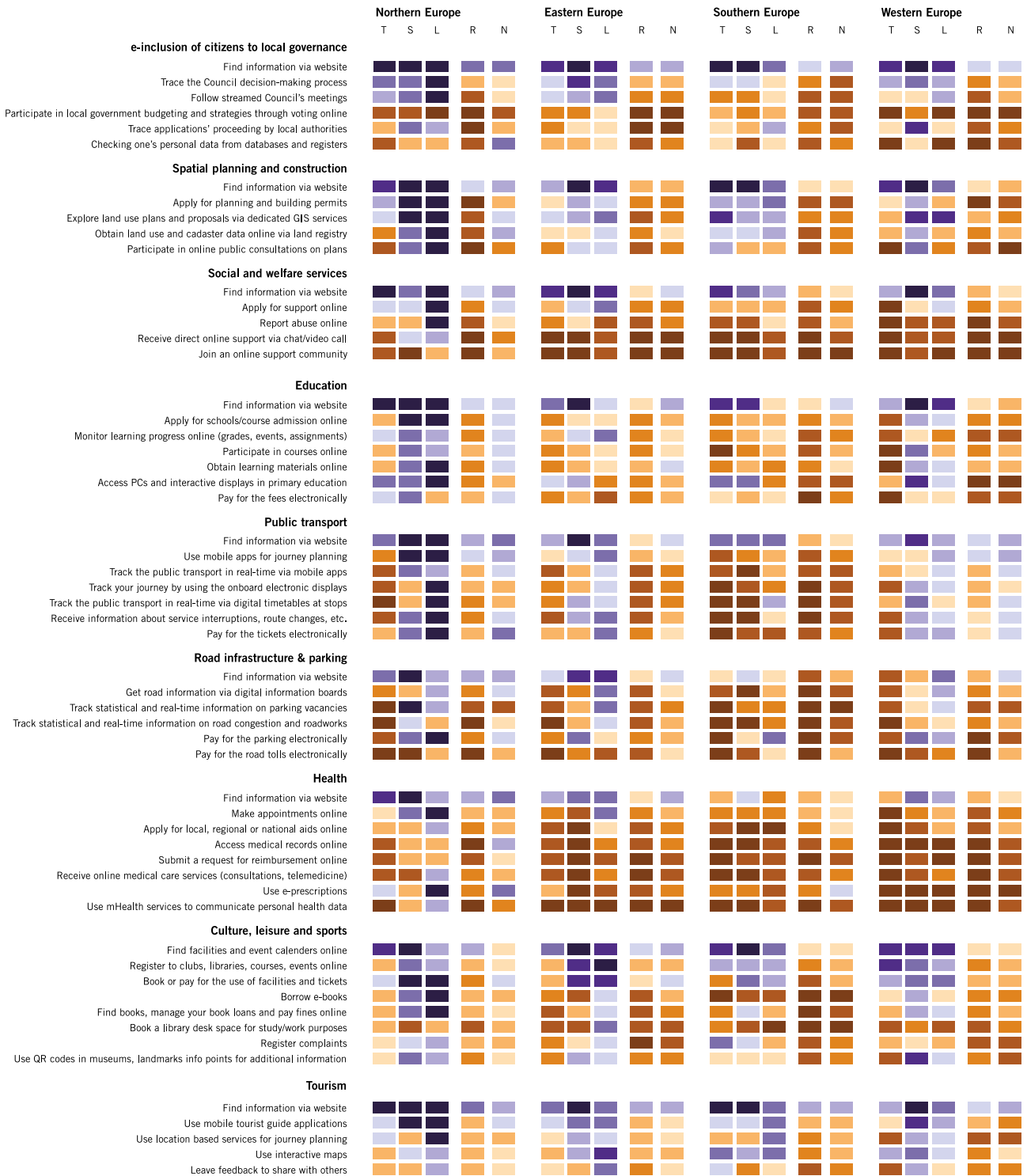
Regarding health services, finding information and making appointments online are the digital services that are most widely available at local level. More advanced eHealth solutions like e prescriptions, access to online medical records or telemedicine are rarely offered by local municipalities. Digital healthcare services and solutions are more likely to be provided by regional or national organisations and authorities, although the report levels of digitalisation are overall quite low. Larger cities in Northern Europe lead the way with high shares of online medical care services, e prescriptions and mobile health services. In Southern Europe, e-prescriptions are also more widely available and provided at the national level.

