



Digital Economy and Society Index (DESI)

2019 Country Report

Latvia

About the DESI

The European Commission has been monitoring Member States' digital competitiveness with the Digital Economy and Society Index (DESI) reports since 2015. The set of reports includes both country profiles and thematic chapters.

The DESI country reports combine quantitative evidence from the DESI indicators across the five dimensions of the index with country-specific policy insights and best practices. An in-depth telecoms chapter is annexed to the reports for each Member State.

The thematic chapters present a European-level analysis of broadband connectivity, digital skills, use of the internet, digitisation of businesses, digital public services, the ICT sector and its R&D spending, and Member States' use of Horizon 2020 funds.

To improve the methodology and take account of the latest technological developments, a number of changes have been made to the DESI for 2019. The DESI now covers:

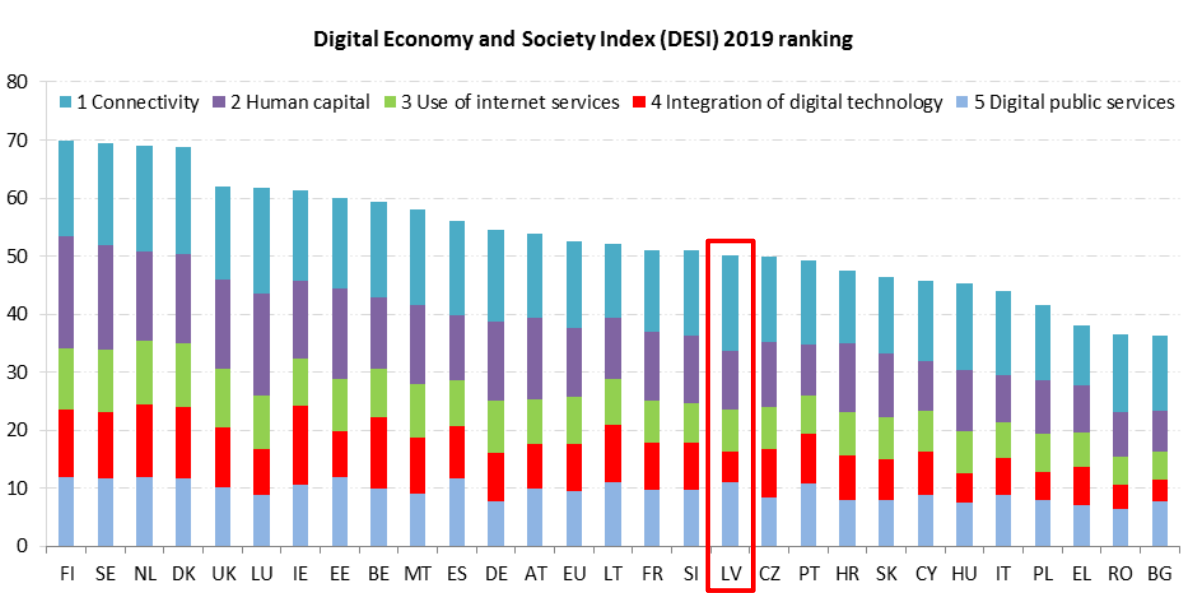
- *5G readiness,*
- *Above basic digital skills,*
- *At least basic software skills,*
- *Female ICT specialists,*
- *ICT graduates,*
- *People who never used the internet,*
- *Professional social networks,*
- *Doing an online course,*
- *Online consultations and voting,*
- *Individuals selling online,*
- *Big data,*
- *Medical data exchange and*
- *e-Prescriptions.*

The DESI was re-calculated for all countries for previous years to reflect the above changes in the choice of indicators and corrections to the underlying data. Country scores and rankings may thus have changed compared with previous publications.

For further information, please consult the DESI website: <https://ec.europa.eu/digital-single-market/en/desi>.

