Digital Economy and Society Index (DESI) 2021

Lithuania

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.

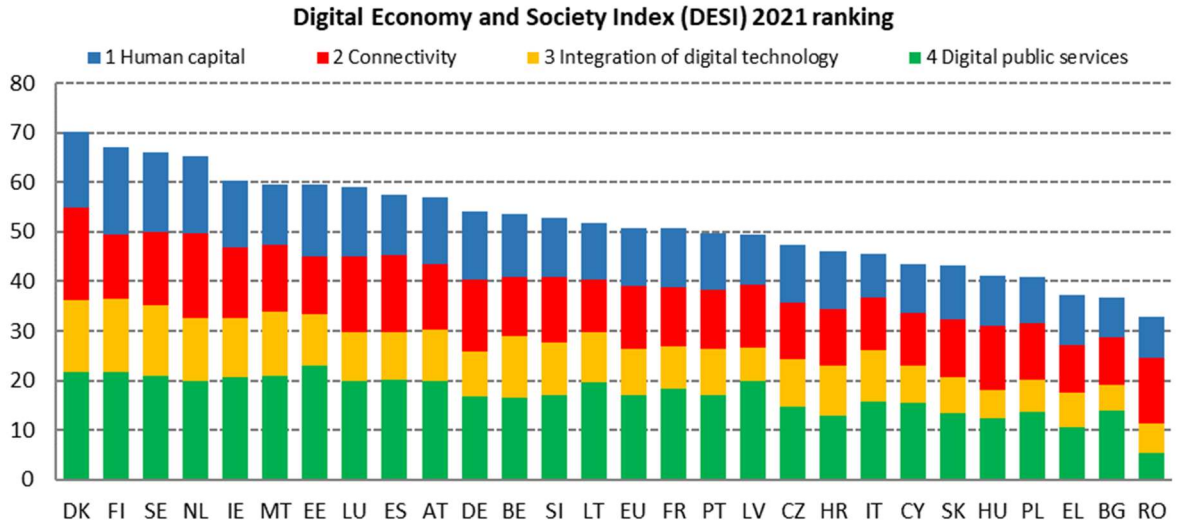
In addition, DESI now includes an indicator measuring the level of support that adopted ICT technologies provided companies in taking more environmentally-friendly measures (ICT for environmental sustainability) and the take up of gigabit services, plus the percentage of companies offering ICT training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

	Lithuania		EU
	rank	score	score
DESI 2021	**14**	**51.8**	**50.7**



Lithuania ranks 14th of the 27 EU Member States in the 2021 edition of the Digital Economy and Society Index (DESI).

Lithuania still has room to improve the digital skills of its population and invest in the reskilling and upskilling of its labour force (it is currently ranked 17th in the human capital dimension of the DESI). Low basic digital skills and a lack of ICT specialists are major obstacles to Lithuania's digital transition, hampering its capability to fully exploit its innovation potential. Despite several national strategies and measures to develop the digital economy and society, relatively few companies offer digital upskilling for employees, and businesses report significant difficulties in filling ICT specialist vacancies.

In terms of Connectivity, 65% of all Lithuanian households subscribe to fixed internet access and 31% have at least 100 Mbps fixed broadband, both below the EU average. Lithuania is deploying fibre faster than the EU average. The fast broadband (NGA) coverage rate for all households is 71%, although a digital divide is still notable in rural areas, where NGA coverage drops to 29.6%. 4G coverage is almost 100%, but the take-up of mobile broadband is 67%, lower than the EU average. Lithuania has no commercial 5G coverage, but 5G piloting is already under way.

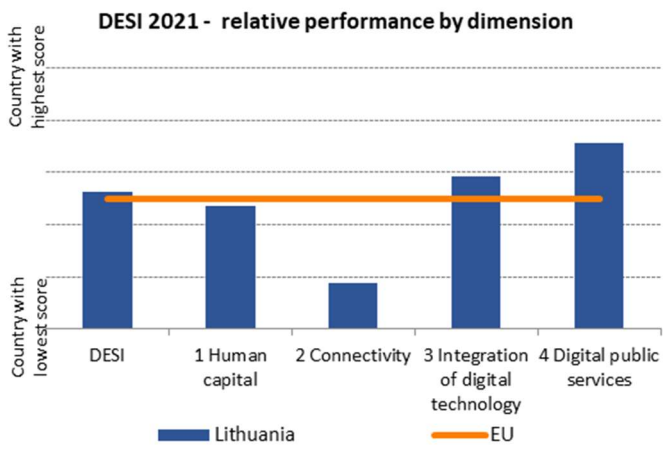
On the Integration of digital technology, Lithuania performs slightly above the EU average. Its strengths are the take-up of artificial intelligence, ICT for environmental sustainability, SMEs selling online and electronic information sharing. On the other hand, the share of SMEs with at least a basic level of digital intensity, cloud services and big data usage are below the EU average. Despite e-commerce turnover being higher than the EU average, the adoption of e-invoices is decreasing and is lower than the EU average.

