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State of the Digital Decade 2026: Closing structural gaps and mobilising investments for 2030 and beyond

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European Commission

DIGITAL DECADE COUNTRY REPORT 2026

Luxembourg

Luxembourg

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Executive summary

Overall, Luxembourg combines near-universal connectivity with a sovereign digital infrastructure strategy anchored in quantum technologies, AI Factory investment and world-class cybersecurity. However, cloud and data analytics adoption among companies trails the EU average despite strong AI performance, and basic digital skills are growing too slowly, with persistent gaps among those with a low level of education and older citizens.

The weaknesses identified in business digitalisation have direct implications for Luxembourg's competitiveness and economic resilience. An economy as specialised and internationally exposed as Luxembourg's depends critically on the ability of its enterprise base to adopt productivity-enhancing digital tools. Cloud and data analytics gaps in particular limit businesses' ability to scale operations, access cross-border markets and leverage the data infrastructure Luxembourg is building at national level. The drop observed in 2024 in the share of women ICT specialists has only been partially corrected in 2025, signalling a structural vulnerability in a labour market already reliant on attracting international talent.

Luxembourg can, however, count on several digital leadership assets that position it well for the decade ahead. In 2025, the Government of Luxembourg launched the national strategic initiative "Accelerating Digital Sovereignty 2030", comprising three complementary strategies on data, artificial intelligence, and quantum technologies, supported by strategic actions and flagship projects in priority domains, aimed at benefiting public authorities, citizens and businesses. Selected in December 2024 as one of the first seven countries to host an EuroHPC AI Factory, Luxembourg is deploying MeluXina-AI, a new AI-optimised supercomputer operated by LuxProvide alongside the existing MeluXina infrastructure, providing sovereign high-performance computing to businesses, researchers and public administrations from the second half of 2026. The landmark cross-border quantum key distribution link achieved in June 2025, and the forthcoming MeluXina-Q quantum computer confirm Luxembourg's ambition to be a strategically significant node in Europe's emerging quantum infrastructure. The Mistral AI partnership and the AI4LUX campaign signal a new model of sovereign AI deployment in public services. Luxembourg's dual positioning as a financial centre and a data-sovereign digital hub offers a distinctive basis for developing integrated public-private financing vehicles for the next generation of digital ventures.

Luxembourg in the Digital Decade

Luxembourg shows a high level of ambition in its contribution to the Digital Decade having set 12 national targets (out of 14 possible), 100% of which aligned with the EU 2030 targets In its national roadmap, Luxembourg provided 12 trajectory points for 2025 (out of 13 analysed). The country is following them moderately well with 67% considered to be on track. Luxembourg addressed 100% of the 6 recommendations issued by the Commission in 2025, either by implementing significant policy changes (17%) or making some changes (83%) through new measures. According to the national roadmap, by the end of 2026, 18% of the measures will come to an end. The total public budget associated to these measures is EUR 40 million, representing 8% of the total public budget outlined in the roadmap.

According to the special Eurobarometer on the Digital Decade 2026, 79% of Luxembourg people consider that digital policy should have a high or very high priority for the EU in shaping our future in Europe. They also think that, in the next 10 years, the EU should cooperate with Member States to

reinforce cybersecurity and protection from online threats (100%), build an independent European digital infrastructure including broadband, 5G, cloud and semiconductors (90%), and promote digital education and skills programs (86%).

In addition, 87% of Luxembourg respondents think that the EU should reduce its dependencies on digital from third countries, and 89% that the EU should prioritise investments in digital infrastructure and services that are developed and controlled in Europe. Meanwhile, 69% would be willing to switch to an EU-based digital service provider even if it means slightly higher costs.

Funding for digital and multi-country projects

Luxembourg allocates 27% of its total recovery and resilience plan to digital (EUR 17 million). In addition, under cohesion policy, EUR 0.01 billion, representing 17% of the country's total cohesion policy funding, is dedicated to advancing Luxembourg's digital transformation.

Luxembourg is a member of the Alliance for Language Technologies European Digital Infrastructure Consortium (EDIC), of the Local Digital Twins towards the CitiVERSE EDIC, of the EUROPEUM EDIC, of the IMPACTS EDIC and of the Digital Commons EDIC. Luxembourgish entities are indirect partners in the IPCEI on Next Generation Cloud Infrastructure and Services (IPCEI-CIS). Luxembourg also participates in the design of a new, upcoming candidate IPCEI on Artificial Intelligence. Luxembourg is also a participating state of the EuroHPC Joint Undertaking (JU) and of the Chips JU.

