



Digital Economy and Society Index (DESI) 2021

Malta

About the DESI

The European Commission has monitored Member States' progress on digital and published annual Digital Economy and Society Index (DESI) reports since 2014. Each year, the reports include country profiles, which help Member States identify areas for priority action, and thematic chapters providing an EU-level analysis in the key digital policy areas.

In 2021, the Commission adjusted DESI to reflect the two major policy initiatives that will have an impact on digital transformation in the EU over the coming years: the Recovery and Resilience Facility and the Digital Decade Compass.

To align DESI with the four cardinal points and the targets under the Digital Compass, to improve the methodology and take account of the latest technological and policy developments, the Commission made a number of changes to the 2021 edition of the DESI. The indicators are now structured around the four main areas in the Digital Compass, replacing the previous five-dimension structure. 11 of the DESI 2021 indicators measure targets set in the Digital Compass. In future, the DESI will be aligned even more closely with the Digital Compass to ensure that all targets are discussed in the reports.

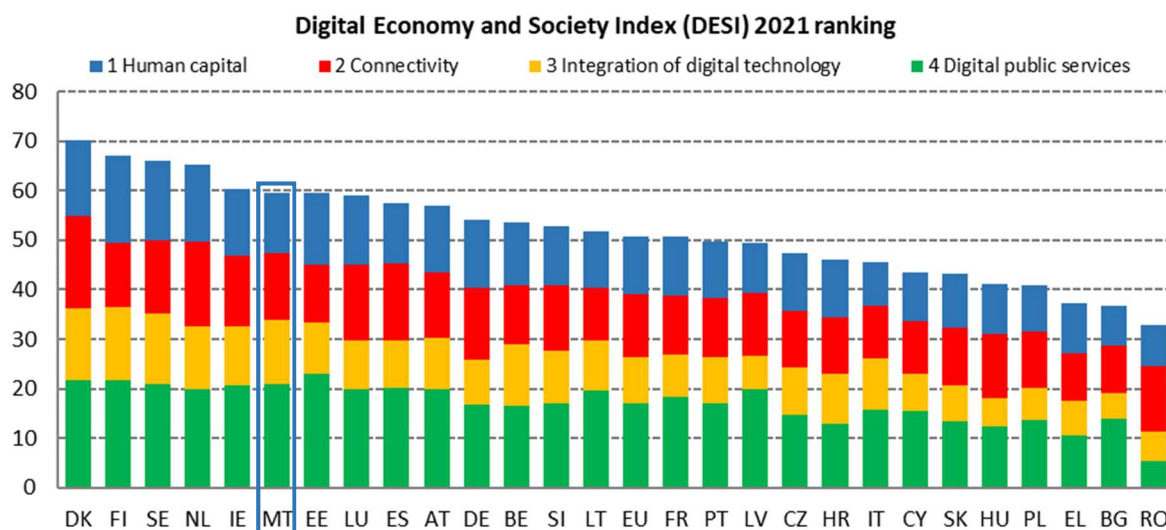
In addition, DESI now includes an indicator measuring the level of support that adopted ICT technologies provided companies in taking more environmentally-friendly measures (ICT for environmental sustainability) and the take up of gigabit services, plus the percentage of companies offering ICT training and using e-invoicing.

The DESI scores and rankings of previous years were re-calculated for all countries to reflect the changes in the choice of indicators and corrections made to the underlying data.

For further information, see the DESI website: <https://digital-strategy.ec.europa.eu/en/policies/desi>.

Overview

DESI 2021	Malta		EU
	rank	score	score
	6	59.6	50.7



Malta ranks 6th out of 27 EU Member States in the 2021 edition of the Digital Economy and Society Index (DESI). It performs well on broadband connectivity. Already since 2019, all Maltese households are reached by Very High Capacity Networks offering speeds of up to 1Gbps. A continued focus is instead needed to increase the take up of these networks and ensure the swift assignment of all 5G pioneer bands.

The country records good scores on Human capital, especially because of the high shares of ICT graduates (6% of graduates in Malta, versus 3.9% in the EU). The country also performs slightly higher than the EU average in terms of ICT specialists (4.4% versus 4.3% in the EU).

