Digital Economy and Society Index (DESI) 2022

Lithuania

About the DESI

Since 2014, the European Commission has monitored Member States' progress in digital and published annual Digital Economy and Society Index (DESI) reports. 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. The DESI Index ranks Member States according to their level of digitalisation and analyses their relative progress over the last five years, considering their starting point.

The Commission has adjusted DESI to align it with the four cardinal points set out in the Commission proposal for a decision 'Path to the Digital Decade Policy Programme' which is being negotiated by the European Parliament and the Council. The proposal sets targets at EU level to be reached by 2030 to deliver a comprehensive and sustainable digital transformation across all sectors of the economy. Of the DESI 2022 indicators, 11 measure targets set in the Digital Decade. In the future, the DESI will be aligned even more closely with the Digital Decade to ensure that all targets are discussed in the reports.

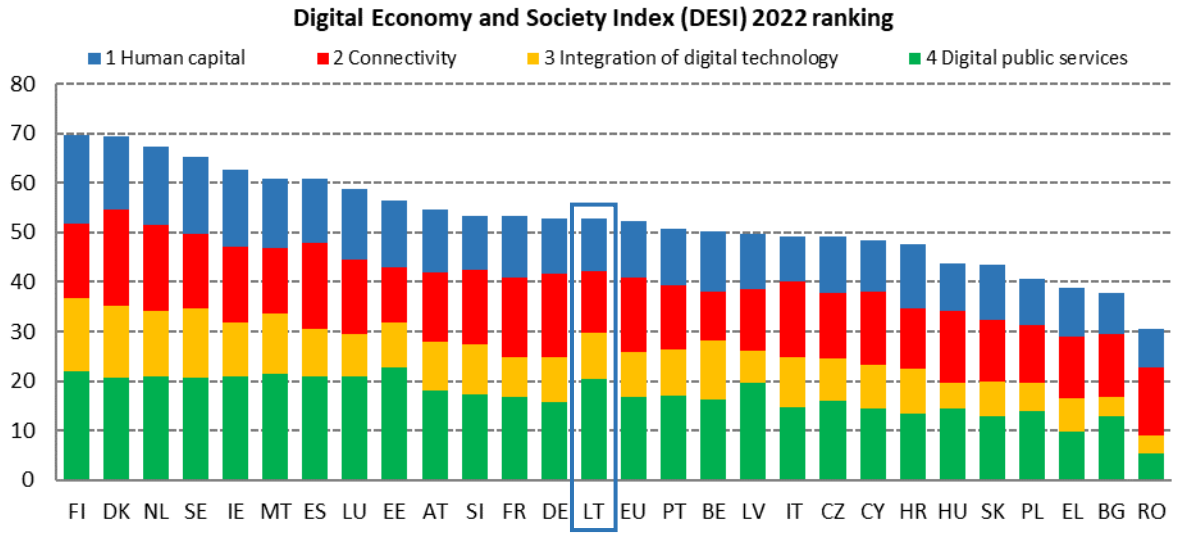
To date, digitalisation in the EU is uneven, although there are signs of convergence. While the frontrunners have remained unchanged, there is a substantial group of Member States that cluster around the EU average. Importantly, the majority of Member States that had a lower level of digitalisation 5 years ago, are progressing at a faster pace than the rest, indicating an overall convergence in digital in the EU.

Reaching the Digital Decade targets depends on a collective effort by all. Each Member State will contribute to this ambitious goal from a different starting point, determined by resources, comparative advantages and other relevant factors such as the population size, the scale of the economy and the areas of specialisation. For example, Member States with large economies or populations will need to perform well to enable Europe as a whole to reach the targets by 2030. Digital frontrunners will need to continue progressing to lead on digitalisation worldwide, while all Member States' digitalisation efforts will be driven by their economic and societal needs.

The DESI scores and rankings of previous years are re-calculated for all Member States to reflect changes in the underlying data. For further information, see the DESI website.

Overview

	Lithuania		EU
	rank	score	score
DESI 2022	**14**	**52.7**	**52.3**



Lithuania ranks 14th of 27 EU Member States in the 2022 edition of the Digital Economy and Society Index (DESI). In digital public services the country performs very well, in human capital and integration of digital technology is at par with the EU average, but it still underperforms in connectivity, in particular in 5G. Being close to the average in many indicators, the country's progress has slowed down during the last five years and catch-up with the most digitalised EU countries has not been as speedy as it could have been.