Digital Decade KPI (1)	Luxembourg				EU		Digital Decade target by 2030	
	Last available	DESI 2026 (year 2025)	Annual progress	National trajectory	DESI 2026	Annual progress	LU	EU
Fixed Very High Capacity Network	95.2%	95.5%	0.3%	98.5%	85.5%	3.7%	100.0%	100%
Fibre to the Premises (FTTP)	81.8%	85.2%	4.2%	92.9%	74.1%	7.1%	100.0%	-
Basic 5G coverage	99.6%	99.9%	0.3%	98.4%	96.79%	2.6%	100.0%	100%
Edge Nodes (estimate, new methodology)	-	28	-	-	7451	-	-	10000
SMEs with at least a basic level of digital intensity *	57.9%	76.7%	15.1%	75.1%	71.4%	11.0%	90.0%	90%
Cloud *	32.6%	43.7%	15.7%	37.8%	46.7%	9.5%	75.0%	75%
Artificial Intelligence	23.7%	33.6%	41.6%	52.1%	20.0%	48.0%	75.0%	75%
Data analytics *	32.4%	38.2%	8.6%	68.6%	39.9%	9.5%	75.0%	75%
AI or Cloud or Data analytics *	52.0%	64.4%	11.2%	-	63.2%	7.5%	-	75%
Unicorns	2	2	0.0%	-	324	10.2%	-	500
At least basic digital skills *	60.1%	62.4%	1.9%	71.0%	60.4%	4.3%	80.0%	80%
ICT specialists	8.0%	8.7%	8.7%	8.6%	5.0%	2.0%	10.0%	~10%
e-ID scheme notification		Yes						
Digital public services for citizens	97.7	94.7	-3.1%	97.4	84.6	2.8%	100.0	100
Digital public services for businesses	100.0	100.0	0.0%	98.3	88.6	2.7%	100.0	100
Access to electronic health records	76.1	77.1	1.4%	79.2	86.5	4.6%	100.0	100

(1) Indicators full description, metadata and sources in the DESI 2026 methodological note
(2) Last available data is DESI2025 (reference year 2024) except for indicators marked with a star * for which it is DESI2024 (reference year 2023)
(3) National trajectory value for 2025, if set by the country in its Digital Decade national roadmap

Luxembourg

A competitive, sovereign and resilient EU based on technological leadership

Luxembourg performs well above the EU average on connectivity, with near-universal Very High Capacity Network (VHCN) and 5G coverage and a mature fibre deployment model driven primarily by a single national operator. The remaining challenge for fibre to the premises (FTTP) is concentrated in hard-to-reach premises in 'WhiteSpot' areas, where a new legal framework is still undergoing analysis without concrete deployment results, and in stimulating take-up among cost-sensitive households despite an expanding voucher scheme. On 5G, mid-band rural coverage and standalone deployment remain the key gaps that need to be addressed. On the business side, SMEs have made rapid progress in basic digital intensity, but cloud and data analytics adoption among enterprises continues to trail the EU average, with no dedicated instrument targeting enterprises introduced in 2025. Luxembourg has invested decisively in AI infrastructure and sovereign digital capabilities through the MeluXina-AI AI Factory and the Mistral AI partnership, positioning itself as a trusted AI hub in Europe. The start-up ecosystem benefits from Luxembourg's unique positioning as a financial centre and data-sovereign hub, though scaling ventures beyond the early stages remains a structural challenge.

Protecting and empowering EU people and society

Luxembourg's basic digital skills level is above the EU average but below the national trajectory point set by Luxembourg in its national roadmap in 2025. It is also growing more slowly than the EU overall, with persistent gaps among those with a low level of education, older citizens and women. The second National Action Plan for Digital Inclusion, adopted in January 2026, represents a meaningful governance upgrade but further efforts are needed to reach the most excluded groups. The share of ICT specialists in the total workforce is the second highest in Europe and recovered significantly in 2025, though the volatility in the number of women ICT specialists signals a structural vulnerability that warrants continued attention. On digital public services, Luxembourg achieves a perfect score for businesses, but citizen-facing services have declined slightly, and the country ranks among the lowest in the EU for digitalisation of judicial proceedings, with citizens and businesses still unable to fully initiate and follow court proceedings digitally. Access to electronic health records remains below the EU average.

