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ANNEX 19

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to the

Communication from the Commission to the European Parliament, the Council and the European Economic and Social Committee and the Committee of the Regions

State of the Digital Decade 2025: Keep building the EU's sovereignty and digital future

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SHORT COUNTRY REPORTS 2025

Luxembourg

Executive summary

Luxembourg continues to position itself as a strategic digital hub, backed by strong infrastructure but facing persistent challenges in SME digital uptake. The country asserts its role as a European frontrunner in digitalisation, notably through targeted investments in frontier technologies such as AI, quantum computing, and sovereign cloud.

Luxembourg shows a high level of ambition in its contribution to the Digital Decade having set 12 national targets, 100% of which are aligned with the EU 2030 targets. The country is following its trajectories well with 75% of them being on track (on the basis of the 2024 trajectories defined for all 8 KPIs analysed). Luxembourg addressed 71% of the 7 recommendations issued by the Commission in 2024, either by implementing significant policy changes (57%) or making some changes (14%) through new measures.

With nearly universal 5G and very high-capacity network (VHCN) coverage, the country sustains a high-performing digital environment. However significant disparities remain in cloud and data analytics adoption, particularly among SMEs. While Luxembourg's startup ecosystem is expanding, it remains constrained by limited access to private venture capital and a modest pipeline of scale-ups progressing toward unicorn status. In 2024, Luxembourg maintained strong performance in digital public services and digital skills, yet persistent gaps remain across age groups, gender, and levels of education. On sustainability, Luxembourg has launched targeted measures, but an integrated green-digital strategy is not yet fully articulated in the revised roadmap. Sovereignty and cybersecurity have emerged as central pillars of Luxembourg's digital strategy, with an increasing focus on sovereign cloud infrastructure, open-source security tools, and cross-border data resilience.

| | Luxembourg | | | | EU | | Digital Decade target by 2030 | |
|---|--------------------------|--------------------------|-----------------|------------------------------------|--------------|-----------------|----------------------------------|-------|
| Digital Decade KPI (1) | DESI 2024 (year 2023) | DESI 2025 (year 2024) | Annual progress | National trajectory 2024 (3) | DESI 2025 | Annual progress | LU | EU |
| Fixed Very High Capacity Network (VHCN) coverage | 94.7% | 95.2% | 0.5% | 97.5% | 82.5% | 4.9% | 100.0% | 100% |
| Fibre to the Premises (FTTP) coverage | 78.9% | 81.8% | 3.7% | 89.0% | 69.2% | 8.4% | 100.0% | - |
| Overall 5G coverage | 99.6% | 99.6% | 0.0% | 97.4% | 94.3% | 5.9% | 100.0% | 100% |
| Edge Nodes (estimate) | 10 | 20 | 100.0% | - | 2257 | 90.5% | - | 10000 |
| SMEs with at least a basic level of digital intensity (2) | - | 70.3% | 3.0% | - | 72.9% | 2.8% | 90.0% | 90% |
| Cloud | 32.6% | - | - | - | - | - | 75.0% | 75% |
| Artificial Intelligence | 14.5% | 23.7% | 64.2% | 40.6% | 13.5% | 67.2% | 75.0% | 75% |
| Data analytics | 32.4% | - | - | - | - | - | 75.0% | 75% |
| Al or Cloud or Data analytics | 52.0% | - | - | - | - | - | - | 75% |
| Unicorns | 2 | 2 | 0.0% | - | 286 | 4.4% | - | 500 |
| At least basic digital skills | 60.1% | - | - | - | - | - | 80.0% | 80% |
| ICT specialists | 8.0% | 8.0% | 0.0% | 8.3% | 5.0% | 4.2% | 10.0% | ~10% |
| eID scheme notification | | Yes | | | | | | |
| Digital public services for citizens | 94.8 | 97.7 | 3.0% | 96.7 | 82.3 | 3.6% | 100.0 | 100 |
| Digital public services for businesses | 96.7 | 100.0 | 3.4% | 97.9 | 86.2 | 0.9% | 100.0 | 100 |
| Access to e-Health records | 76.1 | 76.1 | 0.0% | 75.0 | 82.7 | 4.5% | 100.0 | 100 |

⁽¹⁾ See the methodological note for the description of the indicators and other metrics

⁽²⁾ DESI 2025 reports the version 4 of the Digital Intensity Index, that is comparable with the DII value from DESI 2023 (referring to year 2022) for the calculation of the annual progress. It is not comparable to the national trajectory that is based on version 3 of the index.

⁽³⁾ National trajectory value if present in the national roadmap and if the indicator was measured in DESI2025 (year 2024)

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According to the 2025 special Eurobarometer on 'the Digital Decade' 2025, 80% of Luxembourgish citizens consider that the digitalisation of daily public and private services is making their lives easier. On the action of the public authorities, 88% consider it important to counter and mitigate the issue of fake news and disinformation online. And on competitiveness, 86% consider it important to ensure that European companies can grow and become 'European Champions' able of competing globally.