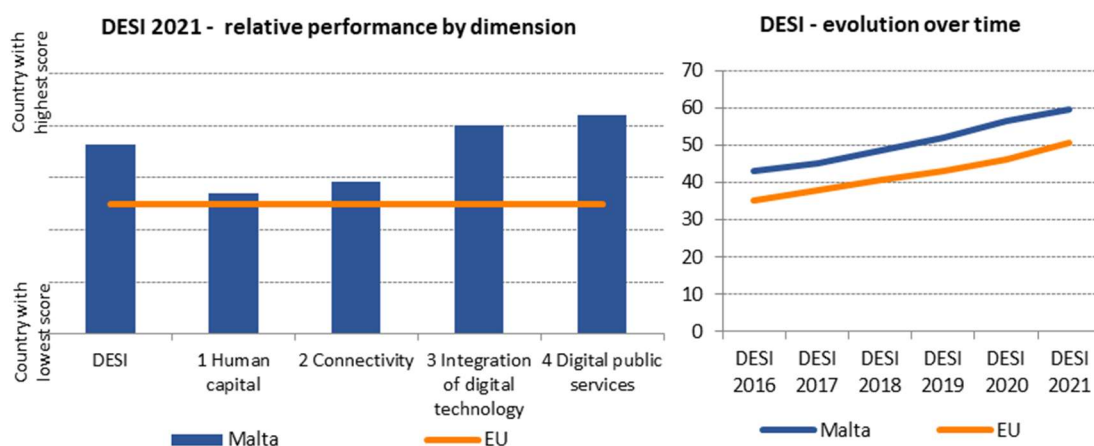
However, the presence of women is still relatively low: female ICT specialists account for only 11% of all ICT specialists (against an EU average of 19%). On basic digital skills, Malta's performance is just in line with the EU average. Efforts are still needed to improve the level of basic digital skills among the population, close the gender gap in the digital sector and meet the increasing demand for ICT specialists.

The large majority (71%) of Maltese Small and Medium Enterprises (SMEs) have at least a basic level of digital intensity and perform particularly well in the use of technologies such as big data and cloud solutions, respectively used, by 31% and 38% of enterprises in the country. The country has also placed a strong focus on advanced digital technologies, such as blockchain and Artificial Intelligence, which can be further leveraged to reinforce the country's strategic approach to digitalisation.

Malta's performance in Digital public services remains good, especially when looking at the offer of online services by the public administration. While open data policies remain weak, there has been an improvement in uptake of e-government services, with the share of e-government users reaching 63% in 2020.

The National Strategy “Digital Malta” has driven the digital policies in the country in 2014-20 and set the ambition of Malta as a “digitally enabled nation”. Malta is currently in the process of developing a new overarching digital strategy for 2021-27, next to new sectorial strategies on digital public services, cybersecurity, e-commerce and data.

During 2020 and 2021, the National eSkills Strategy continued to bring together stakeholders and support initiatives to boost digital skills in the country.



Digital in Malta's Recovery and Resilience Plan (RRP)

The Maltese Recovery and Resilience Plan accounts for a total of €316.4 million, as allocation under the Recovery and Resilience Facility¹. 25.5% of it (i.e. €80.8 million) is devoted to the digital transition.

The investments focus on the digital transformation of the public administration, health and justice systems, as well as the private sector.

Specifically, the plan includes investments in the improvement of the government digital backbone, the digitalisation of the Merchant Shipping Directorate, and further digitalisation of the public administration and its services.

It also envisages investments to boost the digital transition of Malta's healthcare system, in particular through digitalising outpatient and consumer engagement processes, and to strengthen the functioning of the justice system through implementing secure digital solutions and tools to support users.

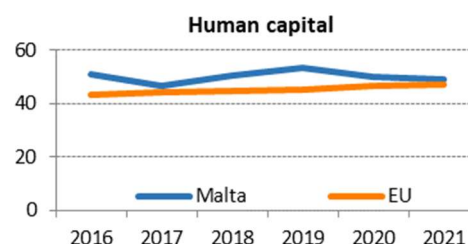
Moreover, a dedicated financial support scheme aims to stimulate the uptake of digital technologies among Maltese enterprises, notably SMEs.

In addition, the plan envisages reform measures to facilitate the digital transition, which build on national strategies under development. These strategies aim to address the digital divide, by strengthening and promoting digital skills, improve digital public services and implement Malta's smart specialisation strategy with a focus on business R&I and public-private cooperation.

¹ The total value of the Maltese Recovery and Resilience Plan is €344.9 million, which is above the non-repayable financial support under the Recovery and Resilience Facility of €316.4 million. Malta did not ask for loans.

1 Human capital

1 Human capital	Malta		EU
	rank	score	score
DESI 2021	11	49.1	47.1



	Malta			EU
	DESI 2019	DESI 2020	DESI 2021	DESI 2021
1a1 At least basic digital skills	57%	56%	56%	56%
% individuals	2017	2019	2019	2019
1a2 Above basic digital skills	39%	38%	38%	31%
% individuals	2017	2019	2019	2019
1a3 At least basic software skills	57%	58%	58%	58%
% individuals	2017	2019	2019	2019
1b1 ICT specialists	4.8%	4.6%	4.4%	4.3%
% individuals in employment aged 15-74	2018	2019	2020	2020
1b2 Female ICT specialists	18%	11%	11%	19%
% ICT specialists	2018	2019	2020	2020
1b3 Enterprises providing ICT training	26%	26%	28%	20%
% enterprises	2018	2019	2020	2020
1b4 ICT graduates	7.9%	7.0%	6.0%	3.9%
% graduates	2017	2018	2019	2019