On green digital technologies, Luxembourg's ICT sector emits almost three times the EU average per capita, and while the 'sustainable by design' principle is embedded in the Digital Government Strategy 2026-2030, no national monitoring framework exists to quantify ICT-enabled emission reductions across sectors.

Recommendations

- **Skills:** Strengthen targeted digital skills interventions for the groups most at risk of exclusion, in particular older citizens, women and low-educated populations, by (i) scaling up proximity-based delivery and personalised support mechanisms, and (ii) ensuring programme continuity beyond current funding cycles.
- **Advanced technologies take-up:** Develop targeted policy measures to accelerate the adoption of advanced digital technologies among enterprises, in particular by: (i) accelerating cloud and data analytics adoption among private enterprises, notably by extending the existing SME support architecture beyond basic digitalisation toward advanced technology deployment and by scaling up sovereign cloud offerings adapted to private sector needs; (ii) continuing to support AI uptake by identifying and scaling AI use cases in strategic sectors of the Luxembourg economy, in line with the Apply AI Strategy.
- **Green:** Develop a national monitoring framework to systematically track and report ICT-enabled emission reductions across key sectors, with sector-specific indicators aligned with EU guidance, to give measurable substance to the "sustainable by design" commitment embedded in the Digital Government Strategy 2026–2030.
- **Connectivity:** Accelerate the deployment of high-capacity digital infrastructure. Improve voucher activation rates among eligible low-income households through enhanced outreach and integration into social support services. Accelerate 5G rollout in the 3.4-3.8 GHz mid-band in rural areas, promote the deployment of 5G Standalone networks to enable advanced use cases.
- **Cybersecurity:** Continue efforts in cybersecurity to address the evolving and increasing threats, including by: (i) accelerating efforts to ensure imposition of cybersecurity measures necessary to enhance the cyber posture of critical infrastructure; and (ii) pursuing cybersecurity trainings combining technical and human approaches, supporting lifelong learning and upskilling of the cybersecurity workforce.
- **eHealth:** accelerate the roll-out of electronic health record access and interoperability measures in line with the European Health Data Space framework, including by making ePrescription and eDispensation data available to citizens in a timely manner and by onboarding additional types of healthcare providers to increase the supply of health data.
- **Digital public services (eJustice):** Accelerate the digitalisation of judicial proceedings to allow citizens and businesses to initiate and follow court proceedings digitally.

A competitive, sovereign and resilient EU based on technological leadership

Building technological leadership: digital infrastructure and technologies

Connectivity infrastructure

Performance assessment

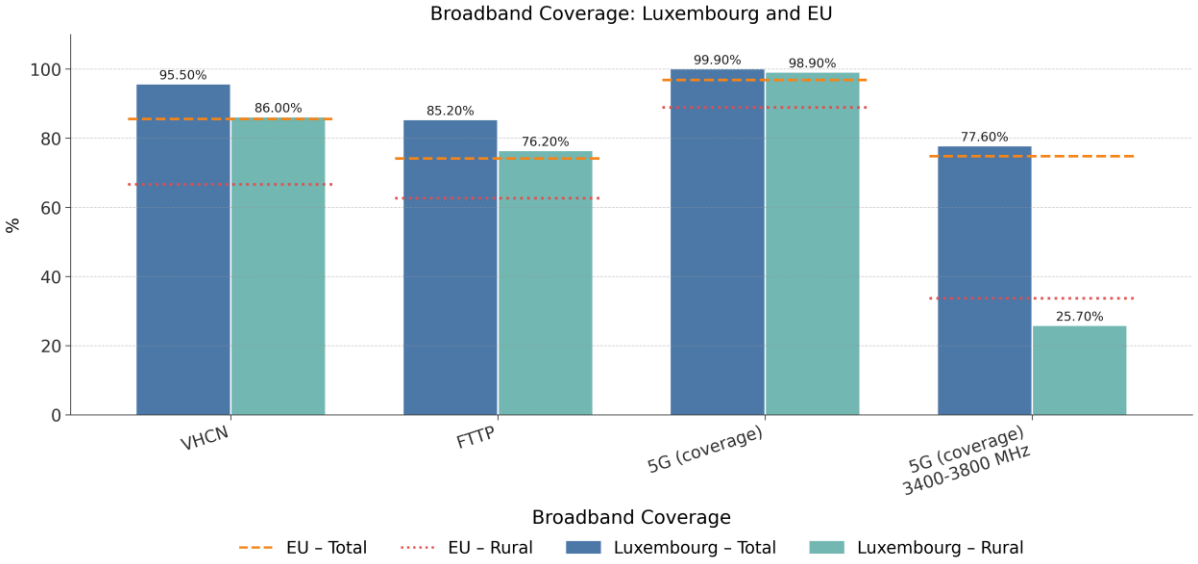
In 2025, Luxembourg's VHCN coverage reached 95.5% (+0.3% since 2024), surpassing the EU average of 85.54%. The country is on track according to its trajectory presented in the Digital Decade national roadmap. Although the EU's growth rate of 3.7% was higher than Luxembourg's 0.3% in 2025, it is normal for the growth rate to decelerate when approaching the saturation point. In sparsely populated areas, Luxembourg's VHCN coverage reached 86.0% (+3.9% since 2024), above the EU average of 66.66%.