Lithuania has still room to improve the digital skills of its population and to invest in the reskilling and upskilling of its workforce, as it currently ranks 20th in the human capital dimension of the DESI. Noticeably, Lithuania keeps on performing above the EU average in terms of gender balance among ICT professionals.

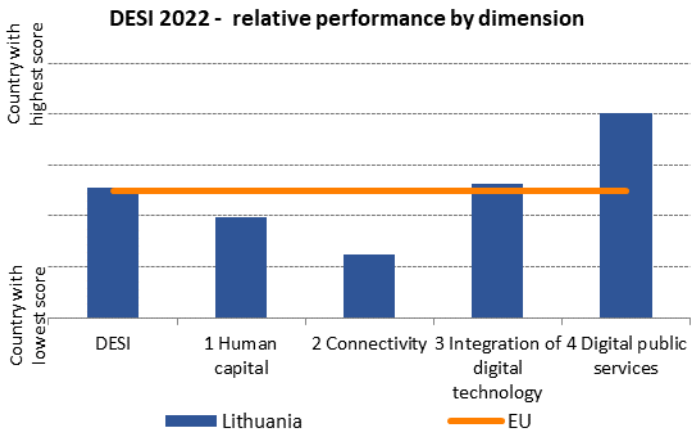
In connectivity, the picture is mixed. The roll-out of Fibre to the Premises (FTTP) has been steadily increasing and reached a coverage of 78% of households, significantly above the EU average of 50%. On the other hand, Lithuania is among the EU Member States that have assigned the least spectrum for 5G – only 5%, compared to the EU average of 56%. Going forward, addressing the low level of 5G spectrum assignment is critical to foster 5G deployment, thereby increasing the possibility of reaching the targets set for the Gigabit Society and the 2030 Digital Decade.

On the integration of digital technology, Lithuania performs in line with the EU average. It scores around the EU average for SMEs with at least basic digital intensity and below the average for the integration of advanced technologies like artificial intelligence, big data and cloud.

Lithuania has kept on improving its digital public services, performing much better than the EU average. In 2021, the country not only continued to develop its Electronic Information System for Health Services (ESPBI IS), which connects all healthcare providers and pharmacies, but also strived to improve its electronic personal identification solution (ATK). Lithuania has also invested heavily in

developing digital government solutions through its GovTech sandbox, which brought forward a number of initatives in 2021. All those iniatives are expected to support Lithuania's contribution to the Digital Decade targets in those areas.

A good information and digital technology infrastructure is one of the core principles of Lithuania's 2030 national progress strategy. Aside from this main strategy, Lithuania also has many other targeted plans in a variety of areas, including the 2020-2030 Lithuanian industry digitalisation roadmap, and the National Cybersecurity Strategy 2018-23. While Lithuania is moving in the right direction, it is important that it matches its investments with strategic reforms, especially in the area of digital skills in the educational system, and increases its support for the digitalisation of SMEs.



In the wake of Russia's invasion of Ukraine, the RCDC initiated a pilot project 'Securing Cyber Space of Ukraine Together' in February of 2022. This project was announced in order to attract more stakeholders and governmental organisations to work together in order to share relevant cyber information about Ukraine. At the same time, the relevant bodies including the National Cyber Security Centre, have given special attention to safeguarding Lithuania's critical information infrastructures and state information resources following the start of the war in Ukraine. The Centre instructed the managers of these resources to strengthen the cyber security of their information systems and took other preventive measures.

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

Lithuania is dedicating a considerable proportion of its national Recovery and Resilience Fund (RRF) grants (EUR 700 million or 31.5% of the total allocation) to the digital transformation[1]. Its main objectives for the next 12 months will form the basis for innovative technological solutions in business and daily life, the effectiveness of public services, the transformation of public information technology governance and the steps towards 5G.

[1] Each recovery and resilience plan has to dedicate at least 20% of the plan's total allocation to digital objectives. To this end, the plans had to specify and justify to what extent each measure contributes fully (100%), partly (40%) or has no impact (0%) on digital objectives, using Annex VII of the RRF Regulation. Combining the coefficients with the cost estimates of each measure allows assessing to what degree the plan contributes to digital objectives and whether it meets the 20% target.

