Digital Decade Country Report 2024:

Latvia

Contents

Executive summary

Latvia has untapped potential to contribute to the EU's Digital Decade objectives and targets, in view of a successful digitalisation that fosters competitiveness, resilience, sovereignty, European values and climate action.

In 2023, Latvia made notable progress in the digitalisation of SMEs, the overall uptake of cloud and in the digitalisation of public services for businesses. However, particularly important **challenges persist** in improving citizens digital skills and strengthening the overall connectivity infrastructure, both gigabit and 5G.

Digitalisation is a priority for the Latvian authorities. It is included in several national strategies such as the **Digital Transformation Guidelines 2021-2027**, **Electronic Communications Sector Development Plan for 2021-2027**, **National Industrial Policy Guidelines (2021-2027)** and **National Development Plan 2021-2027**. Latvia ranks below the EU average for digital infrastructures, **despite** showing a strong annual growth. Latvia is progressing in the digitalisation of public services for **citizens** and **enterprises**, while at the same time falling **below** the EU average in basic digital skills, digitalisation of SMEs.

According to the **Special Eurobarometer 'Digital Decade 2024'[1],** 78% of Latvians consider that the digitalisation of daily public and private services is making their life easier, which is above the EU average of 73%.

Latvia is a member of the existing **Alliance for Language Technologies EDIC** (ALT EDIC) and Local Digital Twins towards **CitiVERSE EDIC** and is engaging in discussion on the setting up of Cancer Image Europe (EUCAIM) EDIC with an informal working group. The country also participates with indirect participants in the IPCEI Next Generation Cloud Infrastructure and Services[2].

The Latvian RRP dedicates 23% of the plan to foster the digital transition (EUR 416 million)[3] with a focus on improving basic digital skills, increasing the uptake of digital solutions, and the number of ICT specialists. Under Cohesion Policy, an additional EUR 0.5 billion (11% of the country's total Cohesion Policy funding) is allocated to the country's digital transformation[4].

[1] Special Eurobarometer 551 on 'the Digital Decade' 2024: https://digital-strategy.ec.europa.eu/en/news-redirect/833351

[2] Information last updated on 31 May 2024.

[3] The share of financial allocations that contribute to digital objectives has been calculated using Annex VII to the Recovery and Resilience Facility Regulation.

[4] This amount includes all investment specifically aimed at or substantially contributing to digital transformation in the 2021-2027 cohesion policy programming period. The source funds are the European Regional Development Fund, the Cohesion Fund, the European Social Fund Plus, and the Just Transition Fund.

Digital Decade KPI [1]	Latvia			EU		Digital Decade target by 2030	
	DESI 2023	DESI 2024	Annual progress	DESI 2024 (year 2023)	Annual progress	**LV**	**EU**
Fixed Very High-Capacity Network (VHCN)	62.7%	71.5%	13.9%	78.8%	7.4%	53%	100%
Fibre to the Premises (FTTP) coverage	60.9%	61.9%	1.6%	64.0%	13.5%	x	-
Overall 5G coverage	42.0%	53.1%	26.5%	89.3%	9.8%	70%	100%
Semiconductors		NA					
Edge Nodes		3		1 186		x	10 000
SMEs with at least a basic level of digital intensity	38.1%	48.2%	12.5%	57.7%	2.6%	90%	90%
Cloud	22.2%	29.0%	14.3%	38.9%	7.0%	75%	75%
Artificial Intelligence	3.7%	4.5%	10.3%	8.0%	2.6%	75%	75%
Data analytics	NA	36.9%	NA	33.2%	NA	75%	75%
AI or Cloud or Data analytics	NA	48.2%	NA	54.6%	NA		75%
Unicorns		0		263		2	500
At least basic digital skills	50.8%	45.3%	-5.5%	55.6%	1.5%	70%	80%
ICT specialists	4.4%	4.4%	0.0%	4.8%	4.3%	10%	~10%
e ID scheme notification		Yes					
Digital public services for citizens	87.2	88.2	1.2%	79.4	3.1%	100	100
Digital public services for businesses	85.8	87.2	1.6%	85.4	2.0%	100	100
Access to e-Health records	78.8	84.8	7.6%	79.1	10.6%	100	100

[1] See the methodological note for the description of the indicators and other descriptive metrics.

National digital decade strategic roadmap

With respect to **Latvia's** contribution to the Digital Decade reflected in its roadmap, it is demonstrating **a high ambition** and, based on this document, intends to allocate **significant effort** to achieve the Digital Decade objectives and targets.

The roadmap is overall ambitious and coherent including on objectives but with some weaknesses in the digitalisation of enterprises. The roadmap covers all objectives of the Digital Decade such as a human centred digital space, resilience and security, sovereignty, green, and protection of the society with a high level of ambition, especially on the human centricity, and sovereignty.

The roadmap includes all 2030 KPIs provides limited information on progress for **semiconductors, edge nodes and FTTP**. All, but three national targets (basic digital skills, gigabit and 5G connectivity) are aligned with EU 2030 targets. The roadmap does not provide a national target nor trajectory on FTTP nor edge nodes. In total, the roadmap presents 47 measures.

A public consultation on the roadmap resulted in extensive feedback including from the social partners and non-governmental organisations (NGOs). Latvia has taken this feedback, and the Commission's recommendations from the 2023 report on the Digital Decade into account in the version submitted.

The roadmap's total budget **is estimated at EUR 1 539 million** (about 4.5% of its GDP) with priorities set on developing unicorns, SME take-up and take-up of cloud/AI/big data. Some aspects require further effort, especially in raising the level of digital skills.

Recommendations for the roadmap

Latvia should, when submitting adjustments to its national roadmap in accordance with Article 8(3) of the DDPP Decision:

- **TARGETS:** (i) Propose a target and trajectory for FTTP and edge nodes. (ii) Align the level of ambition of targets for at least basic digital skills, VHCN, and 5G with the EU targets.
- **MEASURES:** (i) Strengthen measures and increase funding for at least basic digital skills, VHCN, and 5G to be able to align its national targets with the Digital Decade target. (ii) Increase funding for digitalisation of businesses and digital skills to be able to reach targets for digital intensity of SMEs, uptake of cloud, AI, data analytics, and for ICT specialists. (iii) Provide more information on the implementation of digital rights and principles (and Digital Decade general objectives), including what national measures contribute to it.

Digital rights and principles

The Special Eurobarometer 'Digital Decade 2024' reveals key insights into Latvian perceptions of digital rights. Only 42% of Latvians believe the EU protects their digital rights well, a significant 16-point decrease from last year, and 3 points lower than the EU average. Confidence in digital privacy is at 48%, also 3 points lower than the EU average. Concerns include the safety of digital environments for children (56% concerned) and control over personal data (38% concerned), with a notable decline in confidence. Positive trends include the importance of digital technologies for connecting with friends and family (90%), significantly above the EU average of 83%. The monitoring of the Declaration on Digital Rights and Principles shows that increasing the profile of the Declaration at national level and fostering better stakeholder engagement could help improve outcomes in the years to come[5].

A competitive, sovereign, and resilient EU based on technological leadership

When it comes to reaching a technological leadership for a competitive, sovereign, and resilient EU Latvia is falling behind on connectivity infrastructure, while showing impressive growth and ambition in terms of digital uptake by SMEs. In terms of FTTP coverage, Latvia is below the EU average with an annual growth rate significantly below the EU average. As regards VHCN and 5G coverage, Latvia also falls below the EU average, though in this case the growth rate is more consistent (above the EU average). Latvia has an uphill challenge to establish a good digital infrastructure. In this respect it is focusing on targeted public support measures to deploy of middle and last mile network segments. Latvia is showing progress in semiconductors and quantum computing, while demonstrating extremely limited initiatives in edge nodes. Furthermore, the indicators on the digitalisation of businesses (basic intensity of SMEs and take-up of data analytics, AI, or cloud) all point to a performance below the EU average, however, show a remarkable growth. Latvia is focusing on cybersecurity, demonstrated by the launch of their Cybersecurity Strategy 2023-2026, measures targeting cybersecurity infrastructure and multi-country collaboration, which is especially important due to their geopolitical position.

[5] See SWD 'Digital Decade in 2024: Implementation and perspective' with annexes, SWD (2024)260: https://digital-strategy.ec.europa.eu/en/news-redirect/833325, Annex 4.

Recommendations – Latvia should:

- **CONNECTIVITY INFRASTRUCTURE**: (i) Continue the ongoing efforts to support VHCN, FTTP and significantly increase efforts for 5G rollout, including by fostering private investment and by stimulating take-up. (ii) Ensure sufficient access of new players to spectrum for innovative business-to-business (B2B) and business-to-consumer (B2C) applications and encourage operators to speed up the deployment of 5G stand-alone core networks.
- **CYBERSECURITY:** (i) Implement cyber security classes in the formal education in relevant study programs; (ii) Continue the implementation of the 5G Cybersecurity Toolbox to ensure secure and resilient 5G networks.
- **EDGE NODES:** Consider measures specific to edge nodes deployment, supplementary to the IPCEI-CIS participation.
- **DIGITALISATION OF ENTEPRISES:** Establish and sustain ambitious initiatives to further increase the digitalisation of SMEs.
- **CLOUD/AI/DATA ANALYTICS:** (i) Continue, expand, and accelerate public and private investments in the uptake of Cloud/AI/Data analytics. (ii) Support the broad uptake of the next generation of cloud infrastructure and services under development in the IPCEI-CIS by companies of all sizes, including by liaising with the direct participants to develop a country-specific dissemination strategy reaching beyond the participating organisations.

Protecting and empowering EU people and society

Latvia is working towards delivering an inclusive digital transition. This will, however, require sustained and ambitious efforts to increase the level of digital skills of the population. The level of basic digital skills of the population is below the EU average; with a significant decrease compared to last years' report, due to post-COVID-19 effects (i.e., lower usage of ICT tools). Over the last years, Latvia has made the development of digital skills a national priority. The country and has as a result integrated digital skills training at various stages, from early formal and non-formal education, employed people, adult learning, individual learning account approach, and e-learning. It is crucial that Latvia continues, sustains, and increases efforts to improve at least basic digital skills, as this impacts all the digital targets. Latvia is implementing measures specifically targeting girls and women, to boost their basic digital skills and increase the number of female ICT specialists, to maintain their performance above the EU average. The ambition of the EU's Digital Decade will require sustained efforts considering the relatively slow evolution of increase of digital skills. The digitalisation of public services, and development of e-health and e-ID is progressing well, above the EU average.