Digital services related to culture, leisure and sports are primarily provided at the local level. Finding facilities and event calendars and online registrations for clubs, courses and events are widely available in cities of all sizes across Europe. More advanced services such as borrowing e books, managing loans and paying fines, and booking a library desk space are more widely available in small and medium-sized and larger cities. Towns in all parts of Europe offer very few advanced services for culture, leisure and sports.

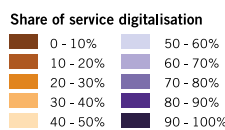
Digital public services related to tourism are provided by the majority of cities. Mobile tourist guide applications have been widely adopted, with higher shares reported in the larger cities. Location-based services for journey planning are widely available in all of the larger cities. With the exception of online information, few tourism services are provided at the regional and national levels. The use of social media is more sporadic, with the option to leave feedback online to be shared with others only widely available in some towns and cities.

Figure 5
Urban and territorial dimensions of digitalisation of public services

Share of services that are digitalised at the levels of towns (T), small and medium-sized cities (S) and large cities (L); at regional level (R) and/or at national level (N)



Source: ESPON Survey on the digital transition of cities, 2017



4. Drivers of the digital transition of public services

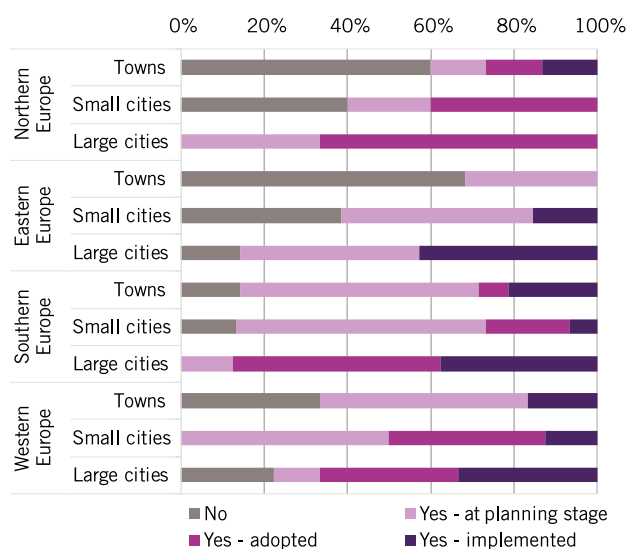
Governments and the public sector need to respond to the demands of enhancing citizen and business experiences and satisfaction. The citizen experience is a de facto key driver of digital transition of government bodies according to the OECD *Recommendation on Digital Government Strategies*. The EU *eGovernment Action Plan 2016-2020* takes heed of this finding, calling for more systemised efforts to embrace the digital environment seeking a better interaction of citizens, business and non-governmental organisations with public administrations. The Action Plan aims at converging the digitalisation efforts in the Member States, yet, an examination of the strategic maturity on local level reveals a more fragmented picture.

Implementation of city digital strategies

Fewer than one in three European cities report having adopted digital government strategies (32%). Around half of those cities, or one in six overall (16%), have already implemented their strategies. Many cities are currently at the stage of designing and planning their strategies (39%). About 29% of the cities do not have a strategy at all. Larger cities are in the lead. About 87% of Southern European large cities have a digital strategy in place. The adoption rate for Western and Northern European large

cities is 67%. The majority of the Southern and Northern European large cities have their strategies at least in development. Eastern European large cities are lagging behind, where only 42% of the cities have a digital strategy in place. Towns and small and medium-sized cities are less likely to have a strategy in place. This is especially the case in Eastern Europe (Figure 6).

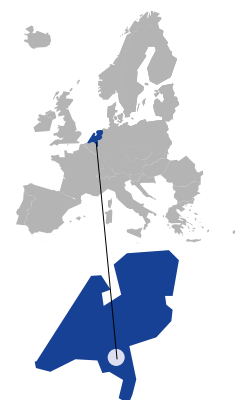
Figure 6
Digital strategy stage by city size



BOX 2

Strategy based on innovation: creating solutions for the societal challenges of tomorrow

Eindhoven is the fifth largest city in the Netherlands. Brainport Eindhoven is a breeding ground for innovation and the home base for world-class companies and knowledge and research institutions which, through their cooperation, are positioning the area as a reference in the field of innovative technologies. The basis for the strategy was laid down in the coalition agreement “Expeditie Eindhoven” which expressed the ambition to transform the city into a Smart City. In October 2016, the municipal council adopted the Smart Society programme, which defines the vision of the city as a Smart Society, going a step further than a Smart City which places efficiency central. The municipality itself is in charge of implementing the strategy.