1 Human capital

1 Human capital	Lithuania		EU
	rank	score	score
DESI 2022	20	42.5	45.7

	Lithuania			EU
	DESI 2020	DESI 2021	DESI 2022	DESI 2022
1a1 At least basic digital skills % individuals	NA	NA	49% 2021	54% 2021
1a2 Above basic digital skills % individuals	NA	NA	23% 2021	26% 2021
1a3 At least basic digital content creation skills[2] % individuals	NA	NA	61% 2021	66% 2021
1b1 ICT specialists % individuals in employment aged 15-74	3.1% 2019	3.3% 2020	3.8% 2021	4.5% 2021
1b2 Female ICT specialists % ICT specialists	24% 2019	24% 2020	24% 2021	19% 2021
1b3 Enterprises providing ICT training % enterprises	11% 2019	14% 2020	14% 2020	20% 2020
1b4 ICT graduates % graduates	3.1% 2018	3.7% 2019	4.0% 2020	3.9% 2020

In the human capital dimension, Lithuania ranks 20th of 27 EU countries. Almost half of the population commands basic digital skills, with the EU average above this threshold (49% vs. 54%). A similar difference is shown by the data on above basic digital skills (23% vs. 26%). ICT graduates currently account for 4% of all graduates in Lithuania, it also performs well above the EU average in terms of gender balance in ICT. Lithuanian enterprises are modestly investing in ICT training and 14% of them offered specialised ICT training to their employees, in comparison to the EU average of 20%.

Although Lithuania does not currently have a dedicated digital skills strategy, it runs a number of initiatives to strengthen the digital skills of its population, including the 2020-2030 Industry Digitisation Roadmap, and the 2013-2022 State Education Strategy. It has developed the National Skills Strategy in cooperation with the OECD and is reviewing the curricula of primary and secondary schools, with the aim of strengthening also the development of digital competences along with other competences, as well as adult learning. One of the priorities of the 2021-2030 National Digitalisation Development Programme is to improve the digital skills of the socially vulnerable groups, such as disabled or older people, as well as people with lower incomes.

Under the RRF-funded EdTech project, Lithuania supports the transformation of the digital education of the country, which is one of the government's priorities. The project includes funding digital solutions and digital content in the classrooms. Furthermore, to improve the connectivity of schools, a project 'Creating a safe electronic environment for children,' with budget of EUR 3.5 million from the European Social Fund, is financing 2 000 Wi-Fi hotspots there.
Lithuania has also taken measures to upskill and reskill workers. There are specialised IT vocational education and training (VET) schools in Vilnius and Kaunas, offering state-funded education in close cooperation with the industry. Lithuania is currently upgrading its national policies on -qualifications gained outside the formal system.

[2] Break in series for indicators 1a1, 1a2 and 1a3. Figures are not comparable with those in earlier DESI reports.

Lithuania excels in terms of gender equality in the digital sector, which contributes towards the achievement of the Digital Decade gender convergence target. The country is currently in fourth position in the EU with 24% of ICT positions filled by women. Several initiatives, increasing the inclusion of women in Science, Technology, Engineering and Mathematics (STEM), are in implementation, for example a mentorship programme Women Go Tech, supporting women's careers in IT and engineering.

Regarding stakeholder engagement, Lithuania works closely with trade associations such as the INFOBALT. In December 2021, the New Generation Lithuania event showcased different possibilities and initiatives for reskilling and upskilling. In April 2021, a two-part community-led event was organised by the Lithuanian National Digital Coalition together with the European Digital Skills and Jobs Coalition, which addressed the role of the country's digital skills initiatives in promoting a post-pandemic recovery.

Lithuania organised 444 activities (158.9 per million inhabitants) for the 2021 EU Code Week. Most of those activities (96%) were held in Lithuanian schools. There was a total of 18 709 participants, of whom 47% were women and girls.