Recommendations – Latvia should:

- **BASIC DIGITAL SKILLS:** (i) Accelerate measures to further boost digital skills of the population and increase investments. (ii) Focus on implementing measures and digital literacy education for everyone.
- **ICT SPECIALISTS:** Continue existing and implement additional measures targeting various groups to ensure an increase of ICT specialists, and improve gender balance.

- **E-HEALTH:** (i) Ensure that all data types are made available in a timely manner. (ii) Offer a mobile application for citizens to access their electronic health records. (iii) Connect more private rehabilitation centres to the online access service. (iv) Ensure that the online access service complies to web accessibility guidelines.
- **KEY PUBLIC SERVICES:** Ensure coordinated implementation of public services and work towards integration of public records with the view of implementing 'once-only' principle in public administration.

Leveraging digital transformation for a smart greening

Latvia has started to implement green policies in its digital transformation. The 2021-2027 Environmental Policy as well as Green ICT Procurement policy are examples of the interplay **between the** green and digital. However, most of the measures outlined in the Latvian roadmap are **cross-cutting** initiatives that by reduce environmental effects as a by-product, rather than actively targeting them.

Recommendations - Latvia should:

- Develop a coherent approach to twinning the digital and green transitions. First, promote improvements in energy and material efficiency of digital infrastructures, in particular data centres. Second, support the development and deployment of digital solutions that reduce the carbon footprint in other sectors, such as energy, transport, buildings, and agriculture, including the uptake of such solutions by SMEs.
- Monitor and quantify the emission reductions of the deployed digital solutions in line with the relevant EU guidance and with the support of the methodology developed by the European Green Digital Coalition, in view of future policy development, as well as of attracting relevant financing.

A competitive, sovereign and resilient EU based on technological leadership

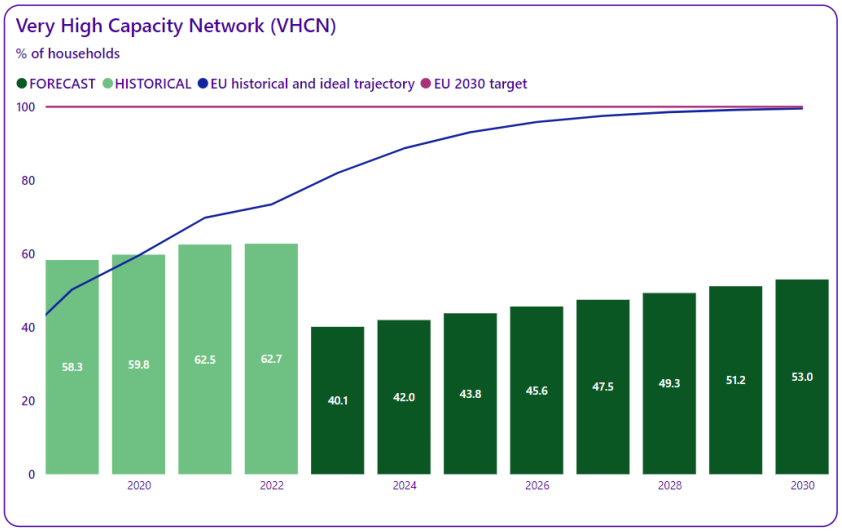
Latvia aims to regain competitiveness through investing in key technologies. Latvia is falling behind in digital infrastructure. The country shows weak performance in the broad uptake by enterprises because the metrics observed in the digitalisation of SMEs with at least basic level of digital intensity and take-up of Artificial Intelligence (AI) and cloud are sub-par. Latvia needs to continue supporting the deployment of future-proof middle and last mile network segments, while at the same time encouraging the digitalisation of its whole business sector, including SMEs and their up-take of AI and cloud to increase its competitiveness.

According to the 2023 Digital Decade Eurobarometer, 81% of Latvians believe that building efficient and secure digital infrastructure including connectivity and data processing facilities should be a priority for public authorities. Additionally, 82% of Latvians believe that increasing research and innovation to develop more robust and secure strong digital technologies should be a priority for public authorities.

Building technological leadership: digital infrastructure and technologies

Latvia is committed to ensuring that everyone has access to affordable and high-speed digital connectivity. While incentivising investment in the context of uneven population distribution will prove to be a challenge, Latvia is showing initiative to bridge the digital divide and provide equal access for all.

Connectivity infrastructure (Gigabit)



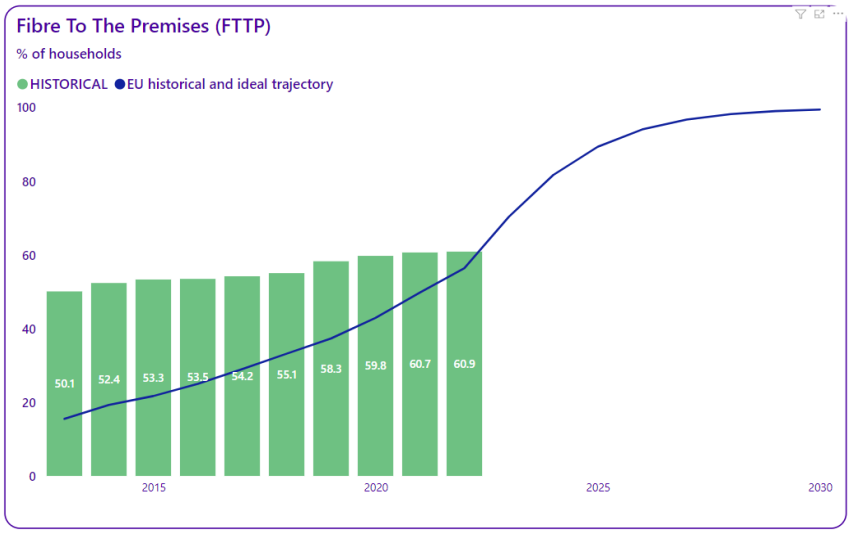
2023 state of play and recent progress

	Country level	EU level
FORECAST	40.1	82.0
DESI 2024	71.5	78.8
AVERAGE ANNUAL GROWTH %	13.9	7.4

Average, annual growth is computed between the two most recent available data points

Note: The source of national forecast values is the 2023 country roadmap

Latvia



2023 state of play and recent progress

	Country level	EU level
FORECAST		70.3
DESI 2024	61.9	64.0
AVERAGE ANNUAL GROWTH %	1.6	13.5

Average, annual growth is computed between the two most recent available data points

Note: The source of national forecast values is the 2023 country roadmap

Latvia has untapped potential to contribute to the EU's Digital Decade target for Very High-Capacity Networks (VHCN) while showing a very strong dynamic. On Fibre-to-the-premises (FTTP), Latvia also has untapped potential to contribute to the EU's Digital Decade target while showing a very limited dynamic. With 71.5% of households currently covered with VHCN, Latvia falls below the EU average of 78.8%, while at the same time showing a significant annual growth of 13.9% in comparison to the EU average of 7.4%. Moreover, based on current rate of annual growth of VHCN, and that its current performance is above its 2030 targets, a higher level of ambition for this national target could be envisaged. At the same time, the FTTP household coverage of 61.9% also falls below the EU average 64% and demonstrates a significantly lower annual growth at 1.6% versus the EU average of 13.5%. Latvia forecasts that there will be an increase in the value of fixed connections of VHCN by 15 812 households per year and forecasts a value of 455 678 households with 100 Mbit/s connections by 2030. Moreover, based on the current rate of progress regarding FTTP, it appears that, in absence of an intensification of efforts over the coming years, Latvia's contribution to this EU target will remain limited. Latvia has not provided a trajectory or a target for FTTP. Merely 4.55% of its fixed broadband subscriptions have a connection speed of at least 1Gbps/s, significantly below the EU average (18.52%).

Last year's Digital Decade report stated that Latvia had 92% VHCN and 91% FTTP household coverage. However, in 2023 there was a revision of the data collection method, as the national regulatory authority (NRA) started collecting data coverage (previously only connections by speed were provided). As a result of this, the data published in the 2023 Digital Decade report have been revised. The findings which were confirmed by the NRA showed that Latvia had 62.7% VHCN and 60.9% FTTP household coverage in 2022.

In its roadmap, Latvia presents five measures related to improving gigabit connectivity. Latvia has introduced measures to encourage the deployment of 'the last mile' and 'middle mile' for VHCN by supplying aid and launching a call for tender to connect 6 200 additional households, businesses, schools, medical institutions, and other public buildings with a VHCN. The measure will be funded by EUR 16.5 million from the Recovery and Resilience Fund. Latvia is also planning to reallocate a total of EUR 27 million (EUR 22 million from the European Regional Development Fund (ERDRF)) for the last mile measures. Additionally, Latvia has introduced measures focusing on broadband. For example, the

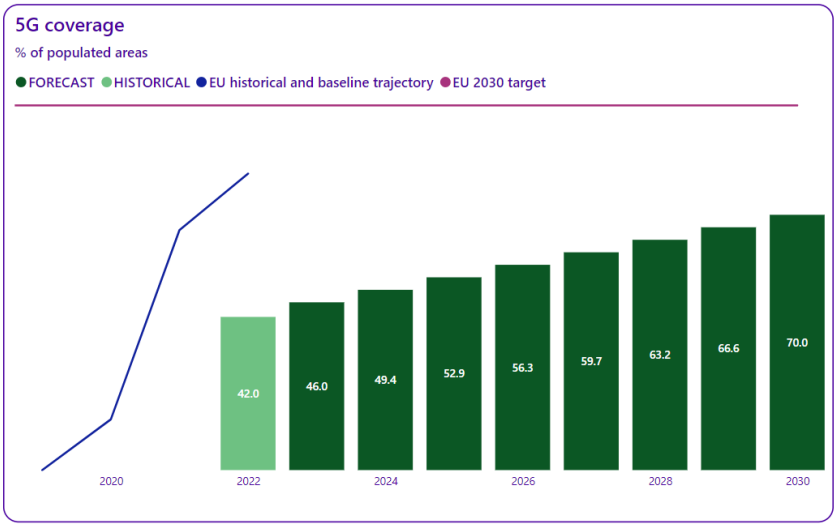
establishment of the Broadband Competence Centre and the carrying out of an assessment on the broadband investment gap.