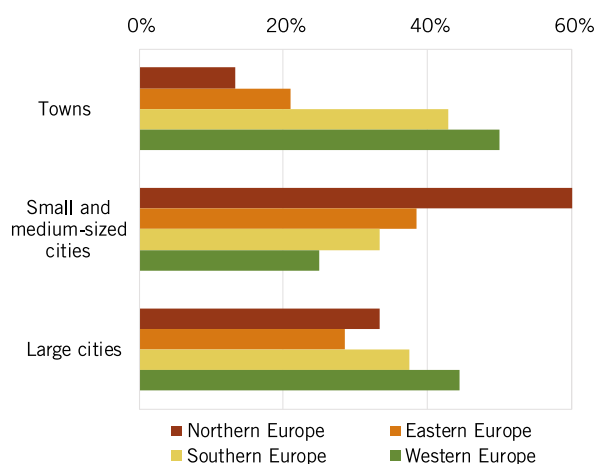


Leadership to manage city digital strategies

With cities becoming more reliant on technology for their everyday operations, governance and service provision, it is imperative that they have the right leadership in place in order to set the stage for and harness the potential of digitalisation. Digital strategies need constant reviews and updates to keep pace with evolving technologies. Currently, a third of European cities report having assigned a leader with responsibility to oversee and manage the development and implementation of the cities' digital strategy. Western and Southern European cities are in the lead, where approximately 39% of cities have a designated a digital leader. Northern and Eastern European cities are lagging behind with under 30%.

Small and medium sized cities and towns value digital leadership the most. Towns with the population under 50,000 show the highest rate of designated digital leadership in Western and Southern Europe. Cities with a population between 50,000 and 250,000 have the highest share of designated digital leadership in Northern and Eastern Europe (Figure 7). Northern Europe exhibits considerable divergence of a digital leadership practice between towns and smaller cities.

Figure 7
Leadership: share of cities where a single person has the responsibility to oversee/manage the city digital strategy

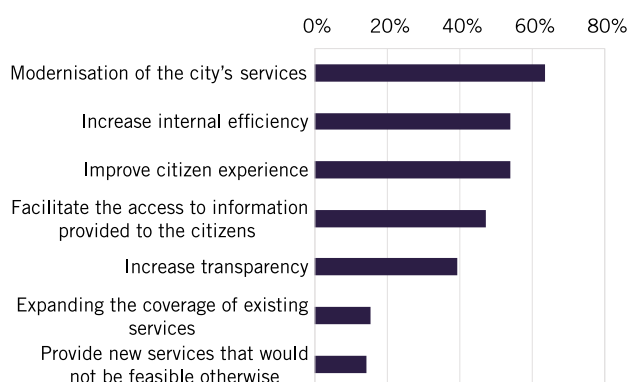


Main drivers of city digital strategies

A look into the main drivers for digitalisation of public services in European cities provides a more coherent picture. Local governments increasingly demonstrate a

better understanding of the correlation between the quality of public services, competitiveness and the ability to attract human capital and investments. Across the continent, towns, small and large cities alike seek to modernise their services in order to increase their internal efficiency and consequently improve the citizen's experience (Figure 8). Also, facilitating the access to information and increasing transparency are very important considerations in the strategy development process. The first aspect is especially noticeable among small and medium-sized towns across Europe. Increasing transparency, on the other hand, is one of the main objectives for larger cities, especially in Southern and Eastern Europe.