Luxembourg's FTTP coverage reached 85.2% in 2025 (+4.2% since 2024), surpassing the EU average of 74.13%. However, the country is lagging behind its national trajectory presented in the Digital Decade national roadmap. Luxembourg's annual growth rate of 4.2% was lower than the EU's 7.1%. In sparsely populated areas, Luxembourg's FTTP coverage reached 76.2% (+12.1% since 2024), above the EU average of 62.61%.

Luxembourg's basic 5G coverage reached 99.9% in 2025 (+0.3% since 2024), surpassing the EU average of 96.79%, but performs below the EU average in 5G coverage in the 3.4-3.8 GHz band in sparsely populated areas. Regarding basic 5G coverage, the country is on track according to its national trajectory presented in the Digital Decade national roadmap. This 3.4-3.8 GHz mid-band is crucial because it strikes a good balance between providing high capacity coverage, making it indispensable for advanced 5G use cases that can be replicated as reference models across sectors, and taking socio-economic drivers into account. These include applications in manufacturing, such as industrial IoT, or healthcare, for example telemedicine. In sparsely populated areas, Luxembourg's 5G coverage reached 98.9% (+2.2% since 2024), above the EU average of 88.88%. Luxembourg's 5G coverage in the 3.4-3.8 GHz band reached 77.6% in 2025 (+9.9% since 2024), above the EU average of 74.75%. Luxembourg's annual growth rate of 9.9% was comparable to the EU's 10.6%. In sparsely populated areas, Luxembourg's coverage in this band reached 25.7% (+42.0% since 2024), and remained below the EU average of 33.71%. The upcoming spectrum licence expiry in 2027 presents an opportunity to establish pro-investment conditions[1].

[1] Pro-investment conditions include longer licence durations to strengthen investment certainty, coverage obligations to accelerate deployment and reasonable spectrum prices that preserve capital for network roll-out.

Luxembourg



Luxembourg consistently outperforms the EU average across VHCN, FTTP and basic 5G coverage. However, it is slightly behind its national trajectories on FTTP. For FTTP coverage in sparsely populated areas, the growth rate of 12.1% significantly outpaced the EU's 6.5%. Regarding 5G, Luxembourg has already exceeded its 2025 national trajectory. The table presenting VHCN, FTTP and 5G coverage across NUTS-2 regions has been omitted for Luxembourg, as the country has no administrative subdivisions classified under NUTS levels.

In terms of 5G penetration, Luxembourg maintains one of the highest rates in the EU, with 133.85%[2] **of 5G SIM cards as a share of population in 2025, well above the EU average of 55.55%**. On fixed broadband subscriptions, Luxembourg is at 20.33% of subscriptions at or above 1 Gbps in 2025, below the EU average of 26.97%, though its growth rate of 34.3% outpaces the EU's 21.2%.