Lithuania continues to promote digital skills at all levels as part of its national strategies and initiatives. To tap into the full potential of the digital society and economy, Lithuania should continue following this path and integrate further its' various projects and initiatives in this area. A dedicated digital skills strategy, coordinated by the Ministry of Education, Science and Sport, which centralises digital policies, could strengthen and provide the continuity of all Lithuanian activities in this area.

2 Connectivity

2 Connectivity	Lithuania		EU
	rank	score	score
DESI 2022	23	49.4	59.9

	Lithuania			EU
	DESI 2020	DESI 2021	DESI 2022	DESI 2022
2a1 Overall fixed broadband take-up % households	68% 2019	65% 2020	67% 2021	78% 2021
2a2 At least 100 Mbps fixed broadband take-up % households	32% 2019	31% 2020	36% 2021	41% 2021
2a3 At least 1 Gbps take-up % households	<0.01% 2019	0.23% 2020	0.72% 2021	7.58% 2021
2b1 Fast broadband (NGA) coverage % households	69% 2019	71% 2020	85% 2021	90% 2021
2b2 Fixed Very High Capacity Network (VHCN) coverage % households	61% 2019	67% 2020	78% 2021	70% 2021
2b3 Fibre to the Premises (FTTP) coverage % households	61% 2019	67% 2020	78% 2021	50% 2021
2c1 5G spectrum Assigned spectrum as a % of total harmonised 5G spectrum	0% 04/2020	5% 09/2021	5% 04/2022	56% 04/2022
2c2 5G coverage[3] % populated areas	NA	0% 2020	33% 2021	66% 2021
2c3 Mobile broadband take-up % individuals	74% 2018	74% 2018	85% 2021	87% 2021
2d1 Broadband price index Score (0-100)	79 2019	75 2020	89 2021	73 2021

With an overall connectivity score of 49.4, Lithuania ranks 23rd among EU countries.

The roll-out of Fixed Very High Capacity Network (VHCN) is increasing steadily and covers 78% of households, which is above the EU average of 70%. However, the take-up of 1 Gbps connections is very low, with less than 1% of households. FTTP coverage has increased from 67% in 2020 to 78% in 2021 which is above the EU average of 50%. In rural areas the increase has been significant, rising from 23.3% to 41.1%. The roll-out of fast broadband (NGA) has increased sharply and covers 85% of households. Rural areas are still lagging behind, even though coverage increased sharply from 29.6% of households to 51.8%. The take-up of fixed broadband with speed of at least 100 Mbps is only 36%, slightly below the EU average of 41%. In terms of fixed broadband take-up, 67% of all households subscribe to a kind of fixed internet access, which is below the EU average of 78%.

There is a growing number of households which rely exclusively on mobile internet, given that its quality is sufficient for their needs and the speed is similar to available fixed broadband. According to 'drive tests' measurements which have been done in the whole territory of Lithuania by the

[3] The 5G coverage indicator does not measure users' experience, which may be affected by a variety of factors such as the type of device used, environmental conditions, number of concurrent users and network capacity. 5G coverage refers to the percentage of populated areas covered by at least one operator as reported by operators and national regulatory authorities.

Communications Regulatory Authority (RRT) and consisted of 18 000 tests per mobile operator, the average download speeds in 2021 per mobile operator were 29, 52, 61 and 105 Mbps[4]. At the end of 2021 there were 764 100 data-only SIM cards, representing 22.1% of all SIM cards with internet.

The National Broadband Plan has been updated in 2021 to cover the next programming period 2021–2027. It provides that internet speeds of at least 100 Mbps should reach not only households in urban areas, but also households in remote rural areas and public institutions. EUR 75 million will be allocated to develop high-speed internet access by building communication towers and laying of fibre lines.

The ongoing Next Generation Access (NGA) internet connection deployment in Lithuania will ensure data transmission speeds of 30 Mbps and higher. In order to achieve the objective of making NGA available in the whole of Lithuania, the NGA internet access infrastructure development project RAIN3 (initiated in 2018) is ongoing. So far, 1 015 km (compared to 778 km in 2020) of fibre cable lines have been deployed (out of 1 200 km planned in total), and 290 telecommunication facilities have been connected. While none of the telecommunication towers (out of 25 planned) have been built, a tender for their construction has been announced. The new towers are planned to be built by the end of 2023. In areas where installation of the communication towers is not possible, the Gigabit Passive Optical Network (GPON) compression infrastructure is planned with around 8 500 connection points.

