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Peer Learning Workshop "Sustainable Pathways for the Tourism in Malta"

Extended Report // 15 June 2022

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FOLLOW-UP REPORT //

Peer Learning Workshop "Sustainable Pathways for the Tourism in Malta"

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Abbreviations

AC	Air conditioning
AI	Artificial Intelligence
CORDIS	Community Research and Development Information Service
EC	European Commission
ESG	Environment, Social, Governance Goals
EU	European Union
GDP	Gross domestic product
H2020	Horizon 2020
IEE	Intelligent Energy Europe Programme
IoT	Internet of Things
MSW	Municipal Solid Waste
RDI	Research, Development and Innovation
S&T	Science and Technology
ToR	Terms of Reference
UN SDG	United Nations Sustainable Development Goals

1   Introduction

Due to the rising global population, the continuous environmental degradation and climate change, international institutions have been placing great pressure on countries and corporate and governmental organisations to become more sustainable in their value chains and operations. The European Union (EU) institutions have also been campaigning for more sustainable development through the creation of several policy instruments, such as the EU Sustainable Development Strategy and the European Green Deal, advocating for the achievement of sustainability goals across Europe, such as reaching net zero greenhouse gas emissions by the year 2050[1]. However, sustainability strategies devised to implement sustainability targets and must take into account the diversity of territories in order to produce the desired effects. The different priorities and challenges associated with sustainable development within territories require place-based solutions that are adapted to territorial specificities, needs, and capacities both now and in the future[2].

Driven by global and EU sustainability goals and targets, the Republic of Malta (referred to collectively as Malta), such as other EU Member States, pledged to make efforts to modify its present social and economic systems in order to support the planet's future. Some of Malta´s territorial specificities represent important factors to be considered when devising sustainability strategies. Being an archipelago composed of islands (Malta, Gozo and Comino), constituting the most urbanised and densely inhabited EU Member State, and being the tenth-smallest nation in the world by area, with a territory measuring 316 km[3] are some of these features. International trade and tourism are two major sources of foreign exchange for small countries, and Malta is no exception. In 2018, tourism rendered directly 33,180 jobs and 14.9% of total employment, and it is one of the top five contributors to the economy in Malta, with a GDP contribution of 12.8% in 2018[4].

Sustainability permeates many spheres of endeavour, such as the tourism industry. The EU argues that the competitiveness and sustainability of the tourism industry go hand in hand since the natural and cultural environments of tourist destinations and their integration into local communities have a significant impact on their quality[5]. Recognising this, Malta´s tourism industry has started to take steps towards the sustainable development of the sector. A key milestone in this process was the adoption of Malta´s Tourism Strategy 2021-2030, anchored on sustainability principles, aiming to deliver a more sustainable and competitive tourism industry by 2030.

The tourism strategy sets several goals to accelerate tourism development, such as integrating quality at all levels of the value chain, rebuilding the airline route network, and encouraging collaboration across diverse digital tourism efforts by consolidating and effectively using data. Along with these goals, the new demands of the post-COVID-19 reality and the accelerated effects of climate change will also have to be taken into consideration. To meet the defined goals, a shift away from the previous economic model implying more sustainable approaches to development is instrumental. Research and innovation, and innovative solutions are important tools for enabling sustainability paths and reducing all sectors´, including the tourism sector´s, environmental impact.

The ESPON Peer Learning Workshop ""Sustainable Pathways for the Tourism Industry in Malta" (more information at https://www.espon.eu/espon-malta-event-sustainable-tourism) was implemented within this context with the aim to collect insights into the sustainable development challenges of the Maltese tourism

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[1] European Commission. [Online]. The European Green Deal. Available at https://eur-lex.europa.eu/resource.html?uri=cellar:b828d165-1c22-11ea-8c1f-01aa75ed71a1.0002.02/DOC_1&format=PDF.   [Accessed 10 June 2022]

[2] OECDiLibrary. [Online]. A Territorial Approach to the Sustainable Development Goals : Synthesis report. Available at https://www.oecd-ilibrary.org/sites/e86fa715-en/1/1/3/index.html?itemId=/content/publication/e86fa715-en&_csp_=6d42c3e04d6f0b50b2439e764fde242b&itemIGO=oecd&itemContentType=book. [Ac-cessed 7 July 2022]

[3] Gordon Alistais Agius & Hillary Victoria Briffa. (2021) Tourism and COVID-19 in 2020: The case of Malta as a small state. Small States & Territories, 4(1), pp. 75-104

[4] OECDiLibrary. [Online]. Malta. Available at https://www.oecd-ilibrary.org/sites/ade41547-en/index.html?itemId=/content/component/ade41547-en#section-d1e126930. [Accessed 10 June 2022]

[5] European Commission. [Online]. Sustainable tourism. Available at https://ec.europa.eu/growth/sectors/tourism/offer/sustainable_en. [Accessed 10 June 2022]

sector, the recent strategies devised for their resolution, showcase innovative sustainability solutions created in diverse international initiatives (especially EU Horizon 2020 projects), as well as to further the discussion of key Maltese tourism stakeholders (representing the policy, industry, research, innovation and capacity-building dimensions) on viable sustainability pathways for the Maltese tourism industry with an emphasis on the hospitality sector.