Latvia overview

	Latvia		EU
	rank	score	score
DESI 2019	17	50.0	52.5
DESI 2018	18	46.9	49.8
DESI 2017	19	43.1	46.9

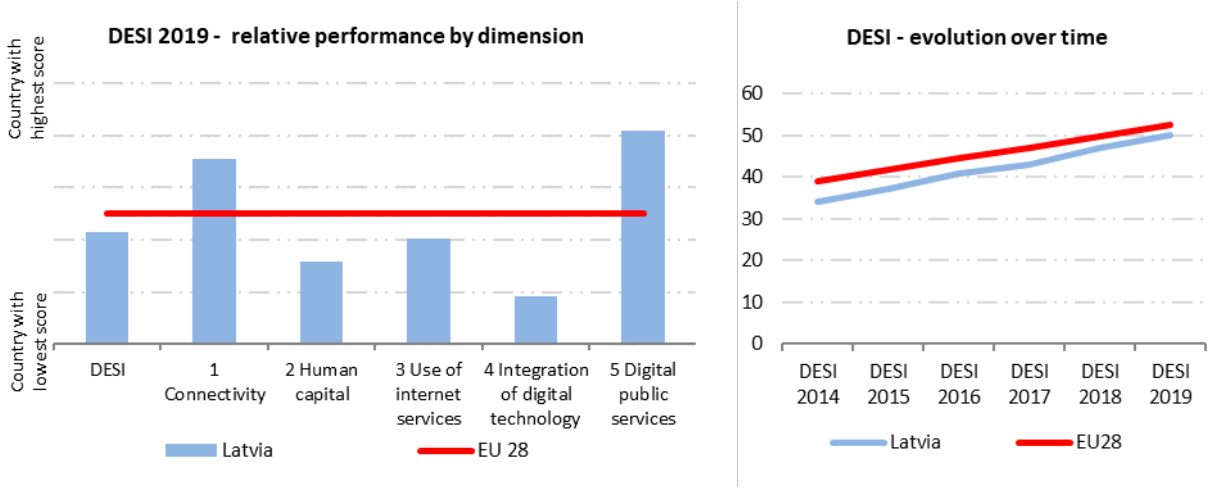


Latvia ranks 17th out of the 28 EU Member States in the European Commission Digital Economy and Society Index (DESI) 2019.

Its score increased due to a slightly improved performance in some of the DESI dimensions. Latvia performs well in Digital public services and Connectivity thanks to the wide availability of fast and ultrafast fixed and mobile broadband networks and the increased take-up of e-government services. However, the Latvian business sector still scores below the EU average on the Integration of digital technology and also on the Human capital dimension. Nearly half the population still lacks basic digital skills and the supply of ICT specialists has not kept pace with growing demand in the labour market. Latvia has made most progress with Digital public services. However it is a long way behind as regards the Use of digital technologies by businesses, with Latvian enterprises failing to make use of the opportunities offered by e-commerce. They are also far below the EU average in their use of social media.

Among all dimensions, Latvia scores best in e-government. Progress is driven by the growing number of Latvians who actively use e-government services and by the increased availability of pre-filled forms and open data.

The current Latvian Digital Agenda Strategy dates from 2013, when the Latvian government approved the Information Society Development Guidelines for 2014-2020¹, which cover: ICT education and skills; internet access; modern and efficient public administration; e-services and digital content for society; cross-border cooperation for the digital single market; ICT research and innovation; and trust and security. Further measures are also included in the Education Development Guidelines 2014–2020²; in the Latvia’s Cyber Security Strategy³ - which should be updated as of 2019-; in the National Industry Policy guidelines for 2014-2020⁴; and, finally, in the Science, Technology Development and Innovation Framework for 2014-2020⁵.



¹ <http://polsis.mk.gov.lv/documents/4518>

² <https://likumi.lv/doc.php?id=266406>

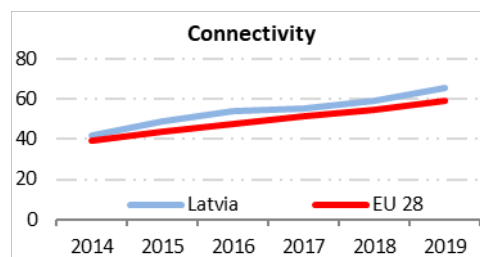
³ <http://polsis.mk.gov.lv/documents/4642>