In 2021, the RRT on the initiative of the Ministry of Transport and Communications ran a project to create the optimal model to promote the use of embedded subscriber identification modules (eSIMs), as well as over-the-air provisioning and provider switching in Lithuania. The results of the project were presented in December 2021.

The Ministry of Transport and Communication has foreseen the measure 'Step towards 5G. Innovation in mobility' in Lithuania's' Recovery and Resilience (RRF) plan 'New Generation Lithuania' under the Digital Transition Component and has allocated EUR 24.5 million for its implementation. The main goal is to create sandbox regime (financial, legal, regulatory environment) for testing and practical application of innovative 5G-based solutions in various sectors to address the most pressing challenges of society, business and public sector, as well as to promote cooperation between industry and academia, internationalization of innovation, creation of value-added jobs, involvement of Lithuanian business and science in international value chains, and development of new business models. 5G based innovations will be developed and tested via open and thematic calls for tender as well a call for start-ups. The expected opening date of the calls is Q3 2022. The measure shall be completed by 31 December 2025.

Lithuania is among the EU Member States that have assigned least spectrum for 5G only 5% compared to the EU average of 56%, and 5G coverage is also at a low level with only 33% coverage in populated areas, only half of the EU average of 66%. Regarding the 5G pioneer spectrum and in particular the 700 MHz band, the broadcasting service in the Republic of Belarus, has been decommissioned ensuring no interference from those services, but there is no information on the Broadcasting Development Concept from the Russian Federation. Nevertheless, the auction for granting access to the 713-733 MHz and 768-788 MHz frequency ranges (i.e. 2x 20 MHz portion of the 700 MHz band) was announced on 25 October 2021, and interested participants were asked to submit the necessary auction documents by 25 March 2022. There is still no cross-border coordination agreement with the Russian Federation on the 3.6 GHz band (the Russian armed forces use the 3.5 GHz frequency for

[4] https://www.rrt.lt/wp-content/uploads/2022/03/2021m-JRPK-ataskaita-belaidis-internetas-registruota-1.pdf

radars in Kaliningrad), but the auction of the 3.4-3.7 GHz band was announced on 31 March 2022, and the deadline for the submission of the auction documents by interested participants, was 31 May 2022. It was planned that the 26 GHz band will be allocated if there is market demand. By the (end of April 2022), Lithuania had allowed the use of the 700 MHz band (EU weighted average 67.9%), 16.3 % of the 3.4-3.8 GHz band (EU average 75%), and none of the 26 GHz band (EU average 29.1%). Overall, Lithuania has authorised the use of only 5.4% of the total harmonised 5G pioneer spectrum, compared to an EU average of 56%. In relation to the 2025 targets and in particular the 5G coverage, it is important to note that the Guidelines for the development of Fifth Generation Mobile Communications (5G) of Lithuania (2020-2025) foresee that commercial 5G services will be launched at the latest by the end of 2022, while commercial 5G services should be available in at least one of Lithuania's five largest cities in terms of population - Vilnius, Kaunas, Klaipėda, Šiauliai or Panevėžys - at the latest by the end of 2023. Lastly, by the end of 2025, 5G should be available in urban areas, on international land transport corridors (Via Baltica, Rail Baltica) and other main motorways and railway lines of national importance, as well as in airports and seaports. Lastly, by the end of 2025, 5G should be available in urban areas, on international land transport corridors (Via Baltica, Rail Baltica) and other main motorways and arterial railway lines of national importance, as well as in airports and seaports. As a result, Lithuania lags substantially behind in 5G deployment, but mobile operators are upgrading their mobile networks by installing equipment to be ready to launch 5G as soon as the auctions are completed.

Main market & regulatory developments

The main market development was the start of the Starlink satellite internet access in Lithuania at the end of 2021 using satellites operated by SpaceX.

From 1 July 2021, UAB Eurocom was merged with UAB Bitė Lietuva, which therefore took over all the rights and obligations as service provider from UAB Eurocom. Retail digital satellite television services provided by another Bitė group company, AS TV Play Baltics, under the Home3 brand, were transferred to UAB Bitė Lietuva.