Latvia identifies two main challenges in reaching the gigabit Digital Decade target: its uneven population distribution and the limited public funding to fill the investment gap. In its roadmap, Latvia sets out the issue of the uneven population density with 1 315 000 urban inhabitants (68%) and 605 000 rural inhabitants (22%). Rural areas tend to be sparsely populated, with inhabitants living on a low income. This, combined with the fact that operators charge higher prices outside urban areas, might deepen the digital divide in access to high-speed connectivity. According to the 2023 Digital Decade Eurobarometer, 85% of Latvians believe that the availability and affordability of a high-speed internet connection was an important factor in significantly easing their daily use of digital technologies.

Furthermore, there is a lack of private sector interest in further expanding the middle and last mile networks because of a lack in investment return. For this reason, further network expansion becomes more and more reliant on public funding (estimated reliance is 70% public funding). The Study on EU funds 2021 estimated that the investment gap of last mile network deployment as being between EUR 50 and 975 million, depending on various scenarios considered. The planned funding of EUR 50.9 million from EU funding (RRF and ERDF) and EUR 1.54 million from private investments, to be allocated to both middle and last mile networks and 5G construction, will not fill the funding gap. Against the background of a persistent digital divide between urban and rural areas, it is crucial to reach full coverage with gigabit connectivity to ensure no one is left behind.

The market dynamics can be considered healthy. With four main operators in Latvia and despite one operator having more market shares than the others, the national regulatory authority ('*Sabiedrisko pakalpojumu regulēšanas komisija')* considers the market to be competitive and affordable for consumers.

Connectivity infrastructure (5G)



2023 state of play and recent progress

	Country level	EU level
FORECAST	46.0	
DESI 2024	53.1	89.3
AVERAGE ANNUAL GROWTH %	26.5	9.8

Average, annual growth is computed between the two most recent available data points. No ideal trajectory, and therefore no EU level forecast, is provided for 5G (see 2023 Communication on EU-level trajectories)

Note: The source of national forecast values is the 2023 country roadmap

Latvia has scope to improve its contribution to the EU's Digital Decade target while showing a positive dynamic. In 2023, only 53.1% of Latvia's populated areas had 5G coverage, placing Latvia third lowest performing country and therefore significantly lower than the EU average rate of 89.3%. However, Latvia's current growth rate is 26.5%, exceeding the EU average of 9.8%. Standing at 70%,

Latvia's target for 5G is below the EU target of 100%, and based on the current rate of progress, a higher level of ambition for this national target could be envisaged. 5G in the 3.4-3.8GHz band, an essential band for enabling advanced applications requiring large spectrum bandwidth, covers 39% of Latvian households in 2023, which stands significantly below EU average (50.6%).

Latvian operators are prioritising 5G roll-out and are taking significant steps to increase their 5G coverage, as shown by their increase in base stations providing 5G. It is reported that the three operators active in the 5G market, have 5G network facilities (approximately 360 base stations each). In addition, one operator's 5G base stations operate on the 700 MHz band, which is suitable for less populated areas. This allows for a wider area to be covered, which in turn reduces the digital divide between the urban and rural population. Additionally, the same operator uses the 3.5 GHz band to accommodate urban environments with speeds of up to 1 Gbps. Another important market development in Latvia in 2023 is the two providers of port technical services (Latvijas Mobilais Telefons and LVR Flote) that have started working towards establishing 5G connectivity in the Baltic Sea. Furthermore, some operators have also announced the first phase of their 2G and 3G switching off process, with the intention of replacing the legacy networks with 5G.

The national authorities support 5G infrastructure through the Via Baltica and Rail Baltica projects. They aim to create an electronic communication system that will support the continuous provision of 5G mobile network coverage on the motorway and have been awarded planned funding amounting to EUR 10.7 million from the ERDF and an additional EUR 1.8 million from private sector funds. However, to complete this project, an investment gap of EUR 13.2 million for the construction of 5G support infrastructure along the Via Baltica corridor and EUR 3.7 million for the Rail Baltica corridor remains.

Latvia has identified the same main challenges for 5G as for gigabit coverage expansion, which are its uneven population distribution and the limited available public funding to fill the investment gap.

Semiconductors

Latvia is showing ambition to increase and develop its production capacity for semiconductors. The country has a growing electronic and optical equipment manufacturing sector. Latvia estimates that production volumes have doubled since 2016 and jobs on average have increased by 50%. This infrastructure is intended to develop semiconductors. The Latvian semiconductor ecosystem consists of more than 100 diverse types of businesses, organisations, institutions, research and application centres.

Latvia's approach is three-fold as highlighted in their Memorandum of Understanding (MoU) signed in 2022. It sets out the public and private cooperation to develop a semiconductor ecosystem, education and research opportunities, and production of chips. The duration of the MoU is 10 years and there is the possibility to extend it for another 10 years. Furthermore, in line with the European Chips Act, there are two measures planned. First, to support candidates with national investment participate in the Chips Joint Undertaking project calls. Second, to amend the Cabinet Regulation No 857 of 11 December 2012 on the Statute of the Investment and Development Agency of Latvia. The amendment aims to: (i) identify and collect information on the main market participants in the semiconductor supply chains; and (ii) ensure participation and coordination in the European Semiconductor Council and the national Single Point of Contact for the semiconductor system.

The joint report on Latvia's Opportunities in Semiconductor Technology Development" is scheduled for review in summer 2024, aiming to robustly compile information on Latvia's opportunities and potential within the international semiconductor value chain, providing an assessment of the benefits

for Latvia's involvement in semiconductor activities, including those at the EU level as stipulated in the EU Chips Act.

A central measure established in 2022 and operated in 2023 is the 'Loans with a capital rebate for investment projects to promote competitiveness (Investment Fund)'. It aims to assist enterprises with new equipment and technological processes. The measure's total national budget is EUR 252 million. It aims to approve at least 20 large investment projects every year to encourage an annual export increase of EUR 80 million and create at least 800 new well-paid jobs.

Latvia identifies the lack of available funding as the main obstacle to reaching the EU target value. The roadmap estimates that the funding needed to execute the current ambition for semiconductors until 2030 would be between EUR 1 and 2 billion of the public and private sector funding.

Edge nodes

Latest studies estimate 3 edge nodes in Latvia which is less than half a percentage of the total edge nodes estimated at the EU level. The roadmap does not set a target or a national trajectory for edge nodes to contribute to the EU target of 10 000 climate neutral and secure edge nodes.

At the EU level, Latvia participates with indirect participants only in the IPCEI Next Generation Cloud Infrastructure and Services. It supports the development of software technologies useful for the exploitation of edge nodes, including industrial 5G. It should also allow the EU to develop technologies for innovative edge nodes, with a low latency and energy footprint.

Quantum technologies

Latvia shows initiative in pursuing quantum technologies by focusing on educational measures. In 2023, Latvia launched a Resilience and Recovery Fund funded project (EUR 6.2 million), the Quantum Technology Initiative, in collaboration with the University of Latvia and the Riga Technical University. The project aims to monitor and coordinate activities, educate and promote the acquisition of high-level academic skills in quantum technologies and promote synergies between higher education, science and innovation. Another project launched in 2023 introduced three centres of excellence to develop advanced skills in quantum computing, high-performance computing and language technologies. It is expected that during 2023-2026, the project will have: (i) trained 180 specialists in quantum technology; (ii) created 12 new study modules to develop advanced digital skills in quantum technology; and (iii) published 4 scientific publications in quantum technology.

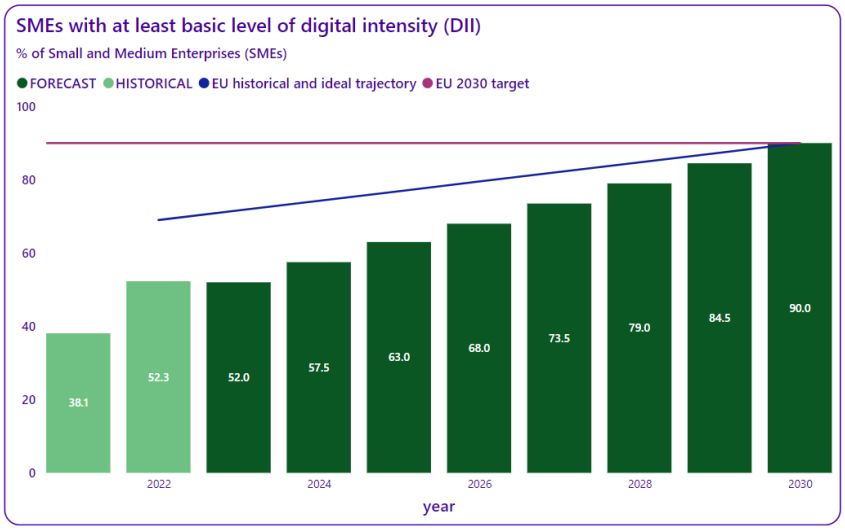
The Latvian Deploying Advanced National QCI Systems and Networks project, as a part of the EuroQCI initiative, aims to establish an infrastructure for secure communication between public authorities to implement the closed part of the emergency national electronic communications. It is receiving EU funding of around EUR 4 million. The project is expected to provide the public sector with the latest technologies and knowhow and therefore directly contribute to the Digital Europe Programme's (DEP) priority of modernising European public administration.

Supporting EU-wide digital ecosystems and scaling up innovative enterprises

Latvia is falling behind on the digitalisation and scaling up of innovative businesses. Despite this, Latvia is showing strong annual growth, standing above the EU average in all areas. In the EU Digital Decade Eurobarometer, 75% of respondents believe that it is important for public authorities to ensure that European businesses can grow and are able to compete globally. Furthermore, according to its projections, Latvia is expected to reach the Digital Decade target of SMEs with at least a basic

level of digital intensity, and uptake of cloud / data analytics / big data by 2030. However, to do so funding needs to be increased.

SMEs with at least basic digital intensity



2023 state of play and recent progress

	Country level	EU level
FORECAST	52.0	71.6
DESI 2024	48.2	57.7
AVERAGE ANNUAL GROWTH %	12.5	2.6

In the case of DII, the average, annual growth is computed between 2023 and 2021 due to data comparability reasons.