⁴ <http://polsis.mk.gov.lv/documents/4391>

⁵ <http://polsis.mk.gov.lv/documents/4608>

1 Connectivity

1 Connectivity	Latvia		EU
	rank	score	score
DESI 2019	8	65.3	59.3
DESI 2018	8	58.8	54.8
DESI 2017	10	55.1	51.2



	DESI 2017	Latvia		EU	
	value	DESI 2018	DESI 2019	rank	DESI 2019
1a1 Fixed broadband coverage % households	93% 2016	93% 2017	94% 2018	22	97% 2018
1a2 Fixed broadband take-up % households	61% 2016	64% 2017	60% 2018	25	77% 2018
1b1 4G coverage % households (average of operators)	91% 2016	98% 2017	98% 2018	9	94% 2018
1b2 Mobile broadband take-up Subscriptions per 100 people	78 2016	92 2017	123 2018	6	96 2018
1b3 5G readiness Assigned spectrum as a % of total harmonised 5G spectrum	NA	NA	33% 2018	3	14% 2018
1c1 Fast broadband (NGA) coverage % households	91% 2016	92% 2017	93% 2018	8	83% 2018
1c2 Fast broadband take-up % households	38% 2016	42% 2017	40% 2018	16	41% 2018
1d1 Ultrafast broadband coverage % households	NA	88% 2017	90% 2018	6	60% 2018
1d2 Ultrafast broadband take-up % households	29% 2016	35% 2017	32% 2018	8	20% 2017
1e1 Broadband price index Score (0 to 100)	86 2016	87 2017	87 2018	10	87 2017

Latvia performs above the EU average on the overall connectivity indicator and has maintained a comparable pace of progress in line with the EU average over the last few years. The country's main strengths are the extremely advanced coverage of ultrafast broadband (with 90 % of households covered, against 60 % in the EU as a whole), coupled with the relatively good take-up of such connections (32 % of households, against 20 % in the EU as a whole). 4G in Latvia covers nearly 100 % of households. Mobile broadband take-up is substantially above the EU average and it further improved considerably in 2018, reaching 123 subscriptions per 100 people. In contrast, Latvia is tailing the EU in fixed broadband coverage (94 % of households, against 97 % at EU level) and its related take-up (60 %, against 77 % at EU level), owing to a persistent gap in some rural areas. Broadband prices in Latvia are in line with the EU average.

Latvia's national broadband plan for 2013-2020 includes the same broadband targets as the rest of the EU. The gigabit society objectives have been integrated into the 2018-2020 national policy plan for the electronic communications sector and will be integrated into the next broadband policy document covering the post-2020 period. The country is among the EU's front runners as regards the

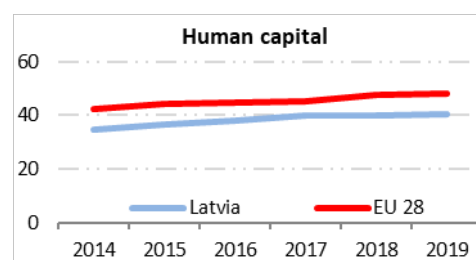
deployment of very high-speed infrastructure. Total fibre-to-the-premises (FTTP) coverage stood at 88 % of Latvian households in 2018, against 30 % in the EU as a whole. Closing the digital divide between urban and rural areas has been the objective of the 'middle mile' project deploying fibre (in particular backhaul infrastructures) up to the last mile in white areas. Latvia now has the highest fibre-to-the-premises (FTTP) coverage in the EU in rural areas (73.6 %, against 14 % for the EU as a whole). However, deploying the last mile in a number of white areas remains a challenge. In 2018, 16 % of rural households completely lacked fixed broadband infrastructure (against fewer than 13 % of rural households in the EU as a whole). Mobile operators are clearly important market players for deploying wirelessly the last mile and home connections over 4G technology.

Latvian authorities are working on a national 5G roadmap. First 5G trials in the 26 GHz band were presented at the 5G regional conference (5G Techritory), hosted in Riga in September 2018. Mobile operators will start deploying 5G in 2019 in the 3.4-3.8 GHz band, which is now fully assigned on technical conditions suitable for 5G. The assignment process has enabled the acquisition of large blocks of spectrum, facilitating the provision of gigabit 5G services at reasonable prices (the maximum price paid is EUR 0.65/pop.MHz). This has enabled Latvia to do well as regards the 5G readiness indicator (with 33 % of the 5G spectrum assigned, against an EU average of 11 %). The first use of 5G in 2019 is likely to be home or office wireless internet. In September 2018, Estonia, Latvia and Lithuania signed a memorandum of understanding and intentions, in which they agreed to make efforts to gradually deploy the 4G+, 4G ++ and finally 5G network along the section of the Via Baltica (E67) that links Tallinn (EE) with Riga (LV), Kaunas (LT), and the Lithuanian-Polish border. There are plans to auction the 700 MHz band in early 2021 and it will be used for 5G from 1 January 2022. The reason for the two-year delay is that that band is currently being used for TV broadcasting and frequency coordination with Russia. It is planned that the sub-700 MHz band will be used for digital-terrestrial-transmission (DTT) operations. 47 % of the spectrum harmonised at EU level for wireless broadband has been assigned so far in Latvia.