In the Human capital dimension, Malta ranks 11th out of 27 EU countries. The performance on basic digital skills is in line with the EU average: 56% of people have at least basic digital skills and 58% have at least basic software skills. The share of ICT graduates is above the EU average (6% versus 3.9%). 38% of people in Malta have above basic digital skills, above the EU average of 31%. The percentage of ICT specialists in the workforce is also slightly higher than the EU average (4.4% versus 4.3%). Female ICT specialists, however, account for only 11% of all ICT specialists, considerably below EU average.

Malta has a comprehensive “National eSkills Strategy 2019-2021”², which is led by the eSkills Malta Foundation, a multi-stakeholder partnership leading the Maltese National Coalition for Digital Skills and Jobs³. The strategy covers many areas of action, including: (i) basic digital literacy; (ii) quality of ICT teaching; (iii) advanced skills; and (iv) re-skilling and upskilling of the workforce.

During 2020 and following a review process (Education Excellence 2030), Malta started to update its strategies on education policies, including a focus on digital literacy. The update of the strategic framework for education is expected to be completed during 2021.

Under the current strategy and as a response to the pandemic, the eSkills Malta Foundation supported several initiatives in 2020. For example, it facilitated distance learning in schools and remote work in SMEs, by providing learning resources.

² National eSkills Strategy 2019 – 2021: <https://eskills.org.mt/en/nationaleskillsstrategy/Pages/National-eSkills-Strategy.aspx>.

³ eSkills Malta Foundation is made up of various representatives of the government, industry and education.

A webinar leading to digital transformation online courses (“Challenges and opportunities for SMEs: a post-COVID-19 perspective”) was organised to help enterprises adapt to the post-COVID-19 scenario and thrive by leveraging digital tools.

Moreover, in 2020 a collaboration between the eSkills Malta Foundation and the Malta Communications Authority (MCA) led to the setup of a training programme on e-commerce (the eBiznify⁴). The eSkills Malta Foundation also provided online training on cloud technology, addressed to ICT practitioners, business leaders, young aspiring students and the unemployed⁵. Tech.mt supported projects to boost social inclusion and address challenges related to ageing and the gender gap in digital skills, through projects such as “ICT 4 the Elderly” and “Women4IT”.

Despite the COVID-19 pandemic, the work on the ‘Demand and Supply Monitor’ continued, with the launch of a survey to map the skills requested by the ICT industry on the one hand, and the local ICT education and training offering on the other hand. The results, regularly collected, are expected to support policy and the design of upskilling and re-skilling paths by the respective stakeholders.

The Maltese Public Employment Service (Jobsplus) also provides training opportunities through a mix of online and on-site courses. Jobsplus initiatives related to skills development aim to reflect the changes brought by the advancements made in technology and digitalisation and reduce the skills mismatch experienced by employers and upskill the workforce.

The eSkills Malta Foundation coordinates the EU Code Week. In 2018 and 2019, Malta ranked first in the number of coding events held per capita. The country continued to be active and, in 2020, around 164 online EU Code Week events were organised across the country, targeting especially pupils in primary and secondary schools⁶. In addition, together with Tech.mt, the eSkills Malta foundation supported code.sprint⁷, the Ministry for Education’s (MFED) national coding competition, open to computing secondary students, and computing/IT post-secondary and undergraduate students. It aims to gauge participants’ problem solving, computational and programming skills in an environment different to that students are used to in schools and during traditional exams.

Overall, it is important that Malta continues and steps up the efforts to ensure that basic digital skills are widespread among the population, aligning its performance in this area with the good positioning achieved in terms of advanced and specialised digital skills and in other digital-related dimensions. Efforts are also important in order to close the existing gender gap in the digital sector and match the growing demand for skilled labour force, which may increasingly represent an obstacle to further progress in digitalisation of the economy and public administration.

Highlight 2020-2021: Digital skills online courses

To address the challenges faced by schools and students because of the pandemic, in 2020 the eSkills Malta Foundation launched the initiative “COVID-19: Free Online Education”⁸: a database of resources for online education and distance learning.

The online courses and other resources target primarily children and younger people, from kindergartners to secondary schools, including activities on coding, computational thinking, STEM or robotics.

⁴ <https://ebiznify.com/>.

⁵ <https://www.melitafoundation.org/projects/eskills-malta-foundation-amazon-web-services-courses/>.

⁶ EU Code Week: <https://codeweek.eu/events>.

⁷ Code sprint : <https://codesprintmalta.edu.mt/code-sprint-2021/>.