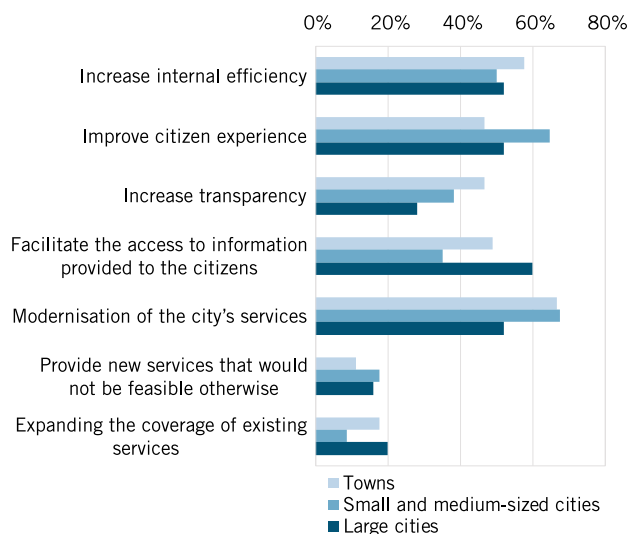
Figure 8
Main drivers of city digital strategies



Discrepancies in the perception of drivers are palpable in the assessments provided by public authorities in large and smaller cities (Figure 9). While modernisation, improved citizen experience and transparency seem to be prioritised in smaller cities, the access to information and coverage expansion of existing services is of higher importance to large cities.

Towns, small and large cities alike are less likely to design, develop and implement a digital strategy that is largely driven by efforts to develop new services or expand the coverage of existing services. This unveils a potential gap between the local level and EU-wide endeavours such as the European Cloud Initiative and Government as a Service (GaaS). Amidst a growing demand from citizens and businesses to gain access to re-usable data for new services and societal needs, the current assessment of strategic drivers suggests an incremental strategic approach, where, at the current stage, the need to prioritise improvement outweighs the need for diversification and expansion.

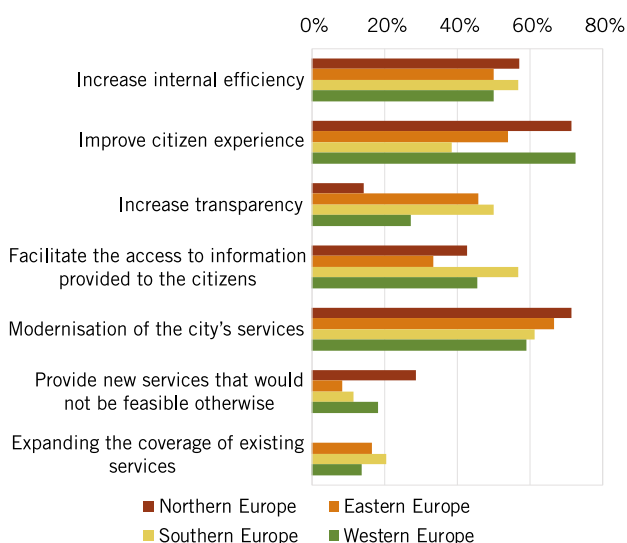
Figure 9
Main drivers of city digital strategies by city size



Northern and Western European cities stand out as putting more emphasis on the improvement of the citizen's experience (Figure 10). Regional incongruity is palpable between Northern Europe on the one hand and Eastern and Southern Europe on the other hand with regard to the perception of transparency and new services. While transparency appears to be an important driver for a considerable part of the sampled authorities in Eastern and Southern Europe, the evidence suggests that it plays

a rather negligible role in Northern cities. On the contrary, Northern local authorities lend comparably more weight to new services in relation to their counterparts in Southern and Eastern Europe. The need for newer and more innovative services that would not be feasible without digital channels resonates with the Western local authorities as well, in contrast to the perception in Southern and Eastern Europe.

Figure 10
Main drivers of city digital strategies by region



5. Implementing the digital transition: challenges, financing and collaborations

Implementing and funding the digital transition of their public services remains a major challenge for European cities. Yet, differences appear when looking at their size and at their regional position.

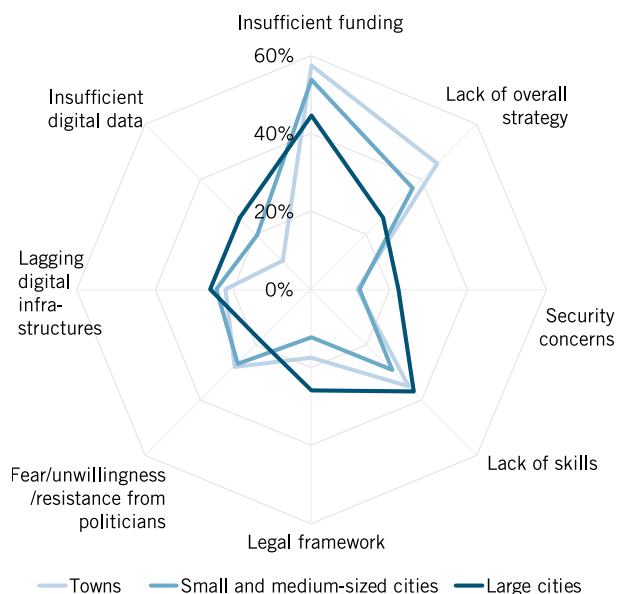
Factors constraining the digital transition