Latvia is well equipped with very high-speed fixed network infrastructure, has near-complete 4G coverage of households, and is prepared for early 5G deployment in the 3.4-3.8 GHz band. However, deploying the last mile in a number of remaining white areas remains a challenge. In the medium to long term, access to and the renting of property in order to install the many base stations required for 5G might hinder 5G deployment.

2 Human capital

2 Human capital	Latvia		EU
	rank	score	score
DESI 2019	21	40.4	48.0
DESI 2018	21	40.0	47.6
DESI 2017	20	40.1	45.4



	DESI 2017	Latvia		DESI 2019	EU
	value	DESI 2018	DESI 2019	rank	DESI 2019
2a1 At least basic digital skills	50%	48%	48%	22	57%
% individuals	2016	2017	2017		2017
2a2 Above basic digital skills	27%	27%	27%	20	31%
% individuals	2016	2017	2017		2017
2a3 At least basic software skills	52%	49%	49%	25	60%
% individuals	2016	2017	2017		2017
2b1 ICT specialists	2.2%	2.2%	2.3%	23	3.7%
% total employment	2015	2016	2017		2017
2b2 Female ICT specialists	1.1%	1.1%	1.0%	19	1.4%
% female employment	2015	2016	2017		2017
2b3 ICT graduates	4.0%	4.4%	4.8%	7	3.5%
% graduates	2014	2015	2016		2015

As regards Human capital, Latvia ranks 21st among EU countries and below the EU average, with indicators showing no relevant progress in the last few years. Although increasing numbers of Latvians are going online, basic and advanced digital skills levels remain well below the EU average. Only 48 % of people have basic digital skills (57 % in the EU as a whole) and the gap between Latvia and other EU countries is even wider for advanced skills. Despite the slight increase in the percentage of ICT specialists since 2017, they account for a smaller proportion of the workforce than in the rest of the EU (2.3 % against 3.7 % in the EU as a whole). However, Latvia is successful in producing ICT graduates: there has been a constant increase, well above the EU average (to 4.8 % of all graduates, compared to 3.5 % in the EU). Female ICT specialists, however, account for a mere 1 % of female employment, below the EU average of 1.4 %.

Latvia's digital skills policies are not part of an independent strategy, rather, they fall under a set of different strategies that include aspects of digital skills. The main measures fall under the following: 1) the Information Society Development Guidelines for 2014-2020, which include ICT Education and E-Skills; 2) the Education Development Guidelines for 2014-2020 including numerous measures to promote and update digital skills and STEM studies, the use of ICT in the learning process and the development of teachers' digital skills; 3) Latvia's Cyber Security Strategy for 2014 – 2018, with a separate section of the Action Plan promoting digital skills and research in cybersecurity, including the development of bachelor academic study programmes on cybersecurity.

The 2018 E-Skills Week⁶, an annual awareness raising campaign reached a total of 128,000 people across Latvia, with 3,028 events held and 300 partners involved across the country. 2018 also saw 100 Code Week events across Latvia involving 5,000 participants and 47 participating schools.

ICT programmes in Latvia are an integral part of active labour market policies to support unemployed people. They play an essential role in reducing ICT skills gaps for older workers, unemployed and job seekers. In 2018, the state employment agency provided courses on digital skills for approximately 3,800 unemployed people. Other measures target specific industrial sectors. Support for technology training was provided to 10 industry associations to promote training of employees with a view to facilitating the adoption of digital technologies and innovation by businesses in the manufacturing, ICT and tourism industries. Another example is the Latvian Information and Communication Technology Association (LIKTA⁷) which implemented a high-level ICT course in the latest technology for over 1,600 ICT specialists. LIKTA is also the coordinator of the Latvian Digital Skills and Jobs Coalition, whose partners, including several government ministries, signed a new memorandum of cooperation in 2017 defining the coalition's priorities for 2017-2020⁸.