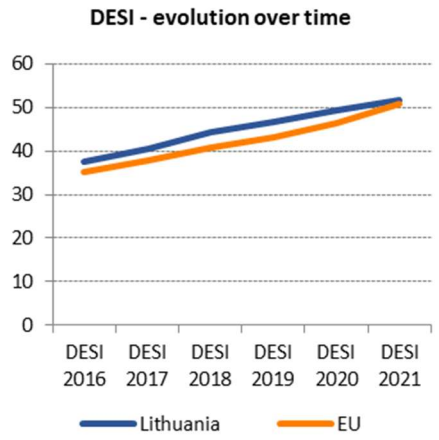
Lithuania is addressing the modernisation of its public sector over the last decade through its digital policy priorities. These are: (i) consolidating state information resources, IT infrastructure and services; (ii) ensuring reliable public-sector data and the possibility to share them across sectors; and

(iii) digitalising government processes and expanding digital public services, making them accessible also to people with disabilities.

Lithuania excels in some of Digital public services, with two indicators in the EU's top 4: digital public services for businesses and pre-filled forms. Its performance is above the EU average in open data and the number of people using digital public services. Digital services for the people are slightly below the EU average.

The Lithuania 2030[1] national strategy is the principal document setting out the roadmap and guidelines for achieving the country's vision for a smart economy, society and governance. Lithuania aims to become one of the EU's top 10 performers, measured by indicators such as the Sustainable society index, the e-Government index and Business R&D. Specific plans are translating the strategy into concrete actions. These include The National progress plan 2021-2030[2], the Guidelines for the development of Fifth Generation Mobile Communications (5G) of Lithuania (2020-2025)[3], the National Health Strategy 2014–2025[4], the State Education Strategy for 2013–2022[5] and the Lithuanian Industry Digitisation Roadmap 2020–2030[6].





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

The total budget of Lithunia's Recovery and Resilience Plan of EUR 2.2 billion dedicates EUR 700.6 million (31.5%) to measures supporting the digital transition. Over half of these funds are dedicated to digital public services and infrastructure.

The RRP's Component 3 – Digital transformation for growth – covers most digital measures including:

- implementing and monitoring 15 digitisation projects (EUR 115 million)
- developing the public cloud infrastructure (EUR 95 million)
- a data management model and data transfer to the national data lake (EUR 30 million)

[1] http://www.unesco.org/education/edurights/media/docs/2953897c103c13043bfabea84b716ae2f8c82f47.pdf https://e-seimas.lrs.lt/portal/legalAct/lt/TAD/TAIS.425517

[2] https://e-seimas.lrs.lt/portal/legalAct/lt/TAD/90085d5127f911ec99bbc1b08701c7f8?jfwid=32wf90sn

[3] https://e-seimas.lrs.lt/portal/legalAct/lt/TAD/669a3b64aa5411ea8aadde924aa85003.

[4] https://e-seimas.lrs.lt/portal/legalAct/lt/TAD/35834810004f11e4b0ef967b19d90c08/NRPRyqDDim?jfwid=-fxdp770g

[5] https://e-seimas.lrs.lt/portal/legalAct/lt/TAD/TAIS.463390

[6] https://eimin.lrv.lt/uploads/eimin/documents/files/Lithuanian%20Industry%20Digitisation%20Roadmap%202020-2030%20UPDATED%20EN%20(1).pdf

- step towards 5G (EUR 73.5 million)
- technological resources for the Lithuanian language (EUR 35 million).

Other components of Lithuania's RRP include substantial digital measures such as:

Component 1 – Health: digitalising the health sector (EUR 85.7 million)

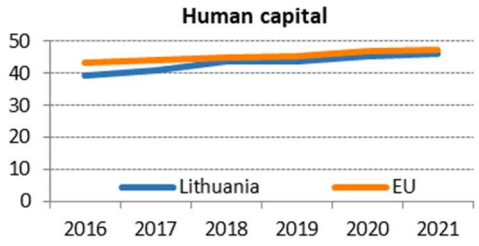
Component 7 – Social: digital skills (EUR 46.3 million)

Component 4 – Education: digital education (EUR 9.8 million).