At all geographical levels, the main constraining factors for digital transition are lack of funds and lack of skills (Figure 11). Clearly, the financing of investments is still particularly acute for local authorities despite the efforts already made. Except for larger cities, the absence of an overall strategy is also considered as a major challenge which complicates the digital transition (around 40% of

respondents). Fear or unwillingness and lagging digital infrastructures are less quoted which might be explained by the fact the funding issue remains the paramount consideration for local stakeholders. Nevertheless, this concern is a key factor for one in four towns and small and medium-sized cities.

It is also noticeable that security concerns, insufficient digital data and legal issues are generally not seen as prominent except maybe for a minority of larger cities (around 25%) that might be dealing with bigger and more complex projects. Survey respondents were asked to identify up to 3 factors constraining their city's digital transition. Lower scores thus merely indicate that these factors are not at the top of the list of challenges to the digital transition.

Figure 11
Factors constraining the digital transition

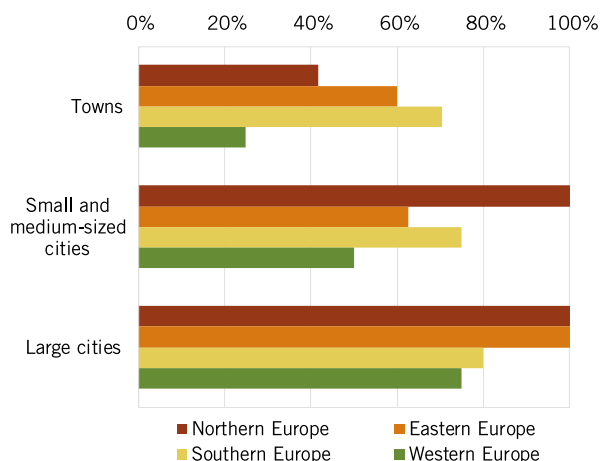


Note: Respondents to the ESPON Survey on the digital transition of cities were requested to identify up to 3 factors.

Funding the digital transition

Fiscal and budgetary policies provide the means for effective digital transition. Two out of three European cities have a specific budget set aside for implementing digital policies and transforming services. However, the situation is very diverse when comparing city sizes and their geographical location (Figure 12).

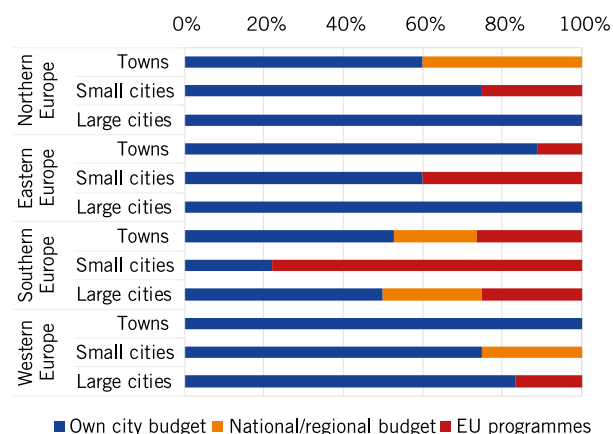
Figure 12
Share of cities with a special budget reserved for the digitalisation of services in the city budget



Larger cities have more demand for digital services and also access to more resources which are channelled towards digital transition. Only half of the surveyed towns have a dedicated budget for digitalisation. All large cities in Northern and Eastern Europe and four out of five in Western and Southern Europe have specific budget set aside for digitalisation of public services.

For cities with a dedicated budget, the main source of this budget for the majority of towns, small and large cities is their own budget. Almost four in five respondents from small and medium-sized cities in Southern Europe identified EU programmes as the main source of their dedicated digitalisation budget. No larger cities in Northern and Eastern Europe cited national or EC funding as their main source of funding.