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

Luxembourg's infrastructure performance remains well above the EU average, with near-universal coverage of VHCN, and 5G thanks to early and well-coordinated public strategies. However, the digitalisation of enterprises –particularly SMEs –lags behind, hindered by high integration costs and limited technical capacity. Despite this, Luxembourg shows leadership in AI and quantum computing, notably through the deployment of MeluXina-AI and its selection for the EU's AI Factories initiative. The adjusted roadmap includes measures to foster SME adoption of advanced technologies, including generative AI. While the startup ecosystem continues to grow, scale-up financing can rely on a number of public funding schemes but often struggle to access later-stage funding due to the small size of the market and a limited private risk capital culture. Sovereignty and cybersecurity remain central to Luxembourg's digital strategy, with ongoing efforts to reinforce sovereign cloud capabilities, promote open-source cybersecurity tools through the establishment of an Open Source Program Office (OSPO), and develop a national cybersecurity tools with dedicated sectoral safeguards, including for healthcare.

Protecting and empowering EU people and society

Luxembourg maintains high digital skills levels and has the second highest shares of ICT specialist employment in the EU. However, among people with at least a basic level of digital skills disparities persists between demographic groups, particularly by age and education. The country is a front-runner in digital public services, supported by mature platforms like MyGuichet.lu and centralised government IT architecture. Ongoing efforts focus on reducing administrative complexity and promoting sovereign digital solutions within the public sector, including GovCloud and open-source adoption. Although Luxembourg intends to step up its efforts to improve health data interoperability and availability, it continues to score below the EU average in access to eHealth records.

Leveraging digital transformation for a smart greening

Luxembourg is taking initial steps toward aligning digital and environmental transitions. While not yet underpinned by a fully integrated green-digital strategy, the country promotes a renewables-based and intelligent energy system, supports GovCloud sustainability, and is exploring the role of digital solutions in reducing emissions in mobility and industry. Participation in EU-level initiatives such as the Green Digital Coalition and IPCEI projects positions Luxembourg to further develop tools and metrics to measure and reduce the ICT sector's carbon footprint.

National Digital Decade strategic roadmap

Luxembourg submitted a fully revised national Digital Decade roadmap on 2 December 2024, containing more than 30 new or edited measures and revised trajectories. The roadmap notably strengthens the focus on SMEs and AI, with new support tools set to be launched in 2025. It addresses a substantial number of roadmap recommendations issued in 2024. A total of 98 measures are now

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part of Luxembourg's national strategic roadmap with a budget of EUR 515 million, comprising EUR 488 million from public sector budgets, equivalent to 0.57% of Luxembourg's GDP in 2024.

Funding & projects for digital

Luxembourg allocates 38% of its total recovery and resilience plan to digital (EUR 24 million)¹. In addition, under cohesion policy, EUR 6 million, representing 15% of the country's total Cohesion policy funding, is dedicated to advancing Luxembourg's digital transformation². Luxembourg is a member of the three established EDICs; the Alliance for Language Technologies EDIC, the Local Digital Twins towards the CitiVERSE EDIC and of the EUROPEUM EDIC. Luxembourgish entities are indirect partners in the IPCEI on Next Generation Cloud Infrastructure and Services (IPCEI-CIS). Luxembourg is also a participating state of the EuroHPC Joint Undertaking (JU) and of the Chips JU.

The country has contributed to the Best Practice Accelerator³ by sharing three best practices. Two of them are part of the Digital Skills cluster: the Girls in ICT Day national awareness action and Girls Deploy your Digital Talent. One has been shared in the Green IT Cluster: the Creation and promotion of Product Circularity Data Sheet (PCDS).

Digital Rights and Principles

According to a support study, Luxembourg has been one of the most active Member States in implementing the <u>European Declaration on Digital Rights and Principles</u>, with over 100 initiatives overall and 20 new initiatives launched in 2024. Luxembourg is most active in the area of digital education, training and skills. Less activity has been identified with regards to a fair digital environment. Measures in the area of putting people at the centre of the digital transformation appear to have most impact on the ground, in contrast to those addressing sustainability.

Recommendations

- **Digital Skills:** Scale up targeted programs to reach older citizens, women, and populations with lower education background.
- **SMEs:** Further support the uptake of advanced digital technologies (cloud, AI, data) by SMEs, who currently lag significantly behind larger enterprises.
- **Cybersecurity**: Continue efforts in cybersecurity to address evolving threats, particularly regarding employees' awareness.
- **Green**: Adopt an integrated green-digital strategy with measurable targets, leveraging EU tools to scale up low-carbon digital solutions, especially for SMEs, and implement a national framework to monitor ICT-enabled emission reductions across key sectors like energy, transport, and industry.
- **FTTP:** Explore targeted measures to increase take-up and extend coverage of FTTP in remaining underserved areas, ensuring that high-speed connectivity is accessible to all households.

¹ The share of financial allocations that contribute to digital objectives has been calculated using Annex VII to the Recovery and Resilience Facility Regulation. Last data update: 16 May 2025.

² 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.

³ The Best Practice Accelerator (BPA) is a platform that enables Member States to share successful measures and challenges encountered in their efforts to meet their Digital Decade targets and objectives. Best practices are made available to Member States via the BPA Repository and showcased in regular workshops, currently focused on three thematic clusters: Digital Skills, Green IT, and the Uptake of Digital Technologies.

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 Unicorns: Strengthen the growth pipeline for scale-ups by facilitating greater access to private venture capital.