Despite the rising numbers of ICT graduates and the associated policy efforts, such as the activities supported by the Digital Skills and Jobs Coalition, Latvia would benefit from further sustaining motivation for life-long learning, raising awareness of the relevance of digital skills in the labour market and encouraging enterprises to invest in these skills. Higher levels of digital skills among the general public will make the country's labour market more inclusive while also boosting business productivity.

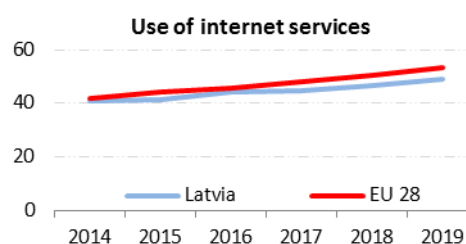
⁶ <http://www.e-prasmes.lv/>

⁷ <https://likta.lv/en/home-en>

⁸ <http://eprasmes.lv/wp-content/uploads/2017/03/Memorands-27.03.2017-PUBLIC.pdf>

3 Use of internet services

3 Use of internet services	Latvia		EU
	rank	score	score
DESI 2019	17	49.1	53.4
DESI 2018	16	46.7	50.7
DESI 2017	17	44.9	47.8

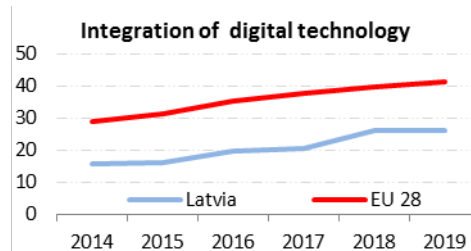


	DESI 2017	Latvia		EU	
	value	DESI 2018	DESI 2019	rank	DESI 2019
3a1 People who never used the internet % individuals	17%	16%	13%	14	11%
3a2 Internet users % individuals	77%	78%	81%	15	83%
3b1 News % internet users	84%	84%	84%	11	72%
3b2 Music, videos and games % internet users	77%	77%	76%	20	81%
3b3 Video on demand % internet users	15%	15%	15%	20	31%
3b4 Video calls % internet users	51%	51%	62%	6	49%
3b5 Social networks % internet users	71%	74%	74%	12	65%
3b6 Professional social networks % internet users	5%	7%	7%	24	15%
3b7 Doing an online course % internet users	5%	5%	5%	24	9%
3b8 Online consultations and voting % internet users	4%	6%	6%	18	10%
3c1 Banking % internet users	78%	75%	79%	6	64%
3c2 Shopping % internet users	55%	55%	53%	20	69%
3c3 Selling online % internet users	7%	10%	11%	22	23%

Overall, the Use of internet services in Latvia is slightly below the EU average. People in Latvia are keen to engage in some online activities, just as in the rest of the EU. The most popular online activities are: reading the news and banking; 84 % of Latvian internet users read news online, compared with 72 % in the EU as a whole. Although Latvians have recourse to online banking more than the EU average (79 % bank online), shopping and selling online are less widespread than in other EU countries. Use of professional social networks (7 %) and online courses (5 %), are also below the EU average. The highest growth has been in video calls, with an increase of 11 percentage points to 62 % of Latvian internet users. This figure is well above the average in other EU countries.

4 Integration of digital technology

4 Integration of digital technology	Latvia		EU
	rank	score	score
DESI 2019	24	25.9	41.1
DESI 2018	25	26.1	39.6
DESI 2017	26	20.6	37.6



	DESI 2017	Latvia	DESI 2019	EU
	value	DESI 2018	value rank	DESI 2019
4a1 Electronic information sharing % enterprises	16% 2015	25% 2017	25% 24 2017	34% 2017
4a2 Social media % enterprises	11% 2016	13% 2017	13% 25 2017	21% 2017
4a3 Big data % enterprises	NA 2016	NA 2016	8% 23 2018	12% 2018
4a4 Cloud % enterprises	6% 2016	9% 2017	11% 24 2018	18% 2018
4b1 SMEs selling online % SMEs	8% 2016	11% 2017	10% 25 2018	17% 2018
4b2 e-Commerce turnover % SME turnover	8% 2016	9% 2017	5% 24 2018	10% 2018
4b3 Selling online cross-border % SMEs	4% 2015	5% 2017	5% 25 2017	8% 2017