Lithuania indicated participation in the following multi-country projects: 5G, Genome of Europe and European Digital Innovation Hubs.

1 Human capital

1 Human capital	Lithuania		EU
	rank	score	score
DESI 2021	17	46.1	47.1



	Lithuania			EU
	DESI 2019	DESI 2020	DESI 2021	DESI 2021
1a1 At least basic digital skills % individuals	55% 2017	56% 2019	56% 2019	56% 2019
1a2 Above basic digital skills % individuals	32% 2017	32% 2019	32% 2019	31% 2019
1a3 At least basic software skills % individuals	57% 2017	58% 2019	58% 2019	58% 2019
1b1 ICT specialists % individuals in employment aged 15-74	2.7% 2018	3.1% 2019	3.3% 2020	4.3% 2020
1b2 Female ICT specialists % ICT specialists	26% 2018	24% 2019	24% 2020	19% 2020
1b3 Enterprises providing ICT training % enterprises	9% 2018	11% 2019	14% 2020	20% 2020
1b4 ICT graduates % graduates	2.7% 2017	3.1% 2018	3.7% 2019	3.9% 2019

Lithuania ranks 17th of the 27 EU countries on Human capital, positioning itself slightly below the EU average. Both basic and above-basic digital skills, and software skills, are at the EU average. On the other hand, fewer Lithuanian enterprises provide ICT training to their employees than EU companies. Numbers of ICT specialists and graduates are also below the EU average, but the proportion of female ICT specialists is higher than in the EU.

To strengthen digital skills, Lithuania adopted the 2020–2030 Industry Digitisation Roadmap[7] and 2013–2022 State Education Strategy[8]. It has developed the National skills strategy[9] in cooperation with the OECD and reviewing primary and secondary schools' curricula as well as adult learning.

The National Education Agency provides online training and upskills ICT teachers in line with the DigCompOrg framework[10]. The Employment Service actively promotes digital skills. The Agency collaborates with Coursera, Microsoft and universities in the Baltic countries. Public libraries organise digital skills capacity building in collaboration with local communities, which helped train over 245,000 citizens in 2020. Software companies contribute to digital capacity building through initiatives such as Sourcery academy, Grow with Google and Skaitmenizuokis.lt. The reskilling and upskilling of ICT specialists takes place at dedicated bodies such as the Vilnius, Kaunas and Klaipėda coding schools, the Code academy, Akademija.IT and the Turing Society.

[7] https://eimin.lrv.lt/uploads/eimin/documents/files/Lithuanian%20Industry%20Digitisation%20Roadmap%202020-2030%20UPDATED%20EN%20(1).pdf
[8] https://e-seimas.lrs.lt/portal/legalAct/lt/TAD/TAIS.463390
[9] https://strata.gov.lt/lt/igudziu-strategija
[10] https://ec.europa.eu/jrc/en/digcomporg/framework

School children learn to code at academies such as Turing College, Sourcery for Kids and an interactive online course entitled Angis.net. The 2020 edition of EU Code Week attracted over 17,000 participants (44% females), who participated in 417 educational activities.

To train the public to safely use digital technologies and e-services, the Lithuanian public sector is implementing the Connected Lithuania[11] project in collaboration with the National Digital Skills and Jobs Coalition Langas į ateitį. In 2020, it created a volunteer network of 524 digital leaders, 1,600 e--scouts and 1,260 digital advisers, trained almost 80,000 people (of whom 45,980 jobseekers) at beginner and basic levels, updated and developed over 30 educational resources, and organised three campaigns: Safer Internet Week, Seniors Online Week, All Digital Week, involving over 60,000 participants in total.

Lithuania participates in the annual international Girls in ICT event to motivate females to choose careers in ICT. Another initiative is Women Go Tech, a mentorship programme supporting women's careers in IT and engineering.

Lithuania promotes digital skills at all levels as part of its national strategies. On most human capital indicators, Lithuania is approaching the EU average or is at a comparable level. It is imperative that Lithuania further increases digital skills, particularly the number of ICT graduates, specialists and enterprises providing ICT training, to tap into the full potential of the digital society and economy.

Human capital in Lithuania's Recovery and Resilience Plan

The main activities for the development of human capital in Lithuanian Recovery and Resilience Plan are digital skills and education (EUR 56.1 million, with additional financing included into partly digital measures), digitalising educational content and resources (EUR 20 million) and creating technological Lithuanian languagage resources for AI solutions to help Lithuanian citizens communicating with advanced AI technologies and to contribute towards the preservation and viability of the Lithuanian language (EUR 35 million).