The incumbent operator Telia Lietuva AB remains the largest operator on the fixed market. On the mobile telephone market UAB Tele2 is the largest operator followed by Telia Lietuva AB and UAB Bitė Lietuva.

Lithuania has amended the law on Electronic Communications so that from 1 May 2022 the Communications Regulatory Authority (RRT) will be managed and decisions be adopted by a collegial management body – the Council of the Communications Regulatory Authority, instead of the current structure with a single director. The Council will consist of 5 members.

The transposition of the European Electronic Communications Code (EECC) was in 2021 still ongoing. After infringement proceedings[5] due to lack of notification of transposition measures. A Reasoned Opinion was sent to Lithuania on 23 September 2021. On 11 November 2021, Lithuania adopted the law amending the Law on Electronic Communications in Lithuania, which transposes most of the provisions of the European Electronic Communications Code. Lithuania notified complete transposition of the EECC the 14 April 2022.

[5] (INFR(2021)0060)

As regards market reviews[6], price obligations from the current fixed and mobile termination markets have been withdrawn in order to ensure legal certainty for Lithuanian fixed and mobile operators when the Delegated Regulation setting fixed and mobile termination rates entered into application, i.e., as of 1 July 2021.

The number of consumer complaints in 2021 (311) decreased slightly compared with the number of complaints in 2020 (380). Most of them were related to billing (96 complaints), quality of service (48), and the termination of contracts (43).

The goals of the 2021–2027 Lithuanian National Broadband Plan is broadly aligned with the 2025 Gigabit Society objectives, with the exception that the broadband target of at least 100 Mbps is set for 2027 instead of 2025. The National Broadband Plan will have to be updated to align it with the goals set for the 2030 Digital Decade that provides that all European households should be covered by a Gigabit network.

While it is positive and encouraging that Lithuania is using the RRF funding to test 5G technologies, addressing the low level of 5G assignment is critical to foster 5G deployment, thereby increasing the possibility of reaching the targets set for the Gigabit Society and the 2030 Digital Decade.

[6] cases LT/2021/2322-2323 'Wholesale call termination on individual public telephone networks provided at a fixed location and wholesale voice call termination on individual mobile networks in Lithuania –withdrawal of price remedies'

3 Integration of digital technology

	rank	score	score
DESI 2022	**13**	**37.2**	**36.1**

	Lithuania			EU
	DESI 2020	**DESI 2021**	**DESI 2022**	**DESI 2022**
3a1 SMEs with at least a basic level of digital intensity % SMEs	**NA**	**NA**	**57%** 2021	**55%** 2021
3b1 Electronic information sharing % enterprises	**48%** 2019	**48%** 2019	**45%** 2021	**38%** 2021
3b2 Social media % enterprises	**24%** 2019	**24%** 2019	**22%** 2021	**29%** 2021
3b3 Big data % enterprises	**14%** 2018	**11%** 2020	**11%** 2020	**14%** 2020
3b4 Cloud % enterprises	**NA**	**NA**	**28%** 2021	**34%** 2021
3b5 AI % enterprises	**NA**	**NA**	**4%** 2021	**8%** 2021
3b6 ICT for environmental sustainability % enterprises having medium/high intensity of green action through ICT	**NA**	**74%** 2021	**74%** 2021	**66%** 2021
3b7 e-Invoices % enterprises	**29%** 2018	**27%** 2020	**27%** 2020	**32%** 2020
3c1 SMEs selling online % SMEs	**24%** 2019	**28%** 2020	**32%** 2021	**18%** 2021
3c2 e-Commerce turnover % SME turnover	**12%** 2019	**15%** 2020	**18%** 2021	**12%** 2021
3c3 Selling online cross-border % SMEs	**13%** 2019	**13%** 2019	**12%** 2021	**9%** 2021

In the integration of digital technology dimension, Lithuania ranks 13th of 27 EU countries.

Lithuania has continued to perform slightly above the EU average in most of the indicators for the integration of digital technologies. It has made progress in the areas of SMEs selling online and overall e-commerce turnover, where it performs above the EU average. Some indicators, however, such as electronic information sharing or big data, have declined slightly and will soon need further attention. Only 22% of Lithuanian enterprises actively use social media, 28% uses cloud solutions and 4% is integrating AI technologies into their operations. Big Data are not yet widely used. This shows that more effort needs to be made to reach the 2030 Digital Decade target of at least 75% of enterprises taking up cloud services, Big Data and AI.