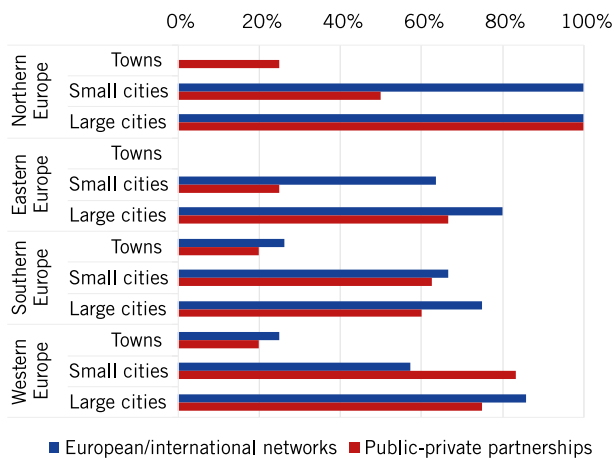
Figure 13
Main source of special budget reserved for digitalisation of services



Local and international collaborations

Direct participation, engagement and collaboration between public, private, and civil society stakeholders in strategy building, policy making and public service design and delivery is vital for the creation of “digital government ecosystem”. Wherever they are located in Europe, small towns are the least involved in external networks (Figure 14), most probably because of their lower level of available resources. Generally speaking, Northern European cities are the one who commit themselves the most to networking at all levels (towards private sector and at international scale). Thus, 100% of the medium-sized and large Northern cities declared to be involved in at least one European network.

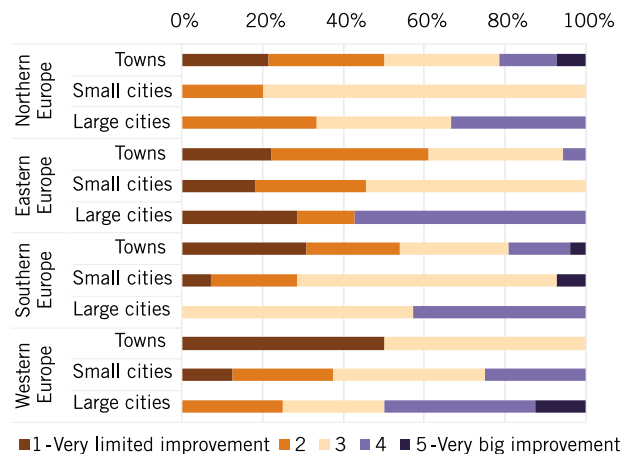
Figure 14
Share of cities participating in European/international networks and/or engaging in public-private partnerships to promote digital transition



It is also noticeable that small and medium-sized cities in Western Europe tend to prioritize public private partnerships as meanwhile they are a minority to declare a dedicated budget for the digitalisation of their services. Public-private partnerships are widely implemented by medium-sized and larger cities in all regions of Europe. Among small and medium-sized cities, cities from Eastern Europe report a lower level of interest in public-private cooperation yet they declare a broad involvement in participating in European and international networks.

Collaboration matters and cities across Europe value the development of new digital and people driven services. The reported levels of improvement of cities digital services due to an increasing cooperation among public authorities, citizens and private sector show that larger cities are the main beneficiaries of these interactions (Figure 15). A significant share of towns in all geographical areas report very limited or limited improvements to their city digital services due to engagement in networks and public-private partnerships. This correlates with lower rates of participation in these types of collaboration.

Figure 15
Level of improvement of city digital services due to its engagement in European/international networks and in public-private partnerships



BOX 3

A smart city strategy built on alliances

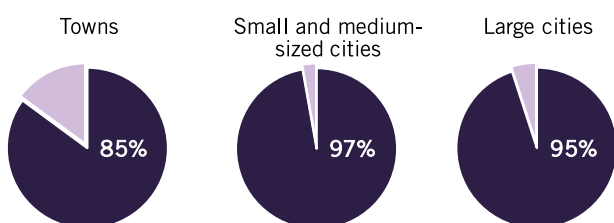
Barcelona is the second largest city in Spain. In 2011, Barcelona's city council launched "Barcelona as a people city", a project which, through the introduction of new technologies, aimed to foster economic growth and increase the welfare of its citizens. The Smart City Strategy of Barcelona covered over 120 projects in a wide range of areas related to city management such as lighting, waste management, energy and innovation. The implementation and promotion of alliances between public and private partners was an important part of the strategy, e.g. collaboration with private companies, research centres and universities, business schools and international organisations. The strategy was executed by the Urban Habitat Department until 2015. In 2016 the Digital Innovation Office was created with responsibility for defining digital and data policy and to lead the digital transformation of City Hall.