Note 1: DII 2022 is version IV that is not comparable with DII 2021, that was version III. The EU-level ideal trajectory refers to DII version IV, as published in the 2023 Communication on EU-level trajectories

Note 2: The source of national forecast values is the 2023 country roadmap

Latvia has scope to improve its performance to contribute to the EU's digital decade target while showing a very strong dynamic. With 48.2%, Latvia falls significantly below the EU average of 57.5% for the that indicator that measures SMEs with at least a basic level of digital intensity. However, Latvia's annual growth of 12.4% over 2 years compared with 2021, which is the most recent comparable year that used a similar methodology for measuring the digital intensity of businesses, is significantly higher than the EU average of 2.6%. The country estimates that it will reach the EU target of 90% by 2030, a high value compared to Latvia's starting point. Moreover, based on the current rate of progress, and assuming that the ongoing efforts will be sustained, Latvia's contribution to this target will continue to be very significant.

Latvia relies on Recovery and Resilience Fund measures to increase businesses with at least a basic level of digital intensity. The roadmap includes four Recovery and Resilience Fund measures that not only contribute to increasing the number of SMEs with at least a basic level of digital intensity, but also enterprises' uptake of cloud / data analytics / AI. The measures focus on supporting the establishment of Digital Innovation Hubs and regional points, the digitalisation of processes in commercial activities, the introduction of new products and services in commercial activities, as well as the award of funding to facilitate the digital transformation of businesses. By June 2026, it is expected that the measures will have benefited 3500 grant support beneficiaries (through the European Digital Innovation Hubs (EDIH)), 200 beneficiaries for digitalisation in commercial activities, 43 research projects and 133 merchants to receive loans.

Under these measures, in 2023, the Ministry of Economics received more than 3 000 applications for support with digital maturity tests, digital development road maps, test-before-invest, grants for digitalisation of inner commercial processes, and solutions as well as loans for investment in business digital transformation tools and automation. Support for developments of new products, digital technologies are still in project application selection process. In addition, by June 2024, 3 500 beneficiaries will have received EDIH support, 80 beneficiaries will have been provided digitalisation

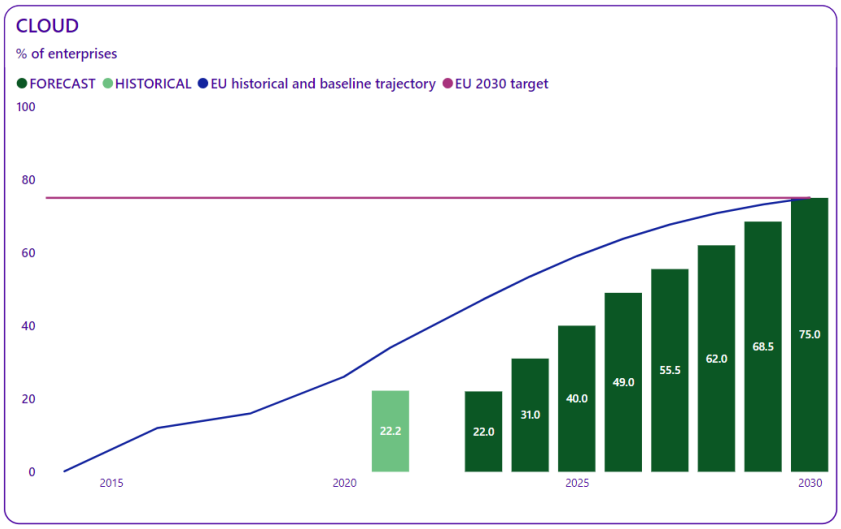
support in commercial activities, 14 projects will have been awarded support to implement research and increase digitalisation, and loans will have been given to 51 merchants.

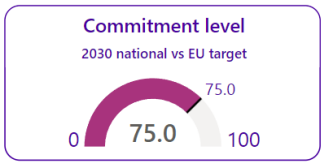
Additionally, the final RRF measure presented in the roadmap aims to strengthen development of enterprise digital skills, by increasing the number of ICT specialists by 10 000 [6].

The total budget for the target is EUR 12 million from national funding, EUR 238.2 million from EU funding and a further EUR 134 million from private sector investments. Latvia also plans to invest EUR 20 million (up to EUR 5 million per project) Initial Public Offering Fund for Baltic small and medium-sized companies. Latvia is also receiving funding from the ERDF that will lead to 1750 SMEs receiving funding and increasing their level of digitalisation by the end of 2029. Latvia estimates in its national Digital Decade Roadmap that an increase of funding, which equals to an additional EUR 524 million, would be needed to reach the Digital Decade target in 2030.

Take up of cloud/AI/data analytics

- **Cloud**





2023 state of play and recent progress

	Country level	EU level
FORECAST	22.0	47.3
DESI 2024	29.0	38.9
AVERAGE ANNUAL GROWTH %	14.3	7.0

Average, annual growth is computed between the two most recent available data points

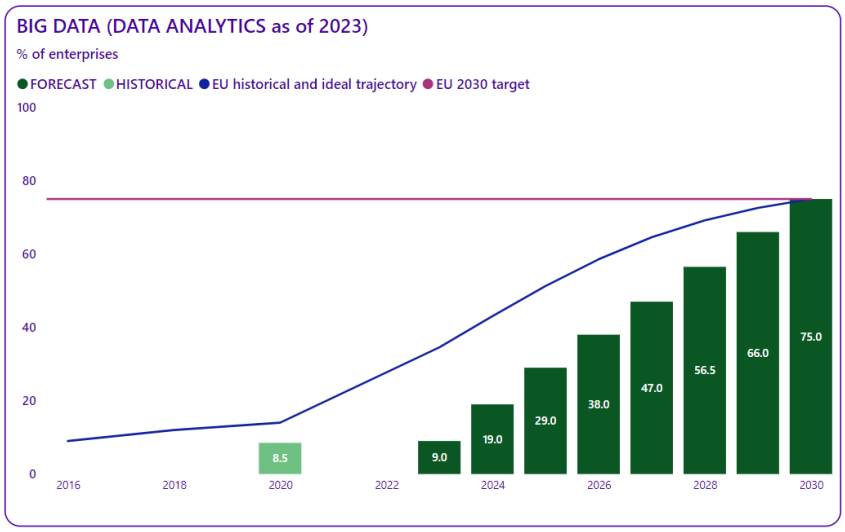
Note: The source of national forecast values is the 2023 country roadmap

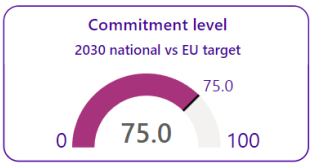
Latvia has scope to improve its performance to contribute to the EU's digital decade target on cloud adoption while showing a very strong dynamic. The take-up of cloud solutions by Latvian businesses was at 29% in 2023, standing significantly below the EU average of 38.9%. Moreover, based on Latvia's current progress (14.3% compared with the EU average of 7.0%), and assuming that the ongoing efforts will be sustained, Latvia's contribution to the EU target will be significant. Latvia estimates that it will reach the EU target by 2030, predicting an average growth rate of 9% until 2026 and thereafter a growth rate of 6.5% until 2030. Latvia estimates that a quadruple increase of funding, which equates to a further EUR 592 million would be needed to reach the Digital Decade target in 2030.

Latvia is an indirect participant in the IPCEI on Next Generation Cloud Infrastructure and Services (IPCEI-CIS), organisations from LV contribute significantly to the development and deployment of cutting-edge cloud and edge capacities.

[6] see more under ICT specialists.

- **Data Analytics (Big Data)[7]**





2023 state of play and recent progress

	Country level	EU level
FORECAST	9.0	34.6
DESI 2024	36.9	33.2
AVERAGE ANNUAL GROWTH %		

Annual growth cannot be computed in this case because Big Data was replaced by Data Analytics in 2023. The two indicators are not comparable.

Note: The source of national forecast values is the 2023 country roadmap

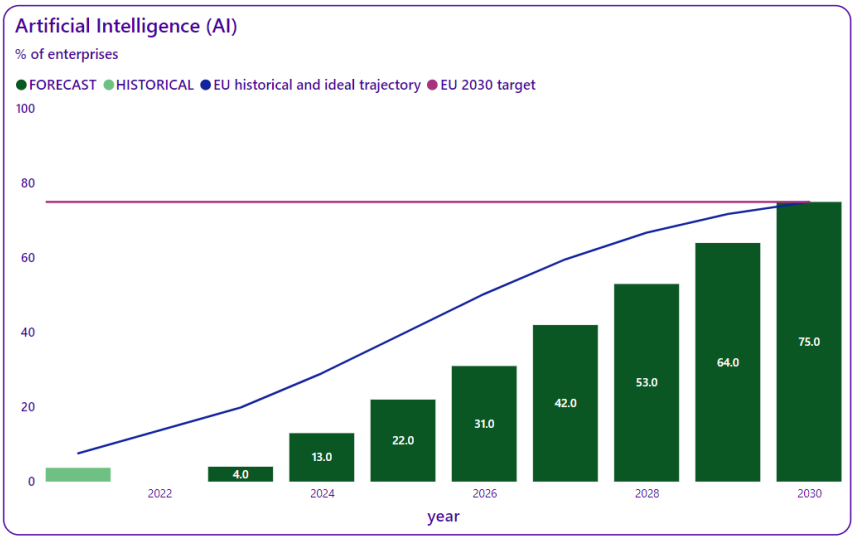
On the use of data analytics by companies, Latvia contributes positively to the EU's Digital Decade target. With 36.9%, Latvia is above the EU average of 33.2%. Latvia estimates that the uptake of data analytics will increase by 9-10% each year until reaching the EU target of 75% in 2030.

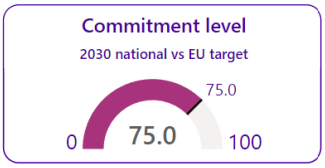
National action plans include the development of big data. Under the 2021-2027 National Industrial Policy Guidelines, SMEs should increase their level of digital development, including promoting the use of big data services. Additionally, the 2021-2027 Digital Transformation Guidelines promote Latvia as an EU-wide IT training centre that will focus on big data in digital medicine and develop high-level digital skills in big data content in vocational education and higher education.

Latvia estimates that a sevenfold increase in funding, which equates to a further EUR 1 036 million, is needed to reach the Digital Decade target in 2030.

[7] As of 2023, Big Data was changed by ESTAT, in agreement with all the EU National Statistical Institutes, into Data Analytics and covers a broader range of technologies including Big Data. For this reason, no comparison is possible with previous years.