Lithuania is conducting in talks about closer cooperation with Taiwan in the area of semiconductors. Taiwan is currently setting up a USD 200 million fund to facilitate development of semiconductors in Lithuania. Lithuania is also considering taking part in the EU's IPCEI on semiconductors.

As part of the RRF plan, EUR 24.5 million has been set aside for the 'Step towards 5G Innovation in Mobility' plan, which will focus on applying 5G connectivity in areas such as autonomous mobility, drones, the internet of things, virtual reality and robotics. These projects will begin to be developed in the first quarter of 2022 and will take from 6 to 36 months. An additional EUR 15 million has been earmarked for the development of AI products and services.

Lithuania has made efforts to increase the take-up of digital technology by SMEs, to contribute to the EU target of 90% of Union SMEs having at least a basic level of digital intensity. Lithuania has been implementing the E-komercijos modelis, the COVID-19 measure, which is funded by React EU (EUR 40 million). This policy encourages companies to adopt digital technologies by offering funding to SMEs to support them in re-engineering and digitalising their processes to increase revenue.

Lithuania has also taken important steps to increase the number of successful digital start-ups in the country. The Agency for Science, Innovation and Technology is implementing several projects dedicated to creating new tech start-ups. Among these projects is the TechHub, a programme which provides mentoring and training for the companies, claiming to successfully set up more than 70 companies.

The European Digital Innovation Hubs (EDIHs) will provide access to technical expertise and experimentation for enterprises. The selection process of the Digital Innovation Hubs that will participate in the network of EDIHs is ongoing. Three Lithuanian EDIH proposals have a successful evaluation result.[7] In the development of advanced technology, Lithuania has also taken important steps in areas such as artificial intelligence: the project supported 52 start-ups and companies to promote and integrate the use of AI. The AI Boost project supported 52 start-ups and companies to promote and integrate the use of AI. In 2021, Lithuania joined the European Grid Infrastructure (EGI), in order to deliver high-performance computing (HPC) resources for academic and public organisations, as well as for SMEs.

Lithuania has made progress in integration and development of digital technologies. It is important that Lithuania matches its investments with strategic reforms, especially in the area of digital skills in the educational system, and balances the investments made in the public and private sectors, with a special focus on SMEs.

Highlight: Cyber Rapid Response Teams and Mutual Assistance in Cyber Security

Lithuania's cybersecurity policy is currently defined in the 2018-2023 National Cyber Security Strategy (NCSS). An update of the policy and possibly replacement of this strategy with the National Cyber Security Development Programme is planned by the end of 2022. Cybersecurity has also been identified as a key element of the National Security Strategy presented in December 2021. Lithuania, together with other Member States, implements the EU project 'Cyber Rapid Response Teams and Mutual Assistance in Cyber Security (CRRTs).' The aim of the project is to provide support to cyber threats in time of need to the participation EU countries, EU institutions, CSDP Missions and Operations as well as other partners. Currently, the participating countries are Croatia, Estonia, Lithuania, the Netherlands, Poland and Romania, while Belgium, Finland, France, Greece, Italy, Slovenia, Spain have an observer status. Lithuania runs also the Kaunas Regional Cyber Defence Centre (RCDC) monitoring and analysing threats in the region, including partners from Ukraine and Georgia.

[7] I.e., are invited for grant agreement preparation (which is not a formal commitment for funding).

4 Digital public services

4 Digital public services[8]	Lithuania		EU
	rank	score	score
DESI 2022	10	81.8	67.3

	Lithuania			EU
	DESI 2020	DESI 2021	DESI 2022	DESI 2022
4a1 e-Government users % internet users	67% 2019	69% 2020	70% 2021	65% 2021
4a2 Pre-filled forms Score (0 to 100)	NA	NA	92 2021	64 2021
4a3 Digital public services for citizens Score (0 to 100)	NA	NA	82 2021	75 2021
4a4 Digital public services for businesses Score (0 to 100)	NA	NA	93 2021	82 2021
4a5 Open data % maximum score	NA	NA	89% 2021	81% 2021

In the Digital public services dimension, Lithuania ranks 10th of 27 EU countries.