6. Impact of the digital transition

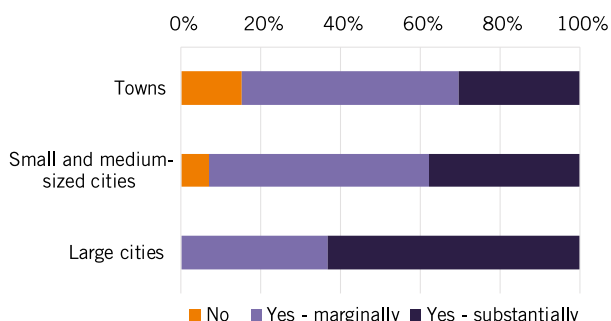
The share of cities reporting an improvement of city services across all city sizes is very high (Figure 16). Small and medium-sized and large cities report the highest improvements which reflects the greater resources, economies of scale and infrastructure available. While the share of improvement in towns is also high, there exists greater scope for improvement and suggests the need for greater investment on digitalisation in smaller cities.

Figure 16
Share of cities reporting an improvement to city services as a result of digitalisation by city size



Towns also report a somewhat lower increase in the uptake of specific services as a result of digitalisation (Figure 17). 70% of towns report no or only a marginal increase in uptake as a result of digitalisation. On the other hand large cities report a much higher uptake with no cities reporting no uptake.

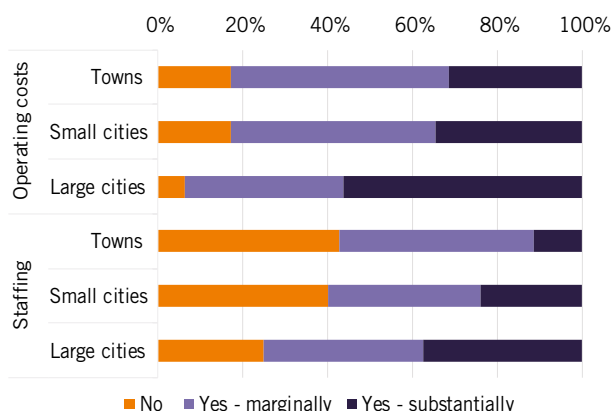
Figure 17
Increases in the uptake of specific services as a result of digitalisation



All cities report significant reductions of operating costs for the provision of services as a result of digitalisation (Figure 18). Again, in keeping with general trends, large cities report a much larger share of operating costs as

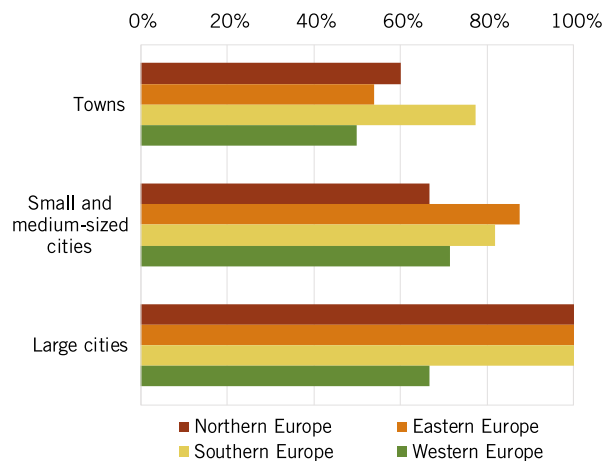
a result of digitalisation. The trend for towns and small cities is broadly similar with approximately 70% reporting no or marginal reduction. In terms of staffing, increased digitalisation is also generally accompanied by reductions in staffing albeit at a lower rate than operating costs.

Figure 18
Reductions in operating costs and staffing as a result of digitalisation of services



The majority of cities report that they use data from digitalised services to improve service provision or decision making processes (Figure 19). In general, towns and small and medium-sized cities make use of data to a lesser extent compared to large cities.

Figure 19
Use of data gathered from digitalised services to improve services or in the decision making processes



7. Policy recommendations

The findings presented in this report present a snapshot of the state of digital transition of public services in mid-2017, based on the perspectives of local government authorities. Towns, small and large cities across Europe have taken on the challenge to transform how they provide public services and interact with their citizens through ICT. The uptake of digital solutions is modernising public administrations, increasing internal efficiencies and facilitating interactions between administrations, citizens and businesses. These are also the main drivers for the digital transition.