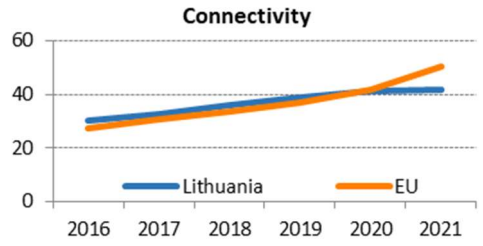
Lithuania should significantly increase its human digital capacities through the following initiatives:

- 10,000 adults should acquire digital skills and competences.
- 500 educators should achieve a master's degree in IT.
- 2,200 teachers and 800 higher education staff should develop digital competences.
- More than 21,000 students and more than 21,000 adults should improve their skills (of which at least 40% digital). 4,000 public-sector staff should be trained in digital skills.
- 900 digital self-employed jobs should be created.
- Laboratory equipment should be upgraded at least at 10 STEM centres.
- 2 new digital solutions for people with disabilities should to be launched.
- Other measures should be taking place such as aprenticeships, vocational education and trainings, etc.

[11] https://www.prisijungusi.lt/.

2 Connectivity

2 Connectivity	Lithuania		EU
	rank	score	score
DESI 2021	25	41.7	50.2



	Lithuania			EU
	DESI 2019	DESI 2020	DESI 2021	DESI 2021
2a1 Overall fixed broadband take-up % households	64% 2018	68% 2019	65% 2020	77% 2020
2a2 At least 100 Mbps fixed broadband take-up % households	29% 2018	32% 2019	31% 2020	34% 2020
2a3 At least 1 Gbps take-up % households	NA	<0.01% 2019	0.23% 2020	1.3% 2020
2b1 Fast broadband (NGA) coverage % households	63% 2018	69% 2019	71% 2020	87% 2020
2b2 Fixed Very High Capacity Network (VHCN) coverage % households	61% 2018	61% 2019	67% 2020	59% 2020
2c1 4G coverage % populated areas	99.2% 2018	>99.9% 2019	>99.9% 2020	99.7% 2020
2c2 5G readiness Assigned spectrum as a % of total harmonised 5G spectrum	0% 2019	0% 2020	5% 2021	51% 2021
2c3 5G coverage % populated areas	NA	NA	0% 2020	14% 2020
2c4 Mobile broadband take-up % individuals	60% 2018	67% 2019	67% 2019	71% 2019
2d1 Broadband price index Score (0-100)	NA	79 2019	75 2020	69 2020

With an overall connectivity score of 41.7, Lithuania ranks 25th among EU countries. Many households are covered by fast broadband (NGA) 71%, but in rural areas only 29.6% have fast broadband (NGA) access. Take-up of at least 100 Mbps fixed broadband stands at 31% of households, which is below the EU average of 34%. On fixed broadband take-up, 65% of all households subscribe to some kind of fixed internet access, below the EU average of 77%. Lithuania is among the EU countries without 5G mobile broadband coverage but with 100% coverage of 4G. Lithuania ranks 18th in the broadband price index.

In order to achieve the EU 2025 targets, Lithuania is implementing the RAIN3 project. It plans to build approximately 30 communication towers, lay 1,210 km of fibre-optic cables and a passive optical network (PON) infrastructure in the white areas where the market cannot provide this infrastructure and fast internet services. The project aims to further develop broadband networks in rural areas between 2018 and 2022. It offers wholesale access to a newly built fibre backhaul network to operators and allow them to connect end users at download speeds above 30 Mbps. The network is provided by Plačiajuostis internetas, a state-owned body. So far, 822 km of fibre-optic cable lines (out of 1,210 km planned in total) have been deployed, and 271 telecommunication facilities have been connected.

Lithuania has assessed the areas that do not have at least 100 Mbps broadband coverage. On that basis, regulatory and financial measures have been identified to cover the country's 100 Mbps broadband-free white areas. These conclusions and measures will be the basis for the renewed National Broadband Plan up for approval in 2021.

The Guidelines for the Development of the Fifth Generation Mobile Communications (5G) of Lithuania in 2020-2025 were approved by Government Resolution No 577 on 3 June 2020. As yet there is no fully fledged commercial 5G service in Lithuania's major cities. Following one operator's request, Lithuania's Communications Regulatory Authority (RRT) is supporting its initiative to test the operation of 5G services by assigning it free radio frequencies from the 3.5 GHz radio frequency band for temporary non-commercial use. The frequencies were assigned for a limited period only, providing free-of-charge 5G services to end users in three cities.