The ESPON Peer Learning Workshop "Sustainable Pathways for the Tourism Industry in Malta" took place on 30 May, 2022 and it was organised together with INOVA+ INNOVATION SERVICES S.A. and stakeholders from Malta. The workshop involved key stakeholders from the Maltese tourism industry, namely the Ministry for Tourism in Malta and the Malta Tourism Authority. The event programme is shown further below.

This report aims to provide an analysis of the Horizon 2020 initiatives identified initially as relevant to be showcased in the workshop and Malta´s participation in them. The report also delivers the detailed summary of the reflections from Maltese stakeholders participating in the event on the Malta's sustainable tourism pathways and on the EU innovations presented.

Peer Learning Workshop programme – "Sustainable Pathways for the Tourism Industry in Malta"

Sustainability challenges, strategies, and management tools

10:00	Introduction
10:05	Welcome speech
10:20	Sustainable tourism challenges and strategies in Malta
10:45	Digital transformation for sustainable Maltese tourism development
11:00	Q&A
11:10	Break
11:25	TOURISM - Carrying capacity methodology for tourism
11:45	Tourism: Innovation for sustainability
12:05	Q&A
12:15	Lunch break

Solutions and pathways for a sustainable and resilient tourism industry

13:15   Technologies and frameworks for a sustainable hospitality sector
- ❖ Nearly Zero Energy Hotels
- ❖ ALDREN – ALliance for Deep RENovation in Buildings
- ❖ CSMS: Smart, energy efficient air-condition
- ❖ FLEXIGRID-Interoperable solutions for implementing holistic FLEXIbility services in the distribution GRID
- ❖ WATLY: An autonomous and mobile water treatment plant powered by solar energy
- ❖ SCALIBUR: Scalable technologies for bio-urban waste recovery

15:15   Break

15:25   Panel Discussion

16:20   Closing

2 Analysis of relevant Horizon-2020 funded projects

Extensive research using a multicriteria approach was conducted to find initiatives connected to sustainability in the tourism sector, with a focus on the hospitality businesses. In line with the ToR of the "ESPON – Malta event on sustainable tourism", the search concentrated mainly on the EU's Horizon 2020 (H2020) framework programme for research and innovation, being the unique funding programme of the EU between 2014-2020 to promote research, development and innovation (RDI) initiatives at the European level. H2020 funded RDI in a wide range of science and technology (S&T) domains, generating intellectual property with potential deployment in a variety of application areas. The principal source of information were the Community Research and Development Information Service (CORDIS) database of the European Commission (EC) and the individual webpages of the relevant RDI initiatives selected for the purpose of peer learning workshop.

Priority was given to RDI projects that were entirely or partly dedicated to the hospitality industry (e.g. their deliverables / results / intellectual properties had direct applicability in the sector). In addition, as per the requirements of the ToR, the identification and selection centred on RDI projects that addressed particular subjects such as sustainable supply chains, smart hotels, renewable energy, the hospitality industry circular economy, sustainable last-mile logistics and farm-to-fork strategies.

18 H2020 projects were identified as relevant by meeting the above-mentioned criteria. With the help of the Maltese stakeholders involved in the organisation of the peer learning workshop (Ministry for Tourism and Malta Tourism Authority), 7 were shortlisted to be invited to the event for the presentation of their solutions to the Maltese tourism stakeholder community.

The below short analysis covers the full list of 18 relevant H2020 projects, also highlighting the Maltese participation in these initiatives.

Table 1. Relevant H2020 initiatives and their details

Project Name	Project Acronym	Project website link
SunOyster cooling	SOcool	https://www.sunoyster.com/
ENERIQS	ENERIQS	http://elencon.com/
Urban strategies for Waste Management in Tourist Cities	UrBAN-WASTE	http://www.urban-waste.eu/
An autonomous and mobile water treatment plant powered by solar energy	WATLY	https://watly.co/
A novel environment-friendly limited space cooler for high volume food and beverage vending industries	Home of Cool	https://www.homeofcool.com/
Super Variable Vector Combination Energy Saving Hub	SuperEH	https://cordis.europa.eu/project/id/783458
Demonstration of the next generation standardised integrated cooling and heating packages for commercial and public buildings based on environment-friendly carbon dioxide vapour compression cycles	MultiPACK	https://www.ntnu.edu/multipack/multipack