The current state of digital transition of cities is very diverse. Large cities tend to be at the forefront of digitalisation due to higher demand for more complex services and interactions, and their capacities to develop and provide those services. The main factors constraining the digital transition of cities are **lack of funds and lack of skills**, although the scope and impact of these constraints differs. Another factor, especially inherent in smaller cities and towns, is a lack of strategic vision. Enhancing the capacities of cities to deliver digital services and tackling these challenges **requires policy responses at all levels and by all actors**, targeting specifically regions and cities that are lagging behind with their digital transformation and allowing them to become more attractive and competitive.

EU level

Remove barriers to cross-border interoperability. Digital public services should be developed based on agreed standards and technical specifications. Removing barriers will facilitate the uptake of solutions in cities that are currently lagging behind and enable collaborations on service provision in cross-border and transnational contexts.

Create a European platform for cities to share their data and services. As the implementation of city digital strategies proceeds, the focus will shift from modernisation and efficiency gains to the development of new services and the expansion of existing services. A common European platform for sharing data and services is needed to meet this growing demand.

Create a supportive legal framework for digital solutions in healthcare and social welfare services.

Findings indicate that the uptake of advanced digital solutions is lowest for health and social welfare services. More certainty and clarity in the forms of (de)regulation and guidance are needed on data use and cross-border data sharing issues related to data privacy, data security, data ownership and digital identity in order to deliver citizen oriented public services. This also applies to digitalised services beyond healthcare and social welfare. The General Data Protection Regulation (GDPR) requiring the appointment of Data Protection Officers (DPO) for some organisations will be applicable from 25 May 2018. In addition, the appointment of data security officers within organisations should be considered.

National and regional levels

Build partnerships to develop digital solutions in key sectors including education and transport. Leadership and coordination are needed at national and/or regional level to bring together actors from the public and private sectors to design and customise complex digital solutions that are tailored to local needs. The digital transformation of education should be a key priority as it will also address the issue of lack of skills, which is one of the main constraint factors. Common solutions are also needed in the transport sector as the paradigm is shifting towards e-mobility and autonomous vehicles.

Support the digital transition of towns and smaller cities. Findings indicate that larger cities are leading the way in the digital transition. Policy action is needed to ensure that public service provision in towns and smaller cities is not left behind. Services that require critical mass to be developed and/or maintained can be provided at national or regional level, depending on relevant competencies, capacities and demands. Support should be provided for capacity building through networking and collaborations to facilitate the uptake of digital solutions by local authorities.

Medium-sized and large cities

Invest in ICT infrastructures for local digital services.

Lagging digital infrastructures have been identified as a barrier to the digital transition, particular by larger cities. Cities should invest in building the ICT infrastructure of the future including fiber-optic and new generation wireless (5G) networks, sensors for Internet of Things (IoT) applications and cloud computing services.

Open up to support the development, testing and roll-out of advanced digital solutions.

New innovative solutions need testing in real-life scenarios with real users to deliver citizen oriented services. Cities should open up their infrastructure and environments and serve as living labs and testbeds to advance the development of digital solutions. Opening up public data should also be a part of this process. In this context, cities should also develop partnerships with the private sector and research organisations and collaborate with regional and national authorities in order to ensure coordination on the development of digital public service innovations in key areas. Finally, public procurement should be used to facilitate the uptake and diffusion of innovative digital solutions.

Towns and small cities

Adopt and implement a digital strategy and appoint a digital leader.

Amongst the first priorities for city digital strategies should be to modernise services, increase efficiencies and improve the citizen experience. A city digital strategy should be backed by a dedicated budget to advance the digitalisation of services. Designating a digital leader to oversee the implementation of the digital strategy is also a crucial success factor.

Map and prioritise services to be digitalised at the local level.

Identify which digital services should be provided at the local level and thus require the most local investment for their implementation. Some services are already or will be provided at regional or national levels based on different competencies, capacities and demands. Other services can be delivered in collaboration with neighbouring cities.

Develop collaborations to enhance peer learning and skills development.

Findings indicate that cities engaging more extensively in European and international networks have seen more significant improvements in their city digital services. Towns and smaller cities should participate more actively in these networks and also engage in public-private partnerships to promote peer learning and the development of digital skills within their service teams.



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