On spectrum assignment, there are issues with neighbour countries using the same frequencies. Use of the 700 MHz band is still pending as broadcasting services in Belarus using this band are still in operation and there is yet no information on the Broadcasting Development Concept from Russia. For the 3.5 GHz band, the cross-border coordination agreement with Russia has not yet been concluded. In August 2020, the Russian administration confirmed that it will continue using the band for fixed and satellite services. This could block the use of mobile 5G in a major part of Lithuania. For the 26 GHz band, the relevant Radio Communications Development Plan for the 24.25–27.5 GHz band was approved on 23 September 2020 and will be granted if there is market demand.

Main market & regulatory developments

The incumbent operator Telia Lietuva AB remained the largest operator, followed by two mobile operators, UAB Tele2 and UAB Bitė Lietuva. Telia Lietuva AB was the sole operator, providing a wide range of services based on fixed and mobile networks.

UAB Bitė Lietuva acquired AB Lietuvos radijo ir televizijos centras internet access services, data transmission services, fixed telephone services and IPTV business grouped under the 'Mezon' brand. This includes the frequencies assigned to AB Lietuvos radijo ir televizijos centras and used to provide these services.

The transposition of the European Electronic Communications Code (EECC) was not complete by the deadline of 21 December 2020 and the Commission sent Lithuania a letter of formal notice.

Regarding market reviews, the analysis of the market for access to the public network at a fixed location for residential and non-residential customers resulted in the withdrawal of obligations. The analysis of the market of voice call termination on Lithuania's individual mobile networks determined that UAB Bite Lietuva, UAB TELE2, Telia Lietuva AB, UAB CSC TELECOM, UAB Mediafon Carrier Services, UAB Nacionalinis telekomunikaciju tinklas and UAB ECOFON all have significant market power. As a result of the analysis, the obligations on UAB Linkotelus, UAB Mediafon and UAB Omnitel were withdrawn.

In its roadmap to implement the Connectivity Toolbox, Lithuania plans to enhance transparency of existing infrastructure and civil works with a new national web-based geographic information system. It intends to develop guidelines to facilitate legal, technical and administrative conditions for mobile operators and apply a flexible authorisation regime, with a focus on local licensing, infrastructure sharing or other market needs for the 26 GHz band.

The second quarter of 2020 saw an increase in complaints by end users: 82 complaints were

received in the first quarter, 103 complaints in the second quarter, 92 complaints in the third quarter and 103 complaints in the fourth quarter. Also in the third quarter, there was an increase in end users' complaints regarding mobile telephone services (37 complaints in the second quarter, 50 in the third quarter and slightly less in the fourth quarter – 46). Several end users' complaints related to internet access services (40 complaints in the second quarter, 23 in the third quarter, and 48 in the fourth quarter) and to television services (33 complaints in the second quarter, 18 in the third quarter, 26 in the fourth quarter).

The main cause for the complaints in 2020 were changes in the terms of the contracts (end users' complaints varied between 4 complaints and 17 complaints over the year) and in the consequences of those terms (an increase from 16/15 complaints to 20). There was an increase in consumer complaints about billing in the second quarter (19 to 24 complaints, dropping to 14 in the fourth quarter). The third quarter saw a further decrease to 9 complaints.

As of 1 July 2020, the national public safety answering point (PSAP) supports an application allowing end users with hearing disabilities to access emergency communications (112 mobile app) on Android and iOS devices.

Lithuania is investing in broadband roll-out but currently lags behind in 5G deployment due to delayed spectrum assignment procedures, caused by frequency coordination problems with neighbouring countries. It is important for the country to finalise transposition of the EECC and swiftly put in place the measures from its roadmap to implement the Connectivity Toolbox.

Connectivity in Lithuania's Recovery and Resilience Plan

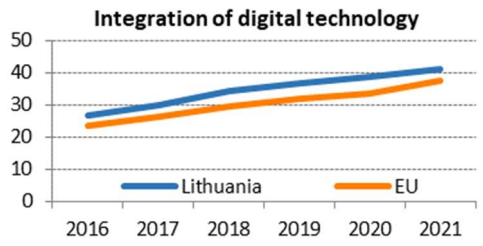
For Connectivity, the Lithuanian Recovery and Resilience Plan envisages two measures:

- Infrastructure (EUR 49 million), including building 50 new towers, rolling out 2,000 km of fibre and related active equipment with appropriate maintenance and administration. These investments should provide gigabit speed to 5,000 digitally intensive enterprises/institutions. In addition, internet service providers in white areas should be able to increase the speed of their last-mile services.
- Delivering on Connectivity Innovation (EUR 25 million), at least 7 projects are planned to enhance sectoral digitalisation by making practical use of mobility innovations such as: (i) autonomous transport; (ii) drones; (iii) internet of things; (iv) virtual reality; (v) 5G-based robotisation or automation and advanced technological solutions such as (vi) transport waybills and sustainable mobility data management solutions; and (vii) unified ticketing schemes and solutions for the digitalisation of transport benefits.