⁸ <https://eskills.org.mt/en/Pages/Free-Online-Education.aspx>.

A section of the database is dedicated to private citizens and SMEs employees, spanning from basic digital skills to programming and data analytics, to a free cybersecurity testing and training programme designed to raise awareness of cyber threats. The resources listed in the repository also include free remote learning solutions from other European countries.

Moreover, as in previous years, the eSkills Malta Foundation continued to organise the “Digital Skills Bootcamp”⁹.

The Summer Bootcamp, carried out totally online, was attended by a high number of teachers (1,400), children, SME employees, and members of the general public. Themes covered included online services, Artificial Intelligence, Python, effective distance learning and teaching techniques and tools, game development, essential and emerging technologies, and office tools for employees.

Human capital in Malta’s Recovery and Resilience Plan

The Maltese Recovery and Resilience Plan envisages developing and implementing initiatives for digital skills under the umbrella of the country’s upcoming Digital Strategy 2021-27¹⁰.

In particular, a reform included in the plan pursues the objectives of: (i) reducing the digital divide and (ii) promoting digital skills through initiatives for upskilling and for increasing Malta’s pool of ICT professionals.

Regarding the first objective, Malta is expected to design and launch a programme targeting low-income families, to enable them to be connected and have access to computers and benefit from digital technologies. This programme is expected to support at least 1,000 individuals.

Regarding the second objective, the reform aims to increase Malta’s pool of ICT professionals especially in niche areas, such as Artificial Intelligence. This approach is expected to favour specialisation, in line with national policies and the ambitions of the upcoming Digital Strategy. One of the concrete measures will be the launch of a scholarship scheme for students to become ICT professionals in specific areas.

However, funding from the Recovery and Resilience Facility will not be used to implement these measures, which will be supported by national and/or other EU funding instruments.

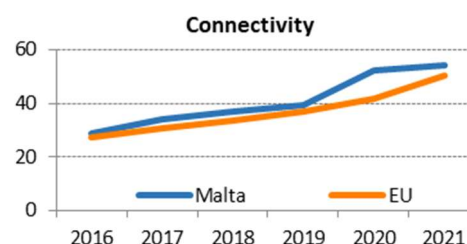
Investments for digital skills development target the public sector, with measures to accompany the digitalisation processes in public administrations (such as the Merchant Shipping Directorate).

⁹ Digital Skills Bootcamp 2021: <https://eskills.org.mt/en/DigitalSkillsBootcamp2021/Pages/Digital-Skills-Bootcamp-2021.aspx>.

¹⁰ Reform of the Maltese Plan “Deepening the digital transformation through policy reform, with a focus on reducing the digital divide and promoting digital skills”.

2 Connectivity

2 Connectivity	Malta		EU
	rank	score	score
DESI 2021	8	54.1	50.2



	Malta		EU	
	DESI 2019	DESI 2020	DESI 2021	DESI 2021
2a1 Overall fixed broadband take-up % households	83%	84%	86%	77%
2a2 At least 100 Mbps fixed broadband take-up % households	23%	34%	43%	34%
2a3 At least 1 Gbps take-up % households	NA	NA	1.15%	1.3%
2b1 Fast broadband (NGA) coverage % households	100%	100%	100%	87%
2b2 Fixed Very High Capacity Network (VHCN) coverage % households	32%	100%	100%	59%
2c1 4G coverage % populated areas	99.9%	>99.9%	>99.9%	99.7%
2c2 5G readiness Assigned spectrum as a % of total harmonised 5G spectrum	0%	0%	17%	51%
2c3 5G coverage % populated areas	NA	NA	0%	14%
2c4 Mobile broadband take-up % individuals	69%	71%	71%	71%
2d1 Broadband price index Score (0-100)	NA	63	57	69

Malta's connectivity score has improved further, moving the country up to rank 8 in the EU. Extensive deployment of DOCSIS 3.1 resulted in nationwide VHCN coverage with speeds of up to 1Gbps in 2019. Malta exceeds the EU average in DOCSIS 3.1 coverage by 72 p.p. This contrasts with FTTP coverage, where Malta fell behind the EU average of 43% by 2 p.p. in 2020. The percentage of households subscribing to internet services of at least 100 Mbps climbed from 34% in 2019 to 43% in 2020, expanding Malta's modest lead over the EU average to 9 p.p. Nevertheless, the take-up of at least 100 Mbps broadband connections is increasing at a lower rate than in previous years. The gap between coverage and take-up is especially wide for networks offering at least 1 Gbps services, which were used by only 1% of Maltese households despite nationwide coverage in 2020. Malta's broadband price index of 57 suggests a possible reason for slow take-up. It shows that prices are higher than the EU average, and that the gap between average prices in the EU and Malta is widening.