Project Name	Project Acronym	Project website link
SCALABLE TECHNOLOGIES FOR BIO-URBAN WASTE RECOVERY	SCALIBUR	https://scalibur.eu/
A reliable, fast and comfortable body dryer	BD Body Dryer	https://darid.es/en/
The first holistic restaurant forecasting tool to reduce food waste by predicting future demand	Prognolite	https://prognolite.com/site/en/
COMMERCIALIZING THE FIRST EN-ERGY RECYCLER FOR RESTAU-RANT VENTILATION	LEPIDO	https://www.enjaysystems.com/
Smart modular panels for hotel and re-tail shop construction and refurbish-ment which reduces embodied energy by 30% respect to state of the art sys-tems	WHEKEE	https://cordis.europa.eu/pro-ject/id/729294
Eco-efficient and Healthy Commercial Deep Fryer	FC-Unlimited	https://www.qualityfry.com/en/company/
CIVITAS DESTINATIONS	DESTINATIONS	https://civitas.eu/projects/destinations
ALliance for Deep RENovation in build-ings	ALDREN	https://aldren.eu/
Cities Cooperating for Circular Econ-omy	FORCE	http://www.ce-force.eu/
Interoperable solutions for implement-ing holistic FLEXIbility services in the distribution GRID	FLEXIGRID	https://flexigrid.org/
Food System Hubs Innovating towards Fast Transition by 2030	FoodSHIFT2030	https://foodshift2030.eu/

In general, it is of note that out of the 18 RDI initiatives, 2 had a focus on the tourism sector in general, and 4 on the hospitality industry (i.e. restaurants and hotels). This means that two-third of the initiatives had a more general scope and provided solutions that are also applicable in the hospitality sector (such applica-bility was expressly stressed by these initiatives and in some cases, hotels were used as demo sites for testing the solutions).

As shown in Figure 1, within the selected themes, most of the European projects tended to concentrate on circular economy related themes (N=13), followed by renewable energy (N=3), smart hotels (N=1) and sus-tainable last-mile logistics and farm-to-fork strategies (N=1).
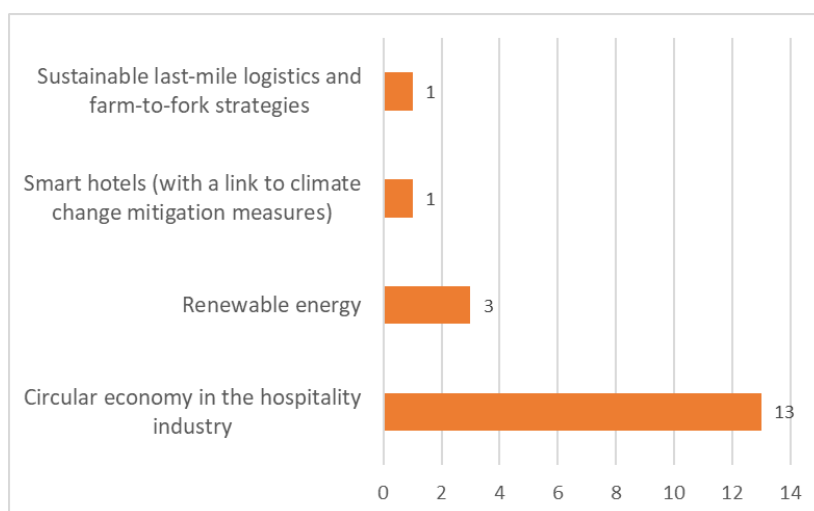
Figure 1. Themes covered by relevant H2020 initiatives

The concern for the environment and the future of the next generations has led sustainable development approaches, such as circular economy, to emerge as an alternative to the current linear economic paradigm. The EU has declared circular economy as a development priority by forming the Circular Economy Action Plan[6] and other related policies, such as EU Strategy for Sustainable and Circular Textiles.[7] As a result, an increasing number of organisations (public and private) have been showing interest in implementing circular policies, measures and initiatives. However, circular economy is a vast concept and it encompasses several fields and topics with relevance for various sectors. The "CIRCTER - Circular Economy and Territorial Consequences" initiative conducted within the framework of the ESPON 2020 Cooperation Programme, focused on analysing the territorial dimension of the transition to circular economy and the local and regional patterns and flows of materials, including resources and waste[8]. While keeping alignment with several definitions of circular economy, this initiative relied principally on a more comprehensive circular economy definition of Korhonena et al. (2018): "*a sustainable development initiative with the objective of reducing the societal production-consumption systems' linear material and energy throughput flows by applying materials cycles, renewable and cascade-type energy flows to the linear system. The circular economy promotes high value material cycles alongside more traditional recycling and develops systems' approaches to the cooperation of producers, consumers and other societal actors in sustainable development work*"[9].

The 13 H2020 initiatives on circular economy identified during the search cover areas such as energy savings/ resource efficiency and water conservation/water reuse, urban waste prevention, management and valorisation/recovery.