Connectivity investments will also contribute to European 5G multi-country projects.

3 Integration of digital technology

3 Integration of digital technology	Lithuania		EU
	rank	score	score
DESI 2021	12	41.2	37.6



	Lithuania			EU
	DESI 2019	DESI 2020	DESI 2021	DESI 2021
3a1 SMEs with at least a basic level of digital intensity % SMEs	NA	NA	54% 2020	60% 2020
3b1 Electronic information sharing % enterprises	47% 2017	48% 2019	48% 2019	36% 2019
3b2 Social media % enterprises	20% 2017	24% 2019	24% 2019	23% 2019
3b3 Big data % enterprises	14% 2018	14% 2018	11% 2020	14% 2020
3b4 Cloud % enterprises	17% 2018	17% 2018	23% 2020	26% 2020
3b5 AI % enterprises	NA	NA	34% 2020	25% 2020
3b6 ICT for environmental sustainability % enterprises having medium/high intensity of green action through ICT	NA	NA	74% 2021	66% 2021
3b7 e-Invoices % enterprises	29% 2018	29% 2018	27% 2020	32% 2020
3c1 SMEs selling online % SMEs	21% 2018	24% 2019	28% 2020	17% 2020
3c2 e-Commerce turnover % SME turnover	14% 2018	12% 2019	15% 2020	12% 2020
3c3 Selling online cross-border % SMEs	12% 2017	13% 2019	13% 2019	8% 2019

Lithuania ranks 12th in the EU on Integration of digital technology. It performs above the EU average in the take-up of Artificial Intelligence (AI), ICT for environmental sustainability, SMEs selling online and electronic information sharing. Cloud services and big data usage are below the EU average. Despite higher than the EU average e-commerce turnover, the adoption of e-Invoices is decreasing and is lower than the EU average. Lithuanian enterprises use social media slightly more often and sell more across borders than their EU counterparts on average. On the other hand, the share of SMEs with at least a basic level of digital intensity is lower than in the EU.

The 2020-2030 industry digitisation roadmap[12] sets out the guidelines for the integration of digital technologies. These are: increasing the private and public sector' take-up of digital technology, strengthening research and innovation, adapting standards, and actively participating in international value chains.

[12] https://eimin.lrv.lt/uploads/eimin/documents/files/Lithuanian%20Industry%20Digitisation%20Roadmap%202020-2030%20UPDATED%20EN%20(1).pdf.

There are 18 Lithuanian Digital Innovation Hubs of varying levels of maturity supporting the digitalisation of business and registered in the EU S3 catalogue[13], operating in biotechnology, manufacturing, maritime, construction, transport and public administration. In 2020, Lithuania proposed three candidates for the European Digital Innovation Hubs to be partly financed by the Digital Europe Programme.

Startup Lithuania[14] is a one-stop shop for young innovative companies aiming to develop the ICT ecosystem. Services for start-ups are offered by the Agency of Science, Technology and Innovation (MITA)[15], the Lithuanian Innovation Center (LIC)[16], Saulėtekio slėnio mokslo ir technologijų parkas 'Sunrise Valley'[17], Enterprise Lithuania[18] and other entities. The services offered include: incubation and acceleration, expert advice on reaching foreign markets, intellectual property rights, marketing, access to funding, finding scientific partners, and developing infrastructure. There is a broad ecosystem of pre-accelerators and accelerators, incubators/hubs (GovTech Lab, Evolut 4.0, TechHub, Baltic Tech Park, Sunrise Valley, etc.) and private venture investors such as LitCapital, Verslo angelų fondai, Start-up wise guys, Practica capital, financing the different stages of the start-up life cycle. Regulatory sandboxes are also gaining popularity e.g. the Lithuanian central bank's Fintech Sandbox.

The Lithuanian Innovation Center participates in implementing the Baltic large-scale computing project[19] with the goal to enable smaller actors to create innovative products and services. The project also aims to analyse and develop a universal practical solution – the BalticLSC (Supercomputing) Environment: a hardware platform and easy-to-use software.

Lithuania is among the EU's frontrunners on Artificial Intelligence, with a national AI strategy which recommends creating a stable and AI-friendly data environment. The strategy focuses on the public sector to ensure that Lithuania's data meet international standard requirements. The strategy is implemented by the AI Boost[20] initiative, running an AI accelerator (helping to train AI models) and information centre, and organising AI-related events and podcasts.