- **Artificial Intelligence**





2023 state of play and recent progress

	Country level	EU level
FORECAST	4.0	19.9
DESI 2024	4.5	8.0
AVERAGE ANNUAL GROWTH %	10.3	2.6

Average, annual growth is computed between the two most recent available data points.

Note 1: at the end of 2023 ESTAT revised backward the values of AI. The revised value for 2021 at the EU level is 7.6 % (from 7.9 %).

Note 2: The source of national forecast values is the 2023 country roadmap

Latvia has untapped potential to contribute to EU's Digital Decade target on Artificial Intelligence (AI) adoption while showing a positive dynamic. With 4.5%, Latvia falls below the EU average of 8% while showing an impressive annual growth of 10.3% (the EU average is 2.6%). Latvia estimates that the AI uptake will grow by 9 or 11% annually until 2030. Moreover, based on the current rate of progress, and assuming the ongoing efforts will be sustained, Latvia's contribution to this EU target could be very significant.

Despite Latvia's lower uptake of AI, its businesses are competitive in offering AI solutions. The language technology companies Tilde.ai and Tilde MT have been used by several EU presidencies and are expected to be used by the Maltese, Finnish and other governments. Models for satellite data analysis are now also being used. For example, Smartomica (biotechnology): AI in the treatment of oncology; Wearedots: integrated GPT-4 (AI) language model with Intervy training assistant; Waterson Technologies: AI to monitor water quality; Fyma and SIA "LMT": AI-based traffic analysis; CopyMonkey.ai: AI content generation in e-commerce, winner of the Emerge conference challenge; eStepControl: identification of suspicious activities of users of the information system; and SMARTRetail.

Latvia is showing AI development in the private sector. In December 2022, the Latvian IT Cluster, Latvian Information and Communication Technology Association (LIKTA) signed an EU Grant Agreement with the European Commission for the project EIDH: support for digitalisation and development of artificial intelligence in Latvia / Development of AI – ICT for Manufacturing EIDH in Latvia. It is estimated that a sevenfold increase in funding, which amounts to a further EUR 1 036 million, is needed to reach the Digital Decade target in 2030.

- **Take-up by enterprises of AI or Data analytics or Cloud**

Latvia has scope to contribute further to the EU's Digital Decade cloud or data analytics or target since its contribution of 48.2% falls below the EU average of 54.6%. Latvia has no target on the combined indicator of take-up by enterprises of cloud or data analytics or AI. While Latvian enterprises' take-up of cloud and AI fall below the EU average, their uptake of data are above EU average. Latvia

has four measures within **Recovery and Resilience and European Regional Development Fund** and ERDF programmes that strives towards increasing the take up of cloud/ai/big data[8].

Unicorns/scale-ups/start-ups

Latvia is in its starting phase of expanding the start-up ecosystem and is taking ambitious measures to do so. The size of the Latvian ICT sector (6.12 GVA% in 2021) is slightly above the EU average (5.49%). The venture capital investments for seed and start-up amounted to 5% of the GDP in 2022, putting Latvia above other large EU economies such as Italy and Spain[9]. In 2023 Latvia had no unicorns. In its roadmap Latvia estimates that it has 512 start-ups, of which 46% are no than three years old and more than half are active in the ICT services sector. Additionally, 373 start-ups were registered as members of the Latvian Startup Association in the data base Startin.lv.

Latvia is supporting the start-up ecosystem by granting financial stipends. In 2022 the Ministry of Environment, and various start-up organisations signed a Memorandum of Cooperation on the Strategy for the Development of the Latvian Start-up Ecosystem. The strategy will run until 2025, with EUR 300 million in investments, and it will increase the number of start-up employees by 1500. It is an ambitious strategy that seeks to: improve access to funding: update the regulatory framework: provide tax reliefs: coordinate educational events and seminars (including international events), support diaspora to return to Latvia: develop data-collection and analysis of the start-ups; and create n central home (Start-up House) for the benefit of start-ups.

Business incubators are guiding the Latvian start-up ecosystem. Since 2016, business incubators have provided support to start-ups and have since established 11 regional business incubators and 9 support units that provides support pre-incubation and incubation. By 31 May 2023, the business incubator programme has supported 972 merchants and created 2 016 new jobs. It is planned that the measure will in total support 1 500 businesses (of which 300 will be authors of new ideas). During the programming period 2021-2027, it is planned to support 422 businesses and create 1 000 new jobs.

Latvia estimates that it will have 2 unicorns by 2029, which is in line with the EU's projection of doubling the numbers of unicorns, and seems likely given the proposed measures.

Strengthening Cybersecurity & Resilience

As companies rely increasingly on digital technologies, their risk of exposure to cybersecurity incidents is increasing, just like their need for preparedness in this area. Latvian companies, seem to be less prepared for cybersecurity attacks than their peers, as in 2022, only 9.1% of Latvian companies reported being insured against ICT security incidents and 82.7% reported using ICT security measures. In additionally, according to the Eurobarometer 83% of Latvians believe that improved cybersecurity, better protection of online data and safety of digital technologies is important to significantly improve their daily use of digital technologies.

Following the launch of its 2023-2026 Cybersecurity Strategy, Latvia has made efforts to strengthen its enforcement capabilities. The 2023-2026 Cybersecurity Strategy focuses on boosting cybersecurity management, strengthening resilience, improving public understanding, education, and research, international cooperation and preventing and combating cybercrime.

Latvia has introduced measures to strengthen cybersecurity infrastructures. National CERT.LV provides free firewall services to all individuals. The country decided to implement the Government of

[8] S a SME with at least basic digital intensity
[9] OECD Going Digit

Latvia Internet Exchange – united data exchange infrastructure (GLV-IX), that provides an extra solution for crisis situations. The Ministry of Transport is working on introducing the Unified Cyber Security Infrastructure, funded by EUR 4.35 EUR million (EUR 3.697 million from the ERDF). The measure aims to secure investments in the cybersecurity of government institutions, increase the cybersecurity level and preparedness, and develop the skill level of IT staff.

Collaboration on cybersecurity is important for Latvia. In early 2023, Latvia established the National Cybersecurity Coordination Centre (NCC-LV) to strengthen cybersecurity and improve basic cybersecurity skills. One of the first initiatives from the NCC-LV was to establish the National Cybersecurity Community that consists of more than 30 member organisations from the public and private sectors, academia and NGOs. In addition, the NCC-LV has worked with the Nordic-Baltic-Benelux National Cybersecurity Centres on matchmaking events, a technology conference, and a student hackathon to take place in 2024.

NCC-LV community members including NGOs have provided feedback on the Latvian roadmap calling for creation of Latvian cybersecurity education development roadmap and improvement of the content of studies in cybersecurity. The Community experts are calling for integration of cybersecurity topics in all educational levels, strengthen its cross-disciplinary teaching, as well as inclusion of cybersecurity in the relevant study programmes to address the gap in cyber-security education because students' need training/education outside of formal education.

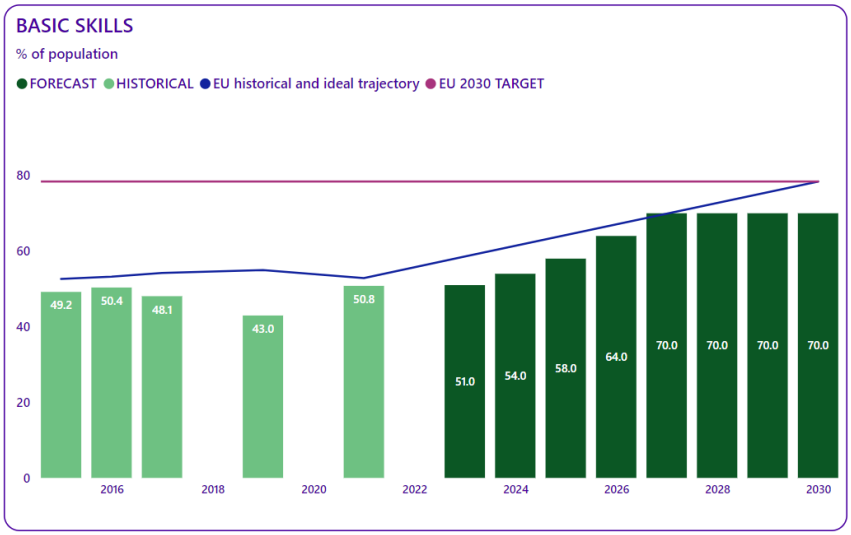
Protecting and empowering EU people and society

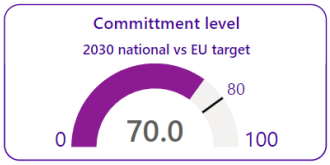
Empowering people and bringing the digital transformation closer to their needs

Latvia designs its digital transition with a strong emphasis on inclusiveness. Latvia's challenge in having a lack of basic digital skills in the population affects all areas of digitalisation. The lower than average starting point in basic digital skills impacts many other targets. For example, it hinders the development of SMEs and their take-up of cloud / AI / data analytics, cybersecurity, and digital public services (including e-health and e-ID). Therefore, improving digital skills is of the utmost importance. Several specific programmes have been developed, such as focusing on educating digital leaders (e.g., teachers and community leaders), creating digital educational material, information programmes as well as projects targeting increasing female digital skills and the number of female ICT specialists. Latvia is very strong in the digitalisation of public services for people and businesses. According to the Digital Decade Eurobarometer, 78% of Latvians consider that the digitalisation of daily public and private services is making their life easier, which is above the EU average (73%). In addition, 68% believe that digital technologies will be important in their daily democratic life, which stands below the EU average (74%).

Equipping people with digital skills

Basic Digital Skills





2023 state of play and recent progress

	Country level	EU level
FORECAST	51.0	59.8
DESI 2024	45.3	55.6
AVERAGE ANNUAL GROWTH %	-5.5	1.5

Average, annual growth is computed between the two most recent available data points

Note 1: Data break-in-series in 2020

Note 2: The source of national forecast values is the 2023 country roadmap

Latvia has scope to improve its performance to contribute to the EU's digital decade target and while demonstrating a very limited dynamic. In 2023, 45.3% of the population had at least basic digital skills, putting Latvia below the EU average of 55.6%. This can be explained by post-COVID-19 effects with a drop in the population's digital activity who did less teleworking or used e-commerce less between 2021 and 2023. For the other skills indicators, such as above basic digital skills and basic digital skills in content creation, Latvia also performs below the EU average, except for internet use where it scores slightly above the EU average.