On renewable energy, the selected projects aimed at researching and developing more energy-efficient technologies and solutions (e.g., use of solar energy for water purification and the delivery of drinking water, optimisation of electric grids for a better distribution of renewable energy, use of solar energy for generating cold) and market adoption methods to address finance, legislation, and the enhancement of skills and expertise in order to reduce market and governance obstacles[10]. Furthermore, the smart hotel's theme is concerned with developing and integrating new technologies (such as IoT, AI, mobile applications, and so on) into touristic establishments, making them more digitally inventive and appealing to visitors (the selected project provided AI technologies to optimise the air conditioning systems in hotels). Lastly, sustainable last-mile logistics and farm-to-fork strategies aim to redesign the current unsustainable supply chain and encourage change in favour of local food system resilience, as well as encourage customers to support smaller

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[6] European Commission, Directorate-General for Communication, (2020). Circular economy action plan: for a cleaner and more competitive Europe, Publications Office. https://data.europa.eu/doi/10.2779/05068

[7] European Commission. [Online]. EU strategy for sustainable and circular textiles. Available at https://environment.ec.europa.eu/strategy/textiles-strategy_en

[8] ESPON. [Online]. *CIRCTER - Circular Economy and Territorial Consequences*. Available at https://www.espon.eu/circular-economy. [Accessed 28 June 2022]

[9] Jouni Korhonena, Cali Nuurb, Andreas Feldmann, Seyoum Eshetu Birkie. 2018. Circular economy as an essentially contested concept. *Journal of Cleaner Production, 175*, pp. 544-552.

[10] European Commission. [Online]. Renewable energy. Available at https://energy.ec.europa.eu/topics/renewable-energy_en. [Accessed 10 June 2022]

and local small agri-food businesses with a more neutral and positive environmental impact. The selected project aims to encourage systemic change favouring the local food system resilience by shortening the chain between farms and eaters, by encouraging food businesses and ordinary citizens to consume from smaller, less distant agri-food supply sources[11]. The project is developing a new tool for restaurants and canteens that shows how much organic local farmland supplies are used in canteen and restaurant kitchens, allowing continuous monitoring and awareness-raising.

The 18 H2020 initiatives included participant organisations from 24 European and 1 non-European countries (Israel). Figure 2 illustrates the European countries partnering in these projects.
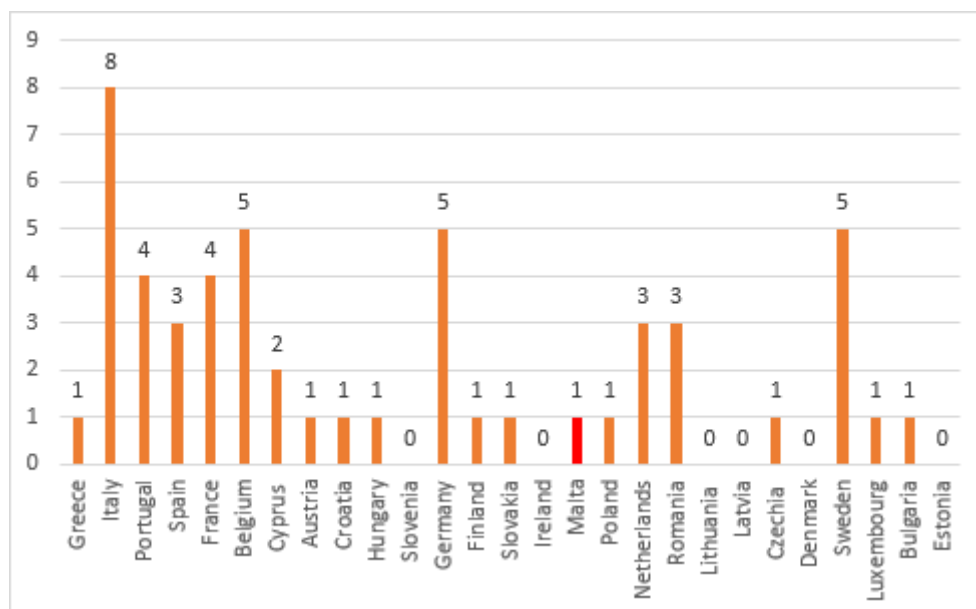

Figure 2. European countries covered by relevant H2020 initiatives

As highlighted on the map (in red), Malta participated in 1 relevant H2020 initiative. It was the CIVITAS DESTINATIONS (2016-2021) project[12], led by Horários do Funchal-Transportes Públicos SA from Portugal with 10 other European countries on board. From Malta, the following entities were partners in the initiative:

- Authority for Transport in Malta
- Valletta Local Council
- University of Malta
- Ministry for Tourism

The project addressed mobility strategies and sustainable tourism in hot-spot European cities to tackle the significant challenge of tourist flows that place a large pressure on the local transport systems during peak tourism seasons. The project cities developed sustainable urban mobility and logistics plans, fostered behavioural change towards sustainable mobility modes, optimised mobility management, public transport and urban spaces in favour of sustainable mobility.