Regarding wireless networks, 4G coverage is near-universal and, in May 2021, incumbent Melita launched Malta's first nationwide 5G network using spectrum outside of the pioneer bands. At that time, spectrum assignment in the 5G pioneer bands was ongoing.

The follow-up to the 2014-20 Digital Malta Strategy is expected to include upgrades to the national broadband plan. Public funding for fixed VHCN deployment is not likely, since ongoing investment by the two incumbent network operators, GO and Melita, allowed Malta to achieve total fixed VHCN coverage in 2019. The operators are continuously upgrading their respective FTTH and DOCSIS 3.1 networks, and one of them already provides nationwide coverage with speeds up to 1Gbps. Moreover, Melita allows its subscribers to access around 50,000 high-speed Wi-Fi hotspots in public areas and via home modems that have been re-programmed to provide mobile data coverage. Malta's Wi-Fi network infrastructure is further extended by Tech.mt, which is responsible for 400 free Wi-Fi connections around Malta and Gozo and, in collaboration with its various partners, offers at least four Wi-Fi connections in every town or city.

Following GO's investment in a third new submarine cable system in 2019, work is underway to connect Malta to Marseille and Egypt. Once completed, the new system will expand the island's international connectivity beyond the existing cables terminating in Italy.

In April 2021, the Malta Communications Authority (MCA) paved the way for spectrum assignment in the 5G pioneer bands with its decision¹¹ to make available the entire 700 MHz and 3.6 GHz bands for the provision of wireless broadband electronic communications services. Moreover, the authority decided to make available 1.2 GHz within the 26 GHz band and reserve remaining parts of the spectrum for future use, once relevant business models are developed.

Following a formal call for expression of interest in the 3.6 GHz band, the MCA announced on 19 April 2021 that, since demand did not exceed available spectrum, it would proceed with the assignment directly to the three incumbent operators¹². Melita has already launched a 5G trial in the 3.4-3.8 GHz band¹³. The commercial launch by Melita, Epic Communications and GO is expected within the year. The Ministry for Economy and Industry reports that local players are already acting on plans to migrate to 5G technology.

Main market & regulatory developments

The fixed electronic communications service market continues to be dominated by two players, Melita and GO, who hold 48% and 47% of the market share, respectively.

Operators experienced a significant increase in demand for fixed broadband subscriptions compared to the previous year, driven by take-up of connections supporting fast and ultra-fast download speeds. For products supporting headline download speeds of at least 100 Mbps, the number of subscriptions rose by 31% to a total of 103,003 in 2020. The rise in subscriptions is accompanied by an ongoing increase in the take-up of bundled packages featuring fixed broadband and pay-TV. In 2020, 79% of all pay-TV subscriptions were on a bundle plan, up from 75% a year earlier.

The mobile telephony market was reshaped in April 2020, when Monaco Telecom acquired the entire share capital of Vodafone Malta Ltd. and later rebranded itself as Epic. Epic Communications Ltd. now is the country's largest mobile operator in terms of number of

¹¹ MCA/D/21-4177:

<https://www.mca.org.mt/sites/default/files/Assignment%20process%20for%20additional%20spectrum%20for%20wireless%20broadband%20electronic%20communications%20service.pdf>.

¹² <https://www.mca.org.mt/articles/assignment-36-ghz-band-submissions-call-expression-interest>.

¹³ <https://www.melita.com/melita-launches-limited-5g-trial/>.

customers. Operators in this market experienced a slight decline of 1.6% in subscriptions between 2019 and 2020. During the same period, mobile voice minute volumes increased by 15% and data consumption (excluding roaming) was three times higher. Both trends can be explained by reference to the Covid-19 pandemic. Many workers left Malta to return home, but people in Malta had to rely on mobile communications for social interaction to comply with social distancing requirements.

The transposition of the European Electronic Communications Code into national law has been delayed and on 4 February 2021 the Commission sent a Letter of Formal Notice to Malta¹⁴. Malta has already implemented a number of recommendations from the Commission's Connectivity Toolbox and is currently considering further implementation measures to streamline permit granting procedures and address aspects related to electromagnetic fields and public health connected to 5G deployment.

As regards the Broadband Cost Reduction Directive, Malta has yet to appoint a dispute resolution body and providers report that access to information about existing physical infrastructure through the single information point remains challenging. Malta's Connectivity Toolbox Roadmap does not propose new measures to address these shortcomings.

On spectrum management, on 26 November 2020 MCA published a new edition of the National Frequency Plan¹⁵, which implements a series of EU Decisions on terrestrial systems capable of providing wireless broadband electronic communications, ultra-wideband technology, and short range devices.

On market access, the Maltese authority is reviewing fixed broadband wholesale markets 3a and 3b. It completed a market analysis and public consultation in July 2020¹⁶.