On Integration of digital technology by businesses, Latvia ranks 24th among EU countries, well below the EU average. Latvia succeeded in advancing one rank compared to last year, but has not made any significant progress, with the exception of the slight increase in the proportion of Latvian enterprises taking advantage of the opportunities offered by cloud computing (11 % of enterprises use cloud services, compared with 18 % in the EU). Latvian enterprises continue to significantly underexploit the potential of online selling of goods and services, remaining considerably below the EU average in e-commerce among SMEs and related levels of turnover. Only 10 % of SMEs sell online, slightly less than in 2017 and below the EU average of 17 %. The percentage of SMEs selling cross-border remains below the EU average (only 5 % of total SMEs, against 8 % in the EU as a whole) and only an average of 5 % of SMEs turnover comes from the online segment. Only 13 % of enterprises use social media, while 8 % use big data.

Latvia is committed to making progress with new digital technologies and to investing strategically in digital technologies through EU-coordinated programmes. For instance, the country is a member of the EuroHPC Joint Undertaking; it has also signed the Declaration on European Blockchain Partnership, and the Declaration on Cooperation on Artificial Intelligence. An artificial intelligence strategy is being developed and a revision of the cyber strategy is planned in 2019.

Initiatives to boost digital innovations and promote use of digital technologies include developing Competence Centres and a strategic project to develop the Smart City Ecosystem. The existing 8 Competence Centres, established in the areas of the Latvia's smart specialization strategy for an

overall investment of EUR 67 million, cover 175 projects and 138 enterprises, financed through EU funding. They promote innovation in Latvia through joint development of products and processes by companies and scientific institutions. Latvia also established a Single Technology Transfer centre, as part of the Investment and Development Agency of Latvia, to foster industry-science cooperation and commercialisation of public research.

Further improvements in the integration of digital services by businesses might also be limited by the shortage of skilled professionals and a persistently low proportion of ICT specialists. 56 % of enterprises that recruited or tried to recruit ICT specialists reported find it hard to fill their vacancies⁹. Additionally, only 11 % of enterprises provide staff with training to develop and upgrade their ICT skills, a figure that is significantly below the EU average of 23 %.

To address entrepreneurs' reluctance to use ICT solutions, the Interreg SKILLS +project¹⁰ is expected to provide entrepreneurs with new training modules to encourage SMEs to develop digital strategies and improve productivity and competitiveness. Additional measures also focus on ICT skills among SMEs in rural areas, promoting the development of Industry 4.0, providing support through innovation vouchers and speeding up industry digitisation through cooperation in the Baltic Sea region.

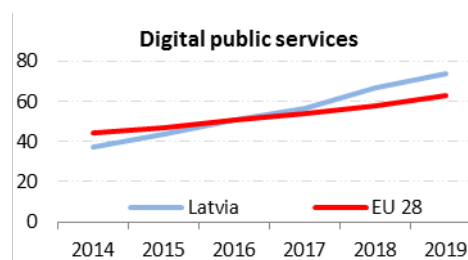
To boost the digital transformation of the Latvian economy, it is important to further raise awareness of the importance of digitisation in SMEs and to step up existing efforts, to enable the full range of benefits to be reaped from the adoption of digital technologies by businesses.

⁹ Digital Scoreboard, 2019

¹⁰ <https://www.interregeurope.eu/skillsplus/>

5 Digital public services

5 Digital public services	Latvia		EU
	rank	score	score
DESI 2019	7	73.7	62.9
DESI 2018	8	66.7	57.9
DESI 2017	13	56.1	54.0