In Malta, the project interventions were deployed in the Valleta region. The developed solutions took into consideration the region´s characteristics, such as the absence of seasonality, the urban-like area of the entire region with towns and villages, which with their agglomerations have grown into a larger urban area[13], the large potential for walking as a viable mobility mode, the high rate of car ownership (74% of trips are

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[11] European Commission. [Online]. Farm to Fork strategy. Available at https://ec.europa.eu/food/horizontal-topics/farm-fork-strategy_en. [Accessed 10 June 2022]

[12] CIVITAS. [Online]. *About CIVITAS*. Available at https://civitas.eu/about. [Accessed 9 June 2022]

[13] CIVITAS. [Online]. Valletta Region (Malta). Available at https://civitas.eu/cities/valletta-region. [Accessed 7 July 2022]

made by car, whereas only 11% of trips are made by public transport. Bicycle use is also relatively low[14]) and the typical challenges of dense territories.

The particular innovative sustainability solutions developed for the Valleta region are:

- Better connection and integration of ferries in the public transport system

- Smart parking management system

- Development of a mobile application, MyMaltaPlan, to encourage sustainable transport behaviour among tourists

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[14] CIVITAS. [Online]. Valletta Region (Malta). Available at https://civitas.eu/cities/valletta-region. [Accessed 7 July 2022]

3 Reflections about the Maltese sustainable tourism pathways and EU innovations

Maltese stakeholders' reflections on tourism sustainability pathways and the usability of EU innovations[15] deriving from the ESPON peer learning workshop are summarised in this section. Reflections focused on a variety of issues unique to Malta's territorial context, tourism situation and the tourism development challenges with which the country is confronted. The key goal that drives Malta´s tourism strategy is to rebuild lost tourism numbers[16] (recovering the pre-COVID19 status) within the shortest amount of time while simultaneously taking action to ensure that such growth is achieved through the elimination or reduction of previously unattractive aspects of tourism (e.g. impacts of heavy tourism on the environment) as well as the introduction and strengthening of positive aspects (e.g. positioning Malta as a quality destination) resulting from a more sustainable approach. Better management of carrying capacity, a transition to a quality destination, including upgrading the hotel industry (e.g. the introduction of cutting-edge technology and other updates that can improve consumer experience or other aspects), and the more extensive implementation of sustainability measures/targets, such as the European Green Deal[17], Environmental, Social and Governance (ESG)[18] and United Nations Sustainable Development Goals (SDGs) in the tourism operations, are all specific objectives that may all help accomplish the aforementioned key goal (shown in **Error! Reference source not found.**). As a result, Maltese stakeholders analysed the current development of the Maltese tourism while taking into consideration the mentioned issues, resulting in several key messages and conclusions. The content presented in this section was collected from the Maltese workshop speakers´ interventions, participant questions and the Maltese stakeholders´ debate within the panel discussion. Due to the nature of the panel discussion, this event component generated more reflections, thought exchange and key messages as compared to the other above-mentioned sources.
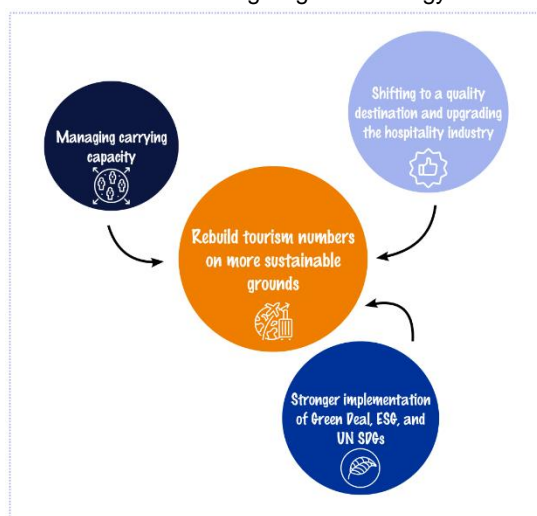

Figure 3. Malta's key tourism goals

3.1 Managing Carrying Capacity

Managing carrying capacity is a concern among Maltese tourism stakeholders. Besides other adverse effects, the high tourist inflows (such as the ones in the pre-COVID19 era) have represented a significant

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[15] The EU innovations referred in this report are the following ones: TOURISM- Carrying capacity methodology for tourism, NeZEH– Nearly Zero Energy Hotels, ALDREN– ALliance for Deep RENovation in Buildings, CSMS- Smart, energy efficient air-condition, FLEXIGRID-Interoperable solutions for implementing holistic FLEXIbility services in the distribution GRID, WATLY- An autonomous and mobile water treatment plant powered by solar energy, and SCALIBUR- Scalable technologies for bio-urban waste recovery.

[16] Malta's National Tourism Strategy for the period 2021-2030, a strategy developed by Malta's ministry of tourism and the MTA, proposes a strategic approach which strives to rebuild lost tourism numbers within the shortest time possible. Please click the following link to learn more about it: https://tourism.gov.mt/en/tourism/Documents/National%20Tourism%20Strategy%202021-2030.pdf.