Between January and September 2020, the MCA received an average of 10 complaints a month, with no change compared to 2019. Most complaints concerned the quality of goods or services, specifically in regard to internet accessibility and speed, followed by issues related to billing as well as contract termination and switching.

Following a consultation in August 2020¹⁷, MCA concluded that, to meet universal service requirements, adequate broadband internet access at a fixed location should have a download speed of at least 30 Mbps, an upload speed of at least 1.5 Mbps, latency that is capable of allowing the end-user to make and receive voice and video calls effectively, and an unlimited data usage cap.

On emergency communications, Malta is in discussions with Apple to expand handset-based Advance Mobile Location from Android to iOS users. The Ministry for Economy and Industry also reports ongoing efforts to implement Galileo-enabling infrastructure leveraging the Global Navigation Satellite System.

¹⁴ On 23 September 2021, the Commission followed up with a Reasoned Opinion to Malta. On 1 October 2021, Malta notified complete transposition of the obligations of Directive (EU) 2018/1972 into national law.

¹⁵ <https://www.mca.org.mt/articles/national-frequency-plan-0>.

¹⁶

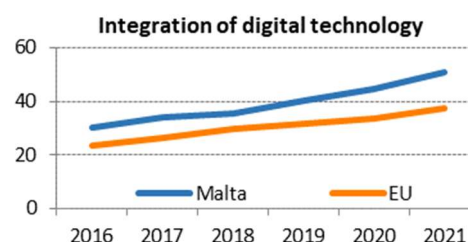
https://meae.gov.mt/en/Public_Consultations/MFIN/Pages/Consultations/MCAConsultationontheMarketAnalysisfortheProvisionofWholesaleFixedBroadbandAccessinMalta.aspx.

¹⁷ <https://www.mca.org.mt/sites/default/files/Broadband%20as%20a%20Universal%20Service%20-%20Ensuring%20the%20Availability%20of%20Broadband%20Internet%20Access%20Service%20-%2028%208%202020.pdf>.

Malta has already fulfilled the 2025 Gigabit society objectives. The country boasts nationwide Gigabit connectivity and 5G coverage. The new digital strategy is therefore expected to focus on take-up. Recent developments show that market demand for the 5G spectrum is emerging. It is important that Maltese authorities now ensure the swift assignment of spectrum in the pioneer bands.

3 Integration of digital technology

3 Integration of digital technology	Malta		EU
	rank	score	score
DESI 2021	4	50.8	37.6



	Malta			EU
	DESI 2019	DESI 2020	DESI 2021	DESI 2021
3a1 SMEs with at least a basic level of digital intensity % SMEs	NA	NA	71%	60%
3b1 Electronic information sharing % enterprises	29%	32%	32%	36%
3b2 Social media % enterprises	26%	43%	43%	23%
3b3 Big data % enterprises	24%	24%	31%	14%
3b4 Cloud % enterprises	22%	22%	38%	26%
3b5 AI % enterprises	NA	NA	NA	25%
3b6 ICT for environmental sustainability % enterprises having medium/high intensity of green action through ICT	NA	NA	NA	66%
3b7 e-Invoices % enterprises	18%	18%	22%	32%
3c1 SMEs selling online % SMEs	20%	23%	25%	17%
3c2 e-Commerce turnover % SME turnover	NA	NA	8%	12%
3c3 Selling online cross-border % SMEs	9%	NA	NA	8%

Malta ranks 4th in the EU 27 on the Integration of digital technology. Malta's positive performance recorded in recent years is confirmed by the Digital Intensity Index, according to which 71% of SMEs in Malta have at least a basic level of digital intensity. This figure is well above the EU average of 60%. Maltese businesses are very strong in the use of big data analysis (31%, the highest rate in the EU), social media (43% versus an EU average of 23%) and cloud computing (38% versus 26% in the EU). The percentage of enterprises that use electronic information sharing remains stable (32%) almost reaching the EU average (36%). Looking at e-commerce, 25% of SMEs sell online, and e-commerce represents 8% of SMEs turnover. The performance of the country is rather weak when it comes to the uptake of e-invoices (22% in Malta, against 32% in the EU).

In recent years, the Maltese government has promoted measures to boost the deployment of digital technologies in the country. In addition to the strategic and legislative framework on blockchain adopted in 2018, the government adopted a national strategy on Artificial Intelligence in 2019,

covering three strands: (i) investment; (ii) start-ups and innovation; and (iii) public sector and private sector adoption¹⁸.

To support the strategy, Malta is in the process of setting up a Digital Innovation Hub (DIH), which will specialise in “AI research and data analytics around HPC use”. It will be managed by the Malta Digital Innovation Authority (MDIA).