Based on Latvia's current performance it will be a challenge to achieve the 2030 target. The national target is set at 70%, which is below the EU target of 80%. Considering Latvia's current rate of progress, reaching the national target (70%) or the EU target (80%) will require a substantial effort.

Since 2021, Latvia has identified the development of digital skills as a national priority. During 2023, Latvia has implemented ambitious plans to improve at least basic digital skills focusing on education and training programmes for all ages and in various stages of life. Specifically, Latvia has implemented measures focused on the employed, adult learning, individual learning account approach, digital self-service and education in cybersecurity (through the establishment of the National Coordination Centre) with a total budget of EUR 7 million from national funding and EUR 49.1 million from EU funding. In order to promote the development and improvement of digital skills for adults, in 2023 a regulatory framework has been developed for the creation of a unified system for the assessment of digital skills, identification of learning needs, planning and evaluation, stipulating that the content and achievable learning outcomes of educational programs aimed at acquiring digital competences are structured according to the descriptions of the European Population Digital Competence Framework (DigComp) and the levels of competence acquisition also in non-formal education programs.

Latvia is focusing on introducing e-learning as a part of their Recovery and Resilience Fund funded measure Development of Digital Skills in Society. As a result of the project implementation: 1) a systemic approach to the development of people's digital skills will be introduced in local governments; 2) the gap between the supply of public and private electronic services and the skills of inhabitants to use it has been reduced; 3) a digital self-service skills e-learning course has been developed and implemented; 4) 200 teachers/mentors from all local governments have been trained; 5) an increased share of the population with advanced digital self-service skills (40 000 inhabitants trained).

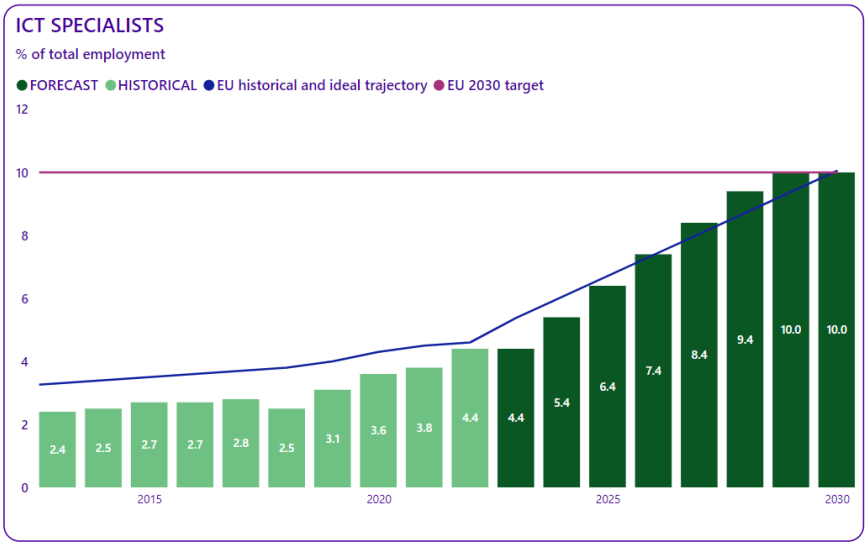
To improve the basic digital skills of the population, Latvia is providing education material and information campaigns. To increase the population's digital skills to use ICT solutions, in 2023, Latvia has implemented further measures to the 'Information and ICT architecture governance system for public administration – round 2'. These measures include distance-learning programmes for digital agents, methodical materials and video tutorials, as well as an extensive communication campaign on e-services. In June and November 2023, the campaign had more than 1 100 agents and leaders participate. In addition, senior digital skills was discussed in the project 'Alone, but in Communication? Digital inequalities in care and intergenerational relationships for seniors living alone (EQUalCare)'.

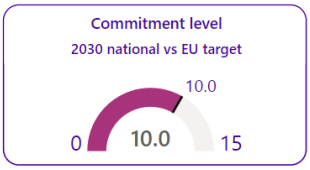
Latvia is also considering the woman's perspective, especially in form of private initiatives. Riga TechGirls, a Latvian NGO, has provided more than 15 reskilling programmes with more than 2 000 women participating in its programme since 2016. In addition, the Latvian Information and Communication Technology Association (LIKTA) participates in the Women4IT, a multi-stakeholder partnership implemented in 7 countries, that is funded by the European Economic Area Grants and the Norway Grants Fund for Youth Employment, which focuses on developing the digital skills of young women who are at-risk-of-exclusion from the job market by becoming more attractive to employers.

The population's lack basic digital skills at all levels and the low participation in education at all levels are two challenges identified by Latvia to reach the 2030 target. The lack of digital skills not only requires measures targeted to each group (including age, gender, educational level etc.), but also hinders the digitalisation of businesses. The low participation of Latvia's population in educational activities, creates barriers to increasing the population's basic digital skills. In contrast, to the high digitalisation of public services for people and businesses, it is important to continue focusing on improving at least basic digital skills and to ensure that no one is left behind. In addition, it is important

to consider that the Eurobarometer shows that 72% of Latvians believe that more education and training to develop skills for using digital services is important and would significantly ease their daily use of digital technologies.

ICT specialists





2023 state of play and recent progress

	Country level	EU level
FORECAST	4.4	5.4
DESI 2024	4.4	4.8
AVERAGE ANNUAL GROWTH %	0.0	4.3

Average, annual growth is computed between the two most recent available data points

Note: The source of national forecast values is the 2023 country roadmap

Latvia has untapped potential to the EU's Digital Decade target on ICT specialists while demonstrating limited dynamic. In 2023, the number of ICT specialists in terms of share of total employment stands at 4.4% (same as in 2022), which is below the EU average. Based on the current rate of progress (4.8%), reaching the target by 2030 will require an intensification of efforts. With 24% of women being ICT specialists, putting Latvia above the EU average, yet still behind the front-runners (Bulgaria, Estonia, and Romania).

Latvia estimates that it will have 9.8% of ICT specialists by 2030, which is around the EU target of ~10%. Latvia has set a target that will require more than doubling its current value by 2030. Looking at the historical evolution of the number of ICT specialists, the target set in the roadmap is ambitious. The long time series provided by the Eurostat's Labour Force Survey shows that the percentage of ICT specialists employed in Latvia varied between 2.5% and 4.4% in 2018-2022. However, if the number of Latvian ICT specialists is to match the annual growth of 2018-2023 till 2030, Latvia needs to intensify its efforts.

In 2022, 59.2% of businesses employing 10 or more people reported that they had hard-to-fill vacancies for jobs requiring ICT specialist skills, which despite being a high number, is below the EU average (62.8%).

In its roadmap, Latvia introduces three measures running mainly till 2027 with specific targets to increase the number of ICT specialists by 13 000. This is a considerable number given that the total **number** of ICT specialists was 39 000 in 2023. Latvia presents four measures (three of them new), to increase the amount of ICT specialists with a national budget of EUR 13.1 million (granted EUR 6.8 million and planned EUR 6.3 million) and EU funding of EUR 90.36 million (granted EUR 37.62 million and planned EUR 52.74 million). The Programme for the development of advanced digital skills aims to **establish** three centres of excellence to develop digital skills focusing on quantum computing, high-performance computing, and language technologies. In total 3 000 new professionals with advanced digital skills will be trained, 29 new study modules will be developed, and 55 scientific publications

published. Furthermore, the Ministry of Economics is developing a Human Capital Development Strategy to increase the number of ICT specialists by 10 000 by focusing on adapting job supply to match the job market needs. The strategy will for example focus on strengthening science technology engineering and mathematic (STEM) skills, promoting regional job mobility, attracting highly skilled workers, creating incentives to invest in employees' upskilling, improving employee reskilling opportunities and people to learn new digital skills, and investing in robotisation and talent management. In addition, the strategy will also focus on user-centred data management that provides information accumulation and analytics for data driven decision-making, which will contribute to human capital development and accessibility policies, and coordinated interdepartmental cooperation of for job market transitions.

Based on these measures, it is estimated that Latvia will reach 52 000 ICT specialists by 2027, which based on today's figure would equate to around 5.8% of Latvians in employment in 2027. This would put Latvia in a difficult position to reach the Digital Decade target by 2030.

Key digital public services and solutions – trusted, user-friendly, and accessible to all

e-ID

Providing e-ID solution is a priority in Latvia, as shown by its implementation of an e-ID and eSignature mobile that under national law must be legally equivalent to presenting a personal identification in person. During 2023 the national law was further amended to ensure the possibility to receive private e-services. Moreover, the obligation on private e-services providers to accept national e-ID or eSignature mobile led to an increase in identity checks through these tools by 30% during a 1-year period. In addition, Latvia participates in the Nordic-Baltic e-ID (NOBID) project that aims to harmonises e-ID solution in eight Nordic and Baltic countries and to provide cross border access to digital services.

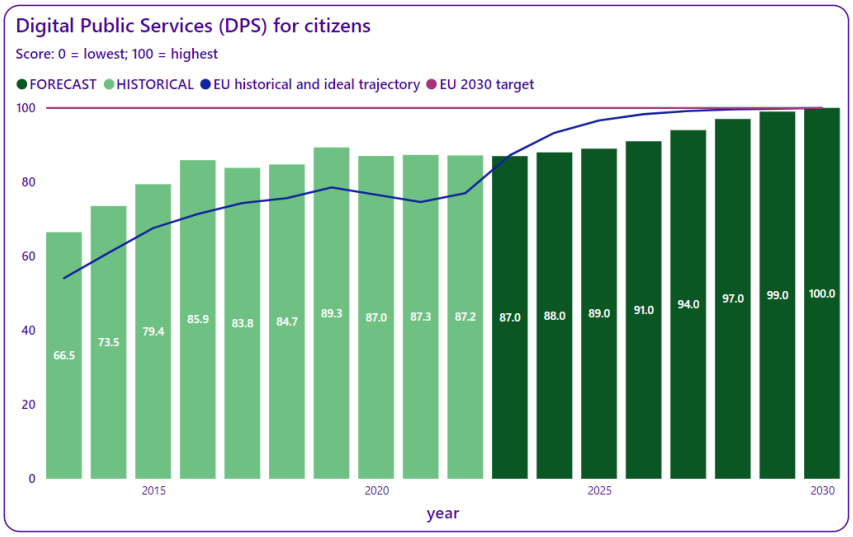
The usage of Latvian e-ID is significantly above the average EU usage. Eurostat data of 2023 shows that 70.2% of Latvians have used e-ID to access online services over the last 12 months, placing the country significantly above the EU average of 41.11%.