[17] European Commission. [Online]. *The European Green Deal*. Available at https://eur-lex.europa.eu/resource.html?uri=cellar:b828d165-1c22-11ea-8c1f-01aa75ed71a1.0002.02/DOC_1&format=PDF. [Accessed 10 June 2022]

[18] European Commission. [Online]. *EU labels for benchmarks (climate, ESG) and benchmarks' ESG disclosures*. Available at https://ec.europa.eu/info/business-economy-euro/banking-and-finance/sustainable-finance/eu-climate-benchmarks-and-benchmarks-esg-disclosures_en. [Accessed 4 July 2022]

environmental threat for Malta. Tourism is a very complex industry and a horizontal activity that is deeply intertwined with other sectors and areas. To manage tourism sustainably, there is a need to take into consideration a range of other elements within the tourism ecosystem (economic, commercial, developmental, social, environmental, traditional, cultural, experiential, recreational, emotional, aspirational, technological). Similarly, managing carrying capacity sustainability involves complexity. While a moratorium in increasing the current bed stock may be a possible solution to manage better carrying capacity, it may not be sufficient to handle all of Malta's long-term concerns. Carrying capacity measures should be complemented by interventions in other areas (e.g., sustainability of current tourism infrastructure) to enable a holistic shift.

Still related to carrying capacity, the presentation of an EU sustainability solution for measuring tourist capacity (ESPON project "Carrying Capacity Methodology for Tourism – TOURISM"[19]) within the session, revealed that tourism in Malta is concentrated mainly in a smaller number of tourist hotspots (e.g. coastal area, historical sites), meaning that the tourism flows are not evenly distributed across the country. This signifies that the characteristics of individual territories from the point of view of tourism and its impacts vary significantly. In this sense, targeted interventions for specific territorial areas to manage better carrying capacity are preferred. During the Maltese stakeholder reflections, the importance of a territorial approach

Figure 4. Key points of the reflections on the Maltese tourism carrying capacity

regarding sustainability was reiterated. In particular, the UN SDGs represent an important international benchmark for all countries, however, they comprise a rather comprehensive set of goals with broad targets. It is critical, therefore, that their interpretation is done within the respective territorial context, fully considering the uniqueness of each country and of even more specific territories.

Concerning the management of carrying capacity, one of the doubts the Maltese stakeholders had was the governance level at which local overtourism should be managed, so as to avoid micromanagement. It was recommended that managing local overtourism is handled at a territorial level that encompasses a group of municipalities (not going to the level of touristic interest areas nor tackling these aspects at a macro level). In the case of large cities, for instance, the city level might be too macro, hence measures could rather focus on specific sectors that are more affected by tourist flows.

Coordination between public bodies and the coordination at different levels of governance will allow pursuing a concerted effort and putting forward a joint strategy of action with aligned priorities, objectives, and means of implementation for a better handling of overtourism. To reinforce the alignment and increase commitment and impact, the creation of public-private partnerships is important.

During the debate, it was also mentioned that the hospitality industry (hotels and bread&breakfast owners) should also have an active role in contributing to the sustainable management of carrying capacity. As an example, hoteliers could foster sustainable transport modes of tourists (e.g. electric scooters) for their visits to touristic hotspots, so contributing to reducing the environmental burden of the tourism concentration in these places.
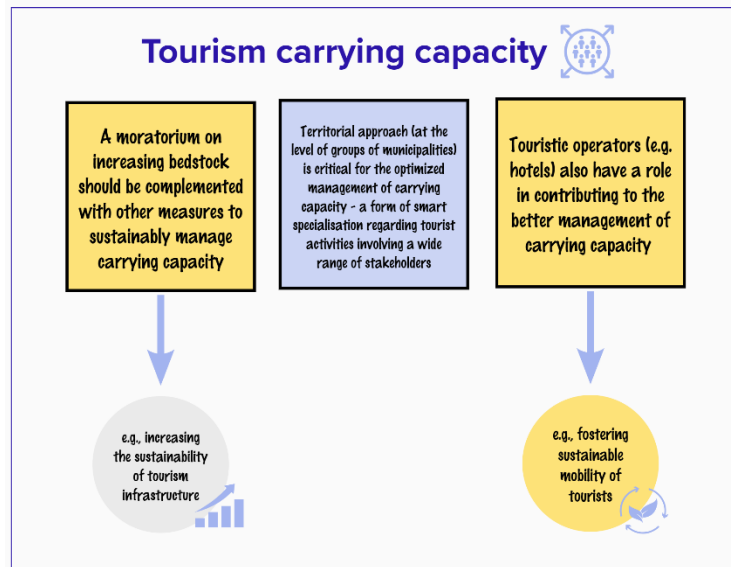
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[19] ESPON. [Online]. *TOURISM - Carrying capacity methodology for tourism.* Available at https://www.espon.eu/tourism. [Accessed 28 June 2022]

3.2   Shifting to a quality destination

Shifting to a quality destination was much discussed at the event. Repositioning Malta as a quality destination is part of its long-term of the Malta Tourism Strategy 2021-2030[20]. Offering quality services and products is key to attracting a variety of visitor typologies, increasing the tourism expenditure per capita as well as being crucial for the long-term sustainability of the sector.