Malta is developing a new overarching digital strategy for 2021-27, which is expected to emphasise the use and application of innovative technologies and the benefits of digital as a tool for improving the economic well-being of businesses and people’s quality of life. In addition, the country is working to update two sectoral strategies: a Cybersecurity Strategy and a National Data Strategy.

The Malta Information Technology Agency (MITA) runs several programmes to help Maltese enterprises adopt digital technologies. They include: the MITA Emerging Technologies Lab¹⁹, which has been providing learning activities and equipment to experiment with different technologies; and the MITA Innovation Hub²⁰, which hosts an accelerator programme (YouStartIT) in the area of advanced technologies such as blockchain, deep tech, Internet of Things and AI.

During 2021, Tech.mt launched the 10th edition of the eBusiness Awards²¹ to promote the most innovative initiatives in eBusiness and spread awareness about the role of web-based technologies in addressing social and economic concerns.

In 2021, Tech.mt will also be launching the ‘Excelerate’ project which will encourage businesses to go digital and invest in cloud technologies, as an opportunity to increase their efficiency and margins and generally provide a better customer experience.

In 2021, Malta became a participating state within the European High-Performance Computing Joint Undertaking (EuroHPC). Malta’s participation in EuroHPC will enable the local research and scientific community, industry (including SMEs) and the public sector to avail themselves of a portfolio of activities addressing usage and skills development in the field of supercomputing.

Malta is a signatory of the Joint declaration on Building the next generation cloud for businesses and the public sector in the EU²² and is a member of the European Blockchain Partnership (EBP). The EBP supports cooperation among Member States and other countries to establish a European Blockchain Services Infrastructure (EBSI) that will support the delivery of highly secure cross-border digital public services²³.

Regarding advanced technologies, a study conducted by Tech.mt during 2021 investigated perceptions of local firms around the Internet of Things (IoT), covering areas such as sectoral relevance, willingness to invest, barriers and challenges, and effectiveness for business operations. This study is intended to support the formulation of Malta’s national objectives for the adoption of emerging technologies such as IoT among the business community, and it will be followed by an awareness and educational programme.

It is important that Malta continues its initiatives to boost the digital transformation of the economy, focusing on the widespread adoption of digital technologies by SMEs. In line with the strategies launched in the recent years, it is also important that Malta develops its positioning on advanced

¹⁸ ‘The Ultimate AI Launchpad - A Strategy and Vision for Artificial Intelligence in Malta 2030’, https://malta.ai/wp-content/uploads/2019/11/Malta_The_Ultimate_AI_Launchpad_vFinal.pdf.

¹⁹ <https://mita.gov.mt/en/DigitalOutReach/Pages/lab.aspx>.

²⁰ <https://mih.mt/>.

²¹ Malta eBusiness Awards - Malta's Official Tech Awards: <https://ebusinessawards.com.mt/>.

²² <https://digital-strategy.ec.europa.eu/en/news/towards-next-generation-cloud-europe>.

²³ European countries join Blockchain Partnership | Shaping Europe’s digital future: <https://digital-strategy.ec.europa.eu/en/news/european-countries-join-blockchain-partnership>.

digital technologies, such as blockchain and AI, and effectively deploys them across the public administration and economic sectors to help boost the country's innovation capacity.

Integration of digital technology in Malta's Recovery and Resilience Plan

The plan addresses digitalisation of businesses by establishing support schemes (for a total of EUR 15 million) to help enterprises in different economic sectors go digital, including wholesale and retail, tourism and culture, and manufacturing.

In the tourism sector, the scheme is intended to support the digitalisation of logistics but also explore the use of analytical tools and AI to design, adapt and personalise Maltese tourism services and optimise the customer experience.

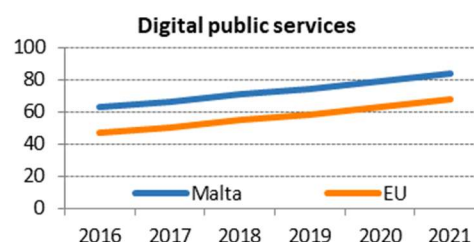
In manufacturing, investments are expected to support the transformation of operations and the transition to Industry 4.0, by optimising the use of existing technologies and exploiting emerging technologies and trends such as digital twinning or predictive maintenance.

The schemes might also support the uptake of technologies such as Internet of Things (IoT), cybersecurity and data protection, augmented reality and artificial intelligence.

The measure is addressed primarily to SMEs, including micro-enterprises and the self-employed. Moreover, a reform included in the plan is related to establishing a new Smart Specialisation Strategy. One of the smart specialisation areas identified is that of "Future Digital Technologies". Developments in this area will also act as an enabler of innovation in all thematic areas. Measures will focus on issues like raising awareness of funding schemes and providing guidance to potential beneficiaries about building closer public-private cooperation and bringing research results to market.