Lithuania has adopted its National Cyber Security Strategy (NCSS)[21], broadly aligned with the EU NIS Directive, the EU Cybersecurity Strategy, ENISA's recommendations and international good practice. The new generation cyber toolbox for the development of National rapid cyber response teams will be co-financed by the Ministry of National Defence, which is also developing a financial mechanism for the private sector to participate in European defence cooperation programmes, including cyber defence projects. Private-sector initiatives include: two programmes implemented by NRD Cyber Security[22]: IntEye[23] and CySystem[24]; Tesonet's office works with cryptographic protocols; and CUJO AI's development of AI models to detect network security threats.

To continue boosting the digital transformation of its economy, it is important that Lithuania further builds up its start-up ecosystem and supports the integration of digital technologies in SMEs, with particular attention to businesses in disadvantaged regions.

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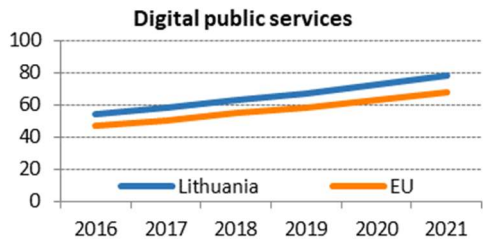
[13] https://s3platform.jrc.ec.europa.eu/digital-innovation-hubs-tool.
[14] https://www.startuplithuania.com/.
[15] https://mita.lrv.lt/.
[16] https://lic.lt/.
[17] https://ssmtp.lt/.
[18] https://www.enterpriselithuania.com/en/.
[19] https://www.balticlsc.eu/.
[20] https://aiboost.lt/.
[21] https://e-seimas.lrs.lt/portal/legalAct/lt/TAD/27107170d04511e8a82fc67610e51066?jfwid=-ub28x8e9q.
[22] https://www.nrdcs.lt/en/.
[23] IntEye – Open Source Intelligence gathering and analysis system, which will be using several AI modules to continuously learn from the user and proactively search for the most relevant information online.
[24] CySystem – solution, which will help monitor cyber space, promptly identify and alert about abnormalities in networks.

Integration of digital technology in Lithuania's Recovery and Resilience Plan
The Recovery and Resilience Plan includes measures to advance the integration of digital technology such as: • Developing and deploying digital innovation (EUR 15 million) leading to 184 contracts to support the digital innovation in AI, blockchain technologies and robotics process automation. • Opening and re-use of cultural and cultural heritage content for added value (EUR 26 million). • Creation of an ICT Competence Centre. • Fostering participation in Horizon Europe and other European programmes which could support the digital transition. Innovation activities in the Lithuanian RRP under the heading of digital innovation will link with the European Digital Innovation Hubs multi-country project.

4 Digital public services

4 Digital public services	Lithuania		EU
	rank	score	score
DESI 2021	12	78.0	68.1



	Lithuania			EU
	DESI 2019	DESI 2020	DESI 2021	DESI 2021
4a1 e-Government users % internet users	63% 2018	67% 2019	69% 2020	64% 2020
4a2 Pre-filled forms Score (0 to 100)	NA	NA	89 2020	63 2020
4a3 Digital public services for citizens Score (0 to 100)	NA	NA	73 2020	75 2020
4a4 Digital public services for businesses Score (0 to 100)	NA	NA	96 2020	84 2020
4a5 Open data % maximum score	NA	NA	86% 2020	78% 2020

Lithuania ranks 12th in the EU on digital public services. On digital service for businesses (DESI score 96 out of 100), Lithuania is 4th in the EU, performing well above the average. However, on digital services for citizens (73 points out of 100) its performance is slightly lower. The gradual growth in e-Government users shows that people are embracing digital public services, currently at 69% and above the EU average. That trend is also visible in pre-filled forms, where Lithuania performs far above the EU average, coming in 4th in the EU. The country's ranking in digital public services for businesses is similar.

The Electronic Government Gateway[25] aims to be a single access point to Lithuanian e-government services, in line with the 'once-only' principle (OOP), and operating through the State Information Resources Interoperability Platform and the Public Administration Institutions' Information System. The gateway links with information systems for legislative information, courts, taxation, e-health, education, municipal institutions, etc. In 2020, the gateway integrated over 600 e-services.

The Register of Legal Acts (TAR)[26] is used to register and publish legal acts, their consolidated versions, anonymised rulings and international treaties. Residents are involved in decision-making processes through the E.citizen platform[27], an electronic service provided by the Lithuanian Government, and through similar digital services provided by municipalities. These systems are publicly available and usually free of charge.