Quality education and digital upgrade can accelerate the quality shift. The digital transition needs to take place in the Maltese tourism sector at different levels (e.g., the update of software, the exploration of technologies to enhance the customer experience, etc.) and this is a point where all panellists agreed. It is necessary to explore the possibilities of using emerging technologies such as AI, 5G Network, Augmented Reality, Internet of Things (IoT) among others. For instance, complementing the experience of a visit to an archaeological site with digital versions of that same place but with centuries of difference can be a unique experience for visitors. There is a need to explore also what technologies are the most suitable in the Maltese context for enhancing tourism offers.

In parallel, upskilling and education of tourism stakeholders for improved digital skills is essential to be able to properly manage and exploit the potential of new technologies. There are numerous operators that conduct their businesses in very traditional settings. There are many establishments of all kinds that still use computer software prior to the first version of Windows. This creates an enormous gap between the more advanced touristic establishments and the others – "higher" and "lower" ends. For them capacity-building through digital tools can be lifesaving and can also function as awareness-raising about the unprecedented opportunities digital technologies can open for

Figure 5. Key points of the reflections on shifting to a quality destination

tourism businesses. This gap needs to be closed as the "lower" end desperately needs an upgrade. However, if an outdated technology still works and does its job, what is the incentive for the operator to update software? Maltese stakeholders agreed that if this transition is to happen safely, operators should have access to funds/grants and also assistance and training on how to manage and install such technologies or even assist visitors in doing so.

Another important aspect is the improvement of the online presence of tourism institutions, such as restaurants. Simple actions, such as placing restaurant menus and other important information available online, can improve tourists´ overall experience (tourists will be able to plan in advance their food experience. If, for example, a menu is not available for consultation online, visitors may lose interest easily in the establishment). More extensive online presence would upgrade the sector and increase the quality of the service.

A part of the reflections also revolved around data availability which is one of the major weaknesses in the Maltese tourism industry. Stakeholders agreed that more data collection, visualisation and analysis are required and thus this field needs urgent improvements. Data analytics provides major support to the tourism industry both in terms of decision-making and governance as well as enabling better planning at the
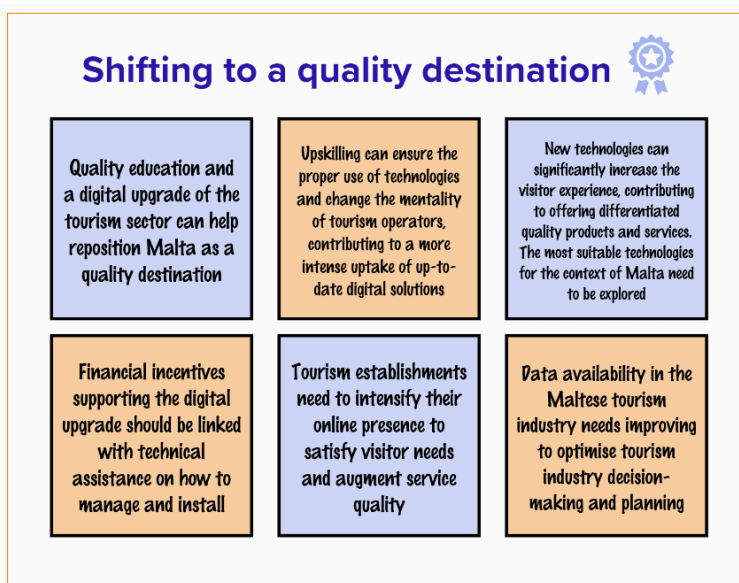
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operational levels (e.g. restaurants could better plan and accommodate tourist needs if they had enough data on tourist inflows).

3.3   Integration of sustainability measures/targets (e.g., the Green Deal, ESG, and UN SDGs)

Sustainability is a key feature of the current Maltese tourism strategy[21] and it is in full alignment with the European and global sustainability measures. Nevertheless, during the debate it was mentioned that UN SGDs seem fairly broad and apply a one size fits all approach. Recognising that destinations are unique is the first step to ensuring that valid and focused solutions are developed. In this regard, the Malta Tourism Authority has developed certain sustainability indicators, which will link to the national framework of sustainability and will aid tourism decision-making and planning.

Putting sustainability into practice (sustainability goals is not only the business of politicians but of all tourism operators and the tourists themselves), a paradigm shift is required in the way that the tourism value chain thinks. There is a need for a shift in the "collective thought process" that can induce changes in tourism actions, allowing the revitalisation of the tourism industry. There was a general consensus among Maltese stakeholders that changing mindsets is the principal enabler of the transformation process. They also agreed the education and awareness raising of tourists about sustainability and environmental matters can lead to their behavioural change.

The incentives can range from simple actions such as messages and signs placed for tourists in tourist establishments to remind them of responsible behaviours e.g. changing non-used towels in hotel rooms and raising awareness for turning the lights and the AC off every time the tourist leaves the room to financial means (e.g., award systems: if the guest does not change the towel each day during the stay, he/she will get a free drink at the hotel bar). Touristic establishments should take pride and showcase their contributions to reduced carbon footprint in order for the customer to understand the efforts of the specific establishment in this respect. This also contributes to sensitising visitors to behave in a more environmentally friendly manner, as well as Malta´s image as a quality destination.