	Latvia		EU	
	DESI 2017 value	DESI 2018 value	DESI 2019 value	DESI 2019 rank
5a1 e-Government users % internet users needing to submit forms	69%	77%	81%	8
5a2 Pre-filled forms Score (0 to 100)	58	71	83	4
5a3 Online service completion Score (0 to 100)	91	91	94	9
5a4 Digital public services for businesses Score (0 to 100) - including domestic and cross-border	93	93	91	10
5a5 Open data % of maximum score	NA	NA	66%	12
5b1 e-Health services % individuals	NA	14%	14%	17
5b2 Medical data exchange % of general practitioners	NA	NA	21%	22
5b3 e-Prescription % of general practitioners	NA	NA	91%	8

As regards Digital public services, Latvia ranks seventh in the EU. This is the only area where it is well above the EU average. The country's progress in this area is particularly noteworthy, with a significant improvement in the last two years driven by: (i) increased use of e-government; (ii) the availability of pre-filled forms; and (iii) the availability of open data. There is a high level of online interaction between public authorities and citizens: a growing number of Latvians use e-government services, which reach 81 % of internet users, well above the EU average. Latvia performed better in 2018 than in the previous year as regards pre-filled forms, coming fourth in the EU with 83 out of 100 and in online service completion, scoring 94 out of 100. However, the country is slightly less advanced in e-government services for business. In this area it scores 91 out of 100 – above the EU average of 85 out of 100 – making it the EU's 10th best performer. In e-health services, it ranks 17th in the EU, with 14 % of Latvians having used health and care services provided online. 91 % of general practitioners use e-prescriptions, but only 21 % exchange medical data, below the EU average of 43 %.

The implementation of the Data driven nation action plan¹¹ in 2018 increased the availability of open data and data available for payment and improved the usability of the open data portal through new

¹¹<https://joinup.ec.europa.eu/document/cooperation-data-driven-nation-development-latvia>:
https://www.mk.gov.lv/sites/default/files/editor/ddn_plans_12.09_0.pdf

technical features to enable data and technology based innovative products and services. 2018 saw additional efforts to make public administration more effective through the efficient use of cloud computing as part of the newly approved Cloud Computing strategy¹².

From January 2019 official e-addresses have been implemented for digital-by-default communication with citizens and businesses. Users can activate through a single click a 100 % digital communication with any local and national government institution. There are also innovative e-government projects, such as an artificial intelligence based virtual digital assistant service offered by the Register of Enterprises¹³ and the state-owned free machine translation platform for Latvian¹⁴ (*hugo.lv*).

Latvia has implemented a centralised national information e-health system, which provides the patient's electronic health care record for everyone living in the country. Since 2018 e-prescriptions have been mandatory for all doctors and pharmacies, and sick-leave certificates are issued only electronically. The e-health system ensures processing and circulation among employees, health care and social insurance institutions, thus reducing the administrative burden associated with the processing of doctors' certificates on paper. Patients and health professionals can consult dedicated helplines services. The number of medical e-documents has increased in 2018, though this is not yet reflected by the DESI indicator.

Latvia is advancing in the area of digital public administration and additional progress is expected from the planned broader implementation of the digital-by-default approach in public service provision and the communication and training campaigns planned. Building on existing efforts, further promoting cross-sectoral partnership should make it possible to create data-driven innovative products and services, bringing additional positive results.

Highlight 2019: Communication and training programme My Latvija.lv! Do it digitally¹⁵!

In April 2018 Latvia launched a triannual comprehensive communication and training programme called - '*My Latvija.lv! Do it digitally!*' - to encourage the general public to use government e-services and to inform people about online services and the benefits of eID.

The programme involves developing a 'digital friendly' visual identity, extensive information and training activities, national and regional events, and training for at least 6,000 national and local government officials, teachers, librarians and journalists, to improve their knowledge of digital solutions, so they can help people make the transition from on-site services to digital services. To promote a better understanding of digital solutions, video tutorials involving description of typical life situations have been developed. The programme includes advertising, marketing and public relations. It provides information about more than 500 e-services and brings together over 30 government institutions in a cooperative effort.

¹² <http://tap.mk.gov.lv/lv/mk/tap/?pid=40441825&mode=mk&date=2018-02-20>

¹³ <https://www.ur.gov.lv/en/>; <https://www.tilde.com/news/virtual-assistant-una-developed-tilde-helps-win-international-quality-awards-2018>

¹⁴ <https://hugo.lv/en>; <https://joinup.ec.europa.eu/document/latvian-automated-translation-service>

¹⁵ <https://mana.latvija.lv/situacijas/>