4 Digital public services

4 Digital public services	Malta	EU
	rank	score
DESI 2021	4	68.1



	DESI 2019	DESI 2020	DESI 2021	DESI 2021
4a1 e-Government users	57%	58%	63%	64%
% internet users	2018	2019	2020	2020
4a2 Pre-filled forms	NA	NA	97	63
Score (0 to 100)			2020	2020
4a3 Digital public services for citizens	NA	NA	100	75
Score (0 to 100)			2020	2020
4a4 Digital public services for businesses	NA	NA	95	84
Score (0 to 100)			2020	2020
4a5 Open data	NA	NA	47%	78%
% maximum score			2020	2020

Malta ranks 4th in the EU on Digital public services. The country continues to be a leader in providing government services to the public. It ranks very high in its offering of public services for citizens and it scores well above average in the re-use of information across administrations to make life easier for people (pre-filled forms).

The country also scores above the EU average on online public services for businesses (with a score of 95 in Malta versus 84 in the EU). The share of e-Government users increased from 58% in 2019 to 63% in 2020, almost reaching the EU average. Regarding open data, however, Malta still lags behind the EU.

Malta has been implementing various initiatives to improve existing digital public services or create new ones and boost uptake among citizens. The 'Mapping Tomorrow'²⁴ plan defined the strategic framework for the digital transformation of public administration in 2019-21. The plan focuses especially on delivering improved, simplified and client-centred e-government services. Building on this plan and taking into account the ongoing review of the National Digital Strategy, Malta is developing a new Public Administration Strategy for 2022-27.

Currently, all digital public services are accessible through the portal of the 'Servizz.gov' Agency, which represents the government's one-stop-shop for citizens and businesses²⁵. It provides access to services aggregated under 12 categories (e.g. tax and finance, education, transport, health), as well as the possibility to report excessive bureaucracy through an online form.

Malta has promoted internal sharing and re-use of data and information within ministries, thus providing more efficient processes, benefiting both citizens, organisations and public administration. In addition to facilitating data sharing across ministries, the Maltese Government is addressing open

²⁴ Mapping Tomorrow, A Strategic Plan for the Digital Transformation of the Public Administration 2019-2021 (https://publicservicecms.gov.mt/en/Documents/MappingTomorrow_StrategicPlan2019.pdf).

²⁵ www.servizz.gov.mt.

data issues by making it easier to access public sector information. The National Data Portal gives access to government data in the fields of education, police and taxation²⁶.

Regarding e-health and telemedicine, in 2020, the department of Health launched the introduction of online consultations using video-conferencing tools, to reduce the number of people going to primary healthcare centres and hospitals. The myHealth portal²⁷ is the main tool, an interactive website that allows Maltese citizens and their doctors to access their medical records through their Maltese e-ID.

Malta should continue its efforts to boost provision and uptake of digital public services, linking e-government strategies with the plans to deploy advanced technologies across the public and private sector.

Digital public services in Malta's Recovery and Resilience Plan

The Maltese plan places a strong focus on the digitalisation of the public administration and public services. These investments are framed in the context of the upcoming Public Administration Strategy (2022-2027) and the overarching National Digital Strategy 2021-2027. Investment worth EUR 37.7 million aim to support the following three measures:

- Reinforcing the government's digital backbone, i.e. investments in digital services and infrastructure (including, for example, data centres and cloud services) which are expected to improve service delivery, increase interoperability across public administrations and enable the implementation of the "once-only principle". The investments also cover tools and infrastructure for cybersecurity, which aims to support the work of a Security Operations Centre (SOC).
- Digitising the Merchant Shipping Directorate within Transport Malta, to boost the efficiency of regulatory practices and improve internal operations and customer relations. The measure also covers the upskilling of public officers.
- Improving digital public services, including reengineering services which are manual, paper-based or hosted on non-responsive legacy platforms; setting up registers for data sharing and reuse purposes (targeting, in particular, the processes for the clearance of goods and property transfer); and improving customer care through physical and online hubs. The investment will also provide laptops and virtual desktops for remote work by public officers.

The plan also addresses digitalisation in the healthcare system (EUR 15.5 million) by supporting the digitalisation of outpatient and consumer engagement processes, to improve resource utilisation, quality of patient care and patient experience and reduce waiting times.

Finally, EUR 10 million are devoted to digitising Malta's justice system. The plan envisages implementing digital solutions and tools to foster collaboration and integration across the justice system, increasing accessibility and efficiency. The investment supports the establishment of an integrated e-filing system, or the use of e-ID authentication in public-facing solutions, allowing single-sign-on for various services. The regional hubs operated by the National Agency responsible for Public Services (servizz.gov) are expected to help less digitally literate users access services online.

²⁶ <https://open.data.gov.mt/>.

²⁷ <https://myhealth-ng.gov.mt/>.