Given that Latvian Radio and Television Centre (LVRTC) eSignature mobile corresponds to a higher security level than notified in the e-ID scheme, Latvia has identified a potential risk that for cross-border use the service might not be available due to the difference in security requirements.

Latvia is participating in the pilot project NOBID focused on the use of EU Digital Identity Wallet for Payments – supporting the implementation of the European Digital Identity Wallet (EUDI Wallet).

Latvia

Digitalisation of public services for citizens and businesses



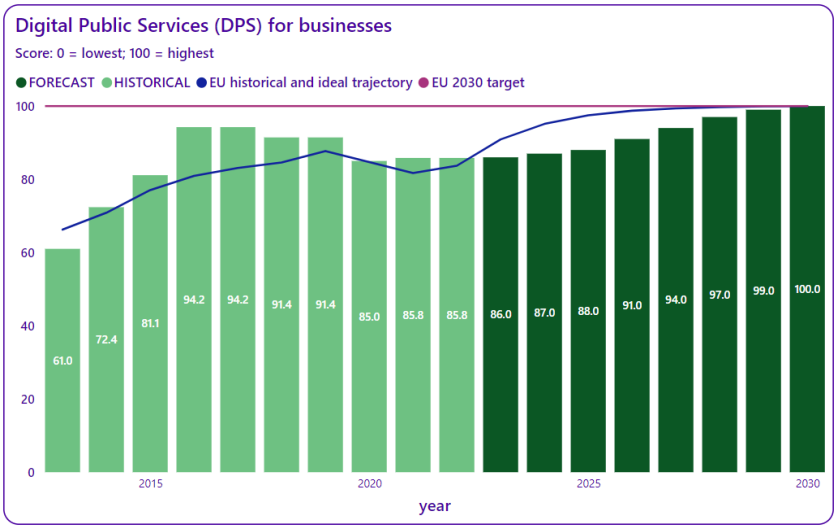
2023 state of play and recent progress

	Country level	EU level
FORECAST	87.0	87.2
DESI 2024	88.2	79.4
AVERAGE ANNUAL GROWTH %	1.2	3.1

Average, annual growth is computed between the two most recent available data points

Note 1: Data break-in-series in 2020

Note 2: The source of national forecast values is the 2023 country roadmap



2023 state of play and recent progress

	Country level	EU level
FORECAST	86.0	90.9
DESI 2024	87.2	85.4
AVERAGE ANNUAL GROWTH %	1.6	2.0

Average, annual growth is computed between the two most recent available data points

Note 1: Data break-in-series in 2020

Note 2: The source of national forecast values is the 2023 country roadmap

Latvia brings a very strong contribution to the EU's digital decade target in digitalisation of key public services for citizens, while demonstrating limited dynamic. In addition, the country brings a positive contribution to the EU's Digital Decade target on digitalisation of key public services for businesses while showing a positive dynamic. On both public services for people (88.2%) and businesses (87.2%), Latvia ranks above the EU average (79.4%, 85.4%). Furthermore, in public services for people and businesses Latvia is showing growth (1.2%, 1.6%) below EU average (3.1%, 2.0%), whereas for businesses the country is above the EU average. In addition, 78.4% of the Latvians are e-Government users, standing above the EU average. These figures correspond to the Eurobarometer results showing that 81% of Latvians believe that digital technologies will be important to accessing public services online. The country's target of reaching 100% is in line with the EU target and based on its current performance and progress, Latvia is likely to reach its target by 2030.

Latvia

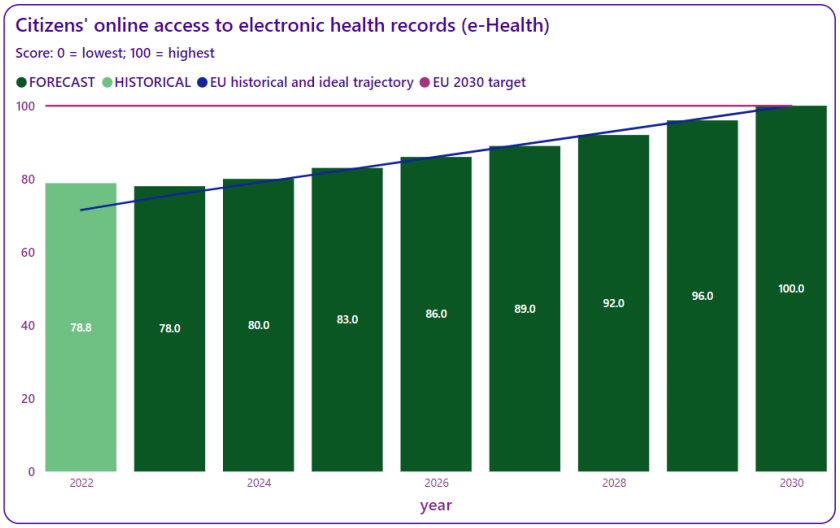
Latvia is continuously improving its public service catalogue and e-service delivery environment, latvija.gov.lv. During 2023, the website has been upgraded to significantly improve availability and a shared solution for developing e-forms was created. The portal implements the Single Digital Gateway Regulation. Latvia has implemented several measures to increase the number of digital public services for the citizens. The network of the Single state and municipal client support centres provides possibility to citizens to apply for services digitally by authorising a client to submit an e-application on his/her behalf and by organising a remote video consultation with an institution's specialist for those with limited digital skills. Since 2023, centralised examination certificates, decision on passing the state language proficiency test can be issued electronically. It is now possible to confirm bank payments via the E-paraksts mobile application (e-signature mobile app which before was only possible with bank authorisation tools).

The challenges identified by Latvia are insufficient use of centralised applications and use of the 'once-only' principle in public administrations, resulting in more digitally fragmented government. Other challenges are that users: (i) do not make enough use of possibilities to request and receive electronic services due to a lack in digital skills; (ii) are unable to purchase a tool to access such services; and (iii) need to solve non-standard situations in requesting services, which cannot be solved electronically by submitting a service request.

The roadmap presents three Recovery and Resilience Fund funded measures that aim to streamline public administration data. First, make it available and located in a single data dissemination platform (DAGR). Second, increase the usefulness and user-friendliness of latvija.gov.lv, reform a of service delivery (a digital one-stop-shop). Third, implement ICT sector projects to increase access to key public services. This will be supported by funding amounting to EUR 7.3 million and a grant of EUR 17.6 million from the Recovery and Resilience Fund.

Latvia

e-Health



2023 state of play and recent progress

	Country level	EU level
FORECAST	78.0	75.5
DESI 2024	84.8	79.1
AVERAGE ANNUAL GROWTH %	7.6	10.6

Average, annual growth is computed between the two most recent available data points

Note: The source of national forecast values is the 2023 country roadmap

With an overall e-health maturity score of 84.8, compared to the EU average of 79.1, Latvia brings a positive contribution to the Digital Decade targets and showing a positive dynamic. Latvia had a maturity score of 78.8 in 2022. A centralised, nationwide access service is technically available in Latvia. 80-100% of the national population is technically able to access the online access services for e-health records through online portal(s), logging in using an e-ID compliant with eIDAS Regulation. A mobile application is not available. Latvia scores 86 on categories of health data, compared to a European average of 74. In Latvia, all data categories investigated in this framework are made available to citizens. For more than half the categories, data are provided in a timely manner. Medical imaging reports, medical images, and hospital discharge reports are now timely available compared to last year. The country's lowest-scoring sub-indicator in this thematic layer is health records summary data, with a maturity score of 71. Furthermore, 8 out of 9 applicable categories of healthcare providers supply relevant data. The types of connected healthcare providers have expanded since 2022, with private mental health facilities and public rehabilitation centres now contributing data to the national electronic health record system.

The digitalisation of the healthcare sector is a priority for Latvia, as evidenced by aligning the national 2029 Digital Health Strategy with the Digital Decade target and Latvia's continuous expansion of the features of its national e-Health portal, Eveseliba. Latvia continues to expand the services of Eveseliba by adding new features and health data categories. According to the Digital Decade Eurobarometer, 38.3% of Latvians access their personal health records online, above the EU average (24.35%) and 81% believe that in the future using digital technologies to access and receive healthcare services will be important in their daily life by 2030. In addition, digital skills are required in the professional education standard of doctors, doctors' assistant, and nurses responsible for general healthcare. In 2022, only 52.7% of Latvians use the internet to seek healthcare information and 22.9% made an appointment with a general practitioner via a website.

The e-health system provides a numerous types of data functionalities for health professionals: the patient's summary (for example, data on detected allergies, performed surgical operations, diagnosed chronic diseases), e-prescription, e-referral, visual diagnostic results, sick-leave certificate, vaccination information, emergency call data. Health professionals can deny a patient the right to view certain medical data if, the doctor has information or facts that the receipt of information would significantly endanger the life or health of the patient or other persons. Since 2024, the health care institutions are

required to provide in the national electronical health record system also laboratory examination results performed, as well all data on vaccinations.

In the e-health portal, the patient can access their and their dependents health data, and perform other activities such as, specify contact information, contact persons, apply for a European Health Insurance card, authorise another person to access data, manage permissions for the use of organs and tissues for transplantation, use of the body after death, view the records of the data access audit reports, prohibit health professionals access to their health records. In the e-health system pharmacists can dispense the prescribed medicines, as well as prepare statistical reports.

The digitalisation of the healthcare sector is a priority for Latvia, as evidenced by aligning the national 2029 Digital Health Strategy with the Digital Decade target and Latvia's continuous expansion of the features of its national e-Health portal, E-veseliba. Latvia continues to expand the services of E-veseliba by adding new features and health data categories. According to the Digital Decade Eurobarometer, 38.3% of Latvians access their personal health records online, above the EU average (24.35%), and 81% believe that in the future using digital technologies to access and receive healthcare services will be important in their daily life by 2030. As of November 2023, patients can access e-prescriptions, sick-notes, visual diagnostic results, COVID-19 vaccination, and examination data, in addition to already established centralised access to e-Health records. In addition, digital skills are required in the professional education standard of doctors, doctors' assistants, and nurses responsible for general care. In 2023, only 52.7% of Latvians use the internet to seek healthcare information, and in 2022 merely 22.9% made an appointment with a general practitioner via a website.