Lithuania continues to perform well above the EU average in terms of providing digital public services for both individuals and businesses. The number of e-government users has increased steadily to 70% of internet users, up from 67% in 2019. On pre-filled forms, Lithuania scores significantly above the EU average (92 compared to 64). It also scores well on open data (89% compared to 81% for the EU). The country is progressing slowly but steadily towards the Digital Decade target of all public services being available online.

Lithuania is currently implementing a reform to help it achieve the EU targets of 100% of key public services being provided online. The current reforms are expected to be completed by 2026. These reforms, which provide for further digitalisation of services and for improving the level of maturity of existing digital services, include integration of digital technologies in the justice system. In December 2021, Lithuania adopted new rules for digitalised document transfer to the State archives. These rules are set to enter into force in 2023.

Regarding the objective of having a public, digital, interoperable identification solution, Lithuania has put in place a Public Key Infrastructure (PKI), as well as a personal ID card both for electronic identification and for electronic signature. Both have been set up according to the requirements of Regulation 910/2014 on electronic identification and trust services for electronic transactions in the internal market and repealing Directive 1999/93/EC (eIDAS). Over 15 Member States currently accept the Lithuanian scheme. This is a step towards the 2030 Digital Decade target of 80% of the population using a digital ID. Lithuania offers also a large available of qualified trust services (5 out of 9 possible types) to its citizens.

Lithuania has made good progress in digital public services. A good example of this is the GovTech sandbox, which focuses on finding digital solutions for better policy making, amongst other activities. Set up by the Ministry of Economy and Innovation and run by the Agency for Science Innovation and

[8] There is break in the series for indicators 4a2, 4a3, 4a4 and 4a5. As a result, no comparison of indicator and dimension results is possible over time.

Technology, GovTech has funded around 40 e-government solutions via contests and procurement. In total, EUR 2 million has been invested in GovTech solutions, many of which were created at the end of 2021. These include a smart mental health assistant for the prevention of relapses, and a tool for monitoring, analysing and evaluating the activities of Vilnius's educational institutions. Lithuania is currently developing a digital legislative transfer tool to implement GovTech solutions.

The Lithuanian government also uses digital solutions to have the exchanges with the public. The e-citizen service for instance, involves the public in decision-making, by making it easier to contact government agencies electronically, and to monitor the progress of petitions, applications or public consultations. The e-seimas service enables the public to participate in the legislative process by registering public legislative initiatives, and registering comments and proposals to legislative acts, among other functions.

Lithuania excels in providing online medical records. The Electronic Information System of Health Services & Cooperation Infrastructure (ESPBI IS) currently hosts 100% of Lithuanian healthcare providers, as well as pharmacies. All national healthcare subjects in Lithuania (LNSS) are required to use the system when providing health-related services. In November 2021 alone, 7 million medical records were uploaded to the ESPBI IS, which is under continuous development.

Another area in which Lithuania records good results is the implementation of artificial intelligence (AI) solutions in decision-making processes. One example is the municipal administration's solution for greening the city of Vilnius, which uses satellite pictures and AI to identify the city's less sustainable areas.

Using RRF funds, Lithuania plans to modernize State Information Resources Interoperability Platform (Electronic Government Gateway) by implementing an advanced and convenient search for information on public and administrative services provided. It will facilitate the users to order and receive e-services from one place and allow further monitoring of the provision of these services.

Open Data, one of the strategic goals of the Lithuanian state, has been put forward in the new draft of the Lithuanian Digitization Development Programme for 2021–2030. Lithuania Open Data Portal became fully operational in June 2020. It is the single access point to all open data sets in Lithuania. Currently, the portal provides more than 1 700 metadata including 1 400 linked to data sources and described within the DCAT dictionary requirements. More than 500 metadata are available to users in machine readable formats (CSV).

Overall, Lithuania is advancing well in the provision of digital public services, but even greater improvements are necessary to make them even better, more user-friendly, and more easily accessible for the public and businesses. A better-coordinated approach and concerted actions regarding e-services would help the public and business find the services they need and would allow government bodies to set up the new services and automate the existing ones further.