There is also the passive way of contributing to a more sustainable operation which implies smaller or higher investments by operators, including the hospitality sector. Technology and digital tools can play a major role in this (e.g. the use of sensors that will immediately turn off the AC, as the tourists leave the room in order to cut energy costs and reduce environmental damage). The EU research, development, and innovation (RDI) solutions presented during the workshop (covering themes, such as energy efficiency, renewable energy, circular economy) have high applicability and usability in the Malta hospitality industry. The CSMS solution from ENERIQS was specifically referred to during the debate. This technology-based solution is powered by predictive artificial intelligence to optimise air conditioning chiller efficiency in hotels. It involves low-cost and risk-free installations, and the energy-saving is on average 20% with an immediate return on investment.

The speakers also acknowledged that the price of energy is going to increase, and the present time is the right time for hotel managers to think about how to decrease their energy consumption and to invest in cleaner and green energy. Therefore, the solution for them is to invest in energy-saving measures in order to address the SDGs and Green Deal objectives related to the usage of cleaner energy and cutting-edge clean technological innovation.

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[21] Government of Malta Ministry for Tourism and Consumer Protection, Malta Tourism Authority. 2020. *Recover. Rethink. Revitalise. Malta Tourism Strategy 2021-2030*. Strategy, Government of Malta Ministry for Tourism and Consumer Protection, Malta Tourism Authority.

There was a debate between stakeholders on the best approaches to motivate the hospitality sector to invest in energy efficiency (carrot or stick approaches). Support schemes creating a win-win situation (e.g., co-funding support scheme for energy efficiency investments requiring also the beneficiaries' own financial contributions) would be desirable. There were also suggestions on soft approaches according to which operators should be left with the choice of deciding whether to move on the sustainability paths. Operators that do not invest in sustainability will drop out naturally since they will not be able to cope with the rising energy prices and will eventually discontinue their operations, leaving room for the quality establishments on the market (natural selection). On the other hand, stronger measures to encourage operators to take action may also be opted for (e.g., operating licences attributed upon the accomplishment of energy efficiency requirements).

To make the shift to a sustainable destination, measures need to be adopted at various ends, including changing mindsets, educating tourists, investing in sustainable technologies, among other forms

Figure 6. Key points of the reflections on the integration of sustainability measures/targets

of intervention. In addition, the public sector's involvement in the paradigm shift towards sustainability is crucial. The public sector is an important driver of the change and has a critical role in raising awareness, creating the context by designing suitable policies and initiatives, and stimulating actions towards a more sustainable tourism industry in Malta.
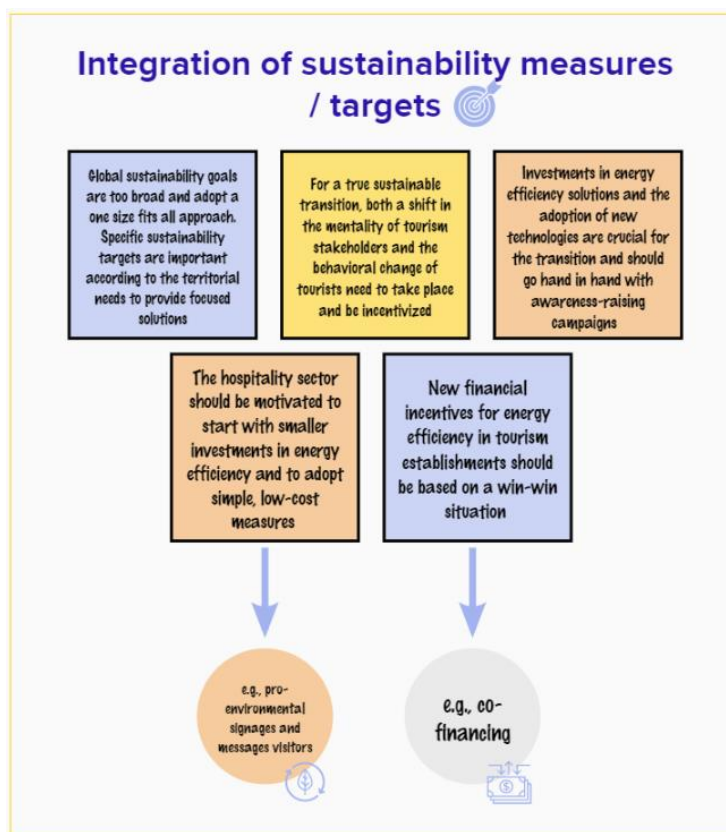
3.4   Visual Summary of Reflections about the Maltese sustainable tourism pathways and EU innovations

Figure 7. Key points of the reflections about the Maltese sustainable tourism pathways and EU innovations

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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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