Latvia identifies three different challenges to reach the Digital Decade goal. First, a lack in the patients and medical staff's digital skills. Second, fragmented e-Health data in the ICT environment. Third, a lack of human resources capacity for the development of e-Health management in the Ministry of Health and its institutions. Latvia has created strategies focusing on tackling these challenges by developing digital skills and knowledge of health workers through educational measures, further development of a central interoperable national e-health infrastructure, providing additional funding to attract more human resources and creating a national competence centre for digital health.

April 2024, the Cabinet of Ministers supported setting up of the Digital Competence Centre for health sector to promote the development of digital health and ensure strategic management of the digital health ecosystem.

To increase digital skills in the healthcare sector, the NGO Riga TechGirls, provided a free online training course for healthcare workers consisting of 25 lessons (of which 4 were practical) in-patient experience design, data processing in healthcare, digital tools in healthcare, and available technologies with 1 721 registered participants.

Latvia developed and launched the new common digital epidemiological system (EPID system). The EPID system helps the Centre for Disease Prevention and Control to ensure more effective performance of response to infectious disease cases and outbreaks, as well as provides wider opportunities to analyse the epidemiological situation, identify public health threats and organize the necessary preventive and anti-epidemic measures. The total cost for the project was EUR 613 228 (partly funded by the European Union Solidarity Fund).

Building a safe and human centric digital environment and preserving our democracy

Latvia

According to the Eurobarometer, 71% of Latvian's are aware that their offline rights apply offline also should apply online, which is above EU average (62%). Perhaps as a correlation, Latvia experiences less hate speech online than other EU Member States. In the last 3 months of a Eurostat survey 31.5% of Latvians encountered messages online that were considered hostile or degrading, lower than the EU average of 33.5%. Furthermore, according to the Eurobarometer, only 74% of Latvians believed that shaping the development of Artificial Intelligence and other digital technologies to ensure respect of individuals rights and values should be important for the public authorities, which is below the EU average of 78%.

Latvia is prioritising online consumer protection by focusing on the implementation of the Digital Services Act. In 2023, the Latvian Consumer Rights Protection Centre (CRPC) organised the Fair digital markets and services in the future conference. The conference focused on discussions regarding well working cooperation mechanisms and the challenges of how the legislative framework will shape digital services in the future. The conference had over 130 participants from the European Commission, public authorities, NGOs, and the business sector.

Leveraging digital transformation for a smart greening

Latvia is at the start of implementing green policies in its digital transition. 42% of the Latvian Recovery and Resilience Plan will support climate objectives, most of them aimed at green digital transformation. The 2021-2027 Environmental Policy Guidelines steers Latvia in protecting the environment and a part of those guidelines focus on the circulation of dangerous substances (used in digital equipment).

The roadmap clearly points out horizontal initiatives that consider the objective of promoting the green transformation. Examples of this are measures to support adult learning based on their individual needs, digitalisation of public administrations, e-ID, e-health, establishing a national cloud programme, initiatives which by default lessen, for example, people's need to travel to institutions, receiving receipts, decreasing the amount of paper.

Latvian businesses and people are generally not sensitive to the green transition of the digital sector. In Latvia, 35.9% of businesses considered the environmental impact of ICT services, or ICT equipment, before selecting them and applying some measures, affecting the paper or energy consumption of the ICT equipment (2022), which is below the EU average (48.7%). Latvians tend to recycle less of their ICT devices (4.0% for laptops and tablets, 5.4% for desktops, 5.8% for old mobile or smartphones) than the EU average (9.7%, 12.8%, and 10.4% respectively). In addition, the Digital Decade Eurobarometer showed that 72% of Latvians think it is important to ensure that digital technologies serve the green transition, and only 55% believe that digital technologies will be important to help fight climate change which is below the EU average of 81% and 74%, respectively.

Latvia is participating in the second IPCEI Microelectronics and communications technology (ME/CT) and IPCEI CIS. Latvia is an associated participant in the IPCEI ME/CT, which aims to enable the digital and greens transformation. It aims to do this by creating innovative microelectronics communication, energy-efficient solutions as well as resource electronics systems and manufacturing methods. Latvia is an indirect partner to IPCEI CIS that it says to contribute to advancing digital and green transition in Europe by developing cloud and edge to further increase data processing capabilities, software, and data sharing tolls that is turn is energy efficient. These are two examples of EU-level collaboration to consider the environmental impact while transitioning to the digital era, and therefore contributing to the digital decade objectives.

In the context of REPowerEU, Latvia stands to receive an additional EUR 135 million in non-repayable support (including a reallocation of EUR 10.9 million from the Brexit Adjustment Reserve). The measures are aim at accelerating of the synchronisation of the national electricity network with the Continental Europe network, integration of Renewable Energy Sources (RES), digitalising, securing and modernising distribution networks, and electricity transmissions.

Best practice: green ICT procurement

A notable Latvian measure combining the green and digital transition is the green ICT procurement. In Latvia, the purchase of ICT goods and services is subject to mandatory Green public procurement (GPP) criteria as set out in the national regulations. It is mandatory to include the GPP criteria for all ICT e-catalogues in the National Centralised Electronic Procurement System (EPS) which includes computer

equipment and its installation, server equipment and data storage, installation of server equipment and data storage, software, software development and support services, software rental and software usage training, printing, and copying equipment, demonstration equipment and installation. In 2023, the GPP requirements were updated to consider new technological developments. Furthermore, as result of this measure, each catalogue and item requiring the GPP compliance is marked with a visual tag in the EPS system.

Annex I – National roadmap analysis

Latvia's national Digital Decade strategic roadmap

The National Strategic Roadmap of Latvia was submitted 31 January 2024 and was officially approved by the Cabinet of Ministers on the 30 January 2024, Digitālās desmitgades stratēģiskais celvedis Latvijai līdz 2030.gadam (varam.gov.lv).

The roadmap is complete and presents targets and trajectories on all but FTTP and edge nodes. Most of national targets match the 2030 EU targets except for at least basic digital skills (70% versus 80%), VHCN (53% versus 100%) and overall 5G coverage (70% versus 100%).

The table below reflects a best effort attempt to categorise the measures and budget as presented in the Latvia's roadmap.

Digital Decade target	Budget in the roadmap (EUR million)	Number of measures in the roadmap
Connectivity Gigabit	52.4	7
Connectivity 5G	-	-
Semiconductors	152.1	3
Edge nodes	-	-
Quantum computing	14.5	2
SME take up	385.2	5
Cloud/AI/Big Data uptake	185.2	4
Cloud only uptake	-	-
AI only uptake	-	-
Big data uptake	-	-
Unicorns	483.0	3
Basic Digital Skills	103.5	5
ICT Specialists	70.7	4
eID	0.4	1
Key Public Services	92.7	7
e-Health	0.0	6
Objectives	-	-
Total	**1 539.7**	**47**

Latvia presents a non-exhaustive set of main policies and measures contributing to the EU's Digital Decade targets. The measures presented also cover several types of objectives: technological leadership, sovereignty, competitiveness, cybersecurity, fundamental rights and green transition. In total, the measures presented amount to approximately EUR 1.54 billion. Overall, the vision set out in the roadmap is comprehensive, despite a lack of funding targeted to 5G connectivity, and edge nodes. In addition, a substantial part of the roadmap's budget will contribute to the increase of SME take-up and start-up ecosystems. The roadmap clearly states if the measures have been funded by EU, national or private investments. A weakness of the roadmap is that it presents the four identical RRF measures for SMEs and cloud / AI / big data take-up together at one spot in the roadmap. The roadmap would have benefited from a clearer description of how these measures contribute to each take-up, especially considering their often-low starting values and high trajectory.

Furthermore, the addition of the percentage of women regarding ICT specialists and detailing the gigabit connectivity in percentage instead of households would have been beneficial. In addition, the roadmap's interplay between the digital and green transition could be improved. The roadmap clearly discusses how each KPI corresponds to green transition. However, by having that specific focus, it sometimes loses the overall perspective and overall measures targeting the green and digital transition. The roadmap commendably discusses all the recommendations from last year's digital decade report and make recommendations based on them. The roadmap clearly presents and discusses the feedback its received from its stakeholders.

Overall, the roadmap is coherent with efforts being made in all the dimensions of digitalisations. However, some aspects might require further development. For example, the increase of basic digital skills could benefit from more ambitious measures and targets, as Latvia's low level of basic digital skills effects many of its other targets.

Annex II – Factsheet on multi-country projects (MCPs) and funding

MCP and EDICs

Latvia participates in several multi-country projects.

Latvia is a member of already established EDICs for Alliance for Language Technologies (ALT-EDIC) and the Local Digital Twins towards the CitiVERSE EDIC[10]. Latvia is also engaging in discussion on the setup of possible future Cancer Image Europe (EUCAIM) EDIC, within an informal Working Group.

Latvia is an associated participant in the IPCEI ME/CET, and an indirect partner participant in the IPCEI Next Generation Cloud Infrastructure and Services. Latvia is also participating in the European Digital Identity Wallet (EUDI Wallet). In addition, Latvia participates in four Connecting Europe Facility (CEF) projects: 5G Northern Europe Transport Corridors, 5G Corridor Study for Latvia, Estonia and Lithuania, 5G for protection of Lives and Public Health in Riga, and Baltic Ring.

EU funding for digital policies in Latvia

The Latvian Recovery and Resilience Plan earmarks EUR 416 million (23% of the total allocation) to the digital transformation. According to the Joint Research Centre's[11], EUR 384 million of the Latvian Recovery Resilience Plan directly contributes to achieving the Digital Decade targets. Out of Latvia's cohesion policy funds, EUR 364 million contribute directly to the Digital Decade targets according to the same mapping study. The largest digital measure of the Recovery Resilience Plan is dedicated to the digitalisation of key public services: EUR 123 million, which almost corresponds to a third of the total funding.

[10] *information updated on 31 May 2024*

[11] JRC report "Mapping EU level funding instruments 2020-2027 to Digital Decade targets - 2024 update" (Signorelli et al., 2024)".