Lithuanian courts make wide usage of the e.teismas.lt e-services portal[28]. In 2020, around 80% of all civil and administrative cases were managed only electronically, including paying fees, submitting

[25] https://www.epaslaugos.lt/portal/.
[26] https://www.e-tar.lt/portal/en/index.
[27] https://epilietis.lrv.lt/.
[28] https://e.teismas.lt/lt/public/home/.

and distributing procedural documents, accessing data on a particular case, and issuing and implementing court orders.

The e-accounting system of the State Tax Inspection[29] allows SMEs and the self-employed to use simplified accounting services using pre-filled forms with the tax inspection's data and streamlining tax collection.

Lithuania is a member of the European Blockchain Partnership. It has set up its own node of the European Blockchain Services Infrastructure (EBSI) with the goal of identity management, trusted and verifiable sharing of data as part of the 'DLTnode' project, which is developing a support system for the node, training public institutions, sharing good experiences, communicating with state institutions and discussing possible use cases.

The 2014–2025 National Health Strategy[30] plans to complete the country's e-health system and its integration with EU e-health systems. The esveikata.lt[31] portal, in line with the 'One patient – one health history' principle, links to the central e-health system (ESPBI IS) and allows services such as registering for on-site and online medical consultations or receiving the EU digital COVID certificate.

During the COVID-19 crisis, most medical consultations took place online. The number of electronic prescriptions grew to 99.8%, hospital discharge records to 84%, and outpatient visits and electronic referrals to 100%. Sets of open health data are planned to be provided by ESPBI IS to the National Open Data Portal[32], which aims to become an integral part of the EU Open Data Portal[33].

Lithuania is well advanced in public digital services. However, more user-friendly and easily accessible e-services for the public and businesses could lead the way to greater improvements in digital public administration. A better integration and orchestration of e-services would help the public and businesses find the services they need and help government bodies to set up the new services and automate the existing ones.

Highlight 2020-2021: GovTech Lab[34]

To ensure increased uptake of innovative digital solutions in the public sector, Lithuania has set up the GovTech Lab, an initiative giving start-ups and innovative tech companies access to public-sector bodies so that they can help meet the challenges such bodies fac.

The GovTech Lab focuses on three key activities:

1. matching public-sector tech challenges with ideas from the community of innovators
2. accelerating GovTech startups - from idea to pilot solution to scaling
3. building GovTech community locally and internationally.

GovTech Challenge Series is designed to solve public-sector challenges that do not have a clear answer. In 2020 the Govtech lab brought together 13 start-ups, 7 co-creator companies and a university, solving 10 problems raised by 15 public-sector institutions:

1. automating illegal content detection on the internet
2. supervising trust service providers in an innovative way

[29] https://imas.vmi.lt/isaf/.
[30] https://e-seimas.lrs.lt/rs/legalact/TAD/608a896236f811e6a222b0cd86c2adfc/.
[31] https://www.esveikata.lt/.
[32] https://data.gov.lt/.
[33] https://data.europa.eu/en.
[34] https://govtechlab.lt/.

3. matching green consumers and green products
4. creating a real-time satellite image of Lithuania
5. detecting unsafe products on the web
6. creating the public health monitoring tool for a school
7. detecting and monitoring hate speech on the internet
8. verifying facial images quickly and reliably
9. automatically logging plane movements in airports
10. automating supervisory data collection for the Bank of Lithuania.

Digital public services in Lithuania's Recovery and Resilience Plan

The Lithuanian Recovery and Resilience Plan should launch the next generation of digital public services. A high number of measures has been planned, such as:

- Implementing and monitoring 15 public services digitisation projects (EUR 115 million), which should aim at convenience and interactivity for end users, as a result of using advanced technologies such as artificial intelligence and data analytics.
- Developing the public cloud infrastructure (EUR 95 million). This would enable the launch of the Open Data and Digital Transformation Competence Centre and the implementation of a data management model and dedicated data exhange tool to integrate 376 information resources.
- Digitalising the health sector (EUR 85.7 million), which would allow 60% of the population to receive health-related e-services and 70% to use personalised e-health facilities and/or products, as well as to digitally supervise 50% of healthcare professional licences.
- Launching a digital employment platform (EUR 7.1 million).
- Rolling out genome sequencing infrastructure, which should allow for 1,570 sequencing tests for the whole human genome, contributing to the Genome of Europe multi-country project.
- New digital public ICT solutions, which should enable the practical use of e-invoices and e-consignments.
- At least 60% of people with disabilities should be satisfied with digital public services.