Policy context and assessment of recommendations

Luxembourg's above-EU-average FTTP performance reflects a deliberate and coordinated policy model, with POST Luxembourg playing a central role as the main national fibre operator mostly deploying a point-to-point (P2P) topology across the country, alongside contributions from other fibre operators and a complementary cable infrastructure. Luxembourg's compact geography and high gross domestic product (GDP) per capita create structurally favourable conditions for fibre deployment, making it one of the few Member States where the business case for FTTP coverage accounting for the large majority is commercially viable, with targeted public support required only for the remaining hard-to-reach areas. The regulatory framework, overseen by Luxembourg's national regulatory authority, *Institut Luxembourgeois de Régulation* (ILR), has been progressively updated to reflect this fibre-first reality: in September 2025, ILR adopted a set of secondary legislative acts consolidating wholesale fibre access obligations and maintaining non-discrimination, transparency and price control requirements. A key regulatory milestone was the introduction of formula-based price caps for fibre local loop unbundling, providing operator predictability through to 2030 and reducing discretionary regulatory intervention while preserving essential *ex ante* safeguards.

[2] A ratio above 100% reflects the number of active 5G SIM cards relative to total population, including multiple SIM cards per individual and connected devices.

Residual coverage gaps are concentrated in sparsely populated and hard-to-reach areas. The recently adopted law of 19 December 2025 provides a legal and financial framework to address these 'WhiteSpots', and an in-depth address-level analysis is currently under way to identify eligible interventions. MyConnectivity (myconnectivity.lu), a joint initiative created by the Luxembourg State and LU-CIX GIE to implement the national connectivity strategy, has received a new financing framework extending to 2030. Two complementary infrastructure initiatives, the National Registry of Vertical Cabling and the Planadori underground network cadastre, further support deployment efficiency and interoperability. On the demand side, the voucher scheme for low-income households issued approximately 25 500 vouchers in 2025 (activation rate: ~45%), with the 2026 scope broadened by raising the income threshold and extending automatic eligibility to recipients of the social inclusion income (around 32 100 vouchers estimated). Nonetheless, structural barriers to take-up persist, particularly among single-person households that forego fixed connections entirely for cost reasons.

The copper switch-off is progressing steadily and on schedule. From approximately 96 000 copper lines remaining at the end of 2023, the number fell to around 73 000 by the end of 2024 and to approximately 50 000 by the end of 2025, a reduction of roughly one third year-on-year. The process is governed by a coordinated framework established by ILR, requiring operators to notify retail customers six months and six weeks in advance of their switch-off date and to offer migration to alternative networks. Consumer-facing tools such as myILR.lu and smartcompare.lu support informed decision-making, while installation costs are typically absorbed by operators, removing a key financial barrier for end-users. Special attention has been paid to essential services such as alarm systems and healthcare equipment to ensure service continuity during the migration. Full copper decommissioning is expected to be completed by 2030, in line with POST Luxembourg's public commitment to achieving full fibre coverage by that date.

Regarding 5G standalone (SA), no nationwide deployment has yet materialised, with limited market demand and restricted equipment vendor choice cited as the main obstacles. However, technical readiness for 5G SA is progressing, and an initial commercial launch could occur in 2026. On quantum-secured connectivity, Luxembourg is participating in two projects funded by the Connecting Europe Facility, namely BENELUX-QCI and TransEuroOGS, the aim being to build cross-border quantum key distribution infrastructure as a long-term contribution to network resilience and security.

2025 recommendation on 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.
In 2025, Luxembourg made some efforts to address the recommendation through new policy actions in 2025. The country adopted a new legal framework for 'WhiteSpots' coverage and expanded the voucher scheme with automatic eligibility for social inclusion income recipients. These are genuine new measures directly addressing the recommendation. However, the 'WhiteSpot' analysis is currently under way following the adoption of the legal framework in December 2025, and concrete deployment results are expected in the coming months. The voucher activation rate, at 45% by the end of2025, and the structural take-up barrier among cost-sensitive households remain areas requiring continued attention.

Semiconductors

Luxembourg contributes to EU semiconductor objectives through niche segments of the value chain, notably in materials and coating technologies, building on existing activities in industry and research. The country aims to increase the number of semiconductor-related companies from two to four by 2030. No new sector-specific national measures were introduced this year.

Edge nodes

Performance assessment

According to the Edge Nodes Observatory, Luxembourg is estimated to have deployed a total of 28 edge nodes by 2025. Due to a change in methodology, this number cannot be compared to previous estimates.

Policy context and assessment of recommendations

No new policy developments related to edge computing were reported for Luxembourg in 2025, with the measures identified in the national Digital Decade strategic roadmap remaining unchanged.

Quantum technologies

In 2025, Luxembourg made decisive strides in quantum technologies, both strategically and operationally, with the Quantum Strategy published by the Government in May 2025 as part of the broader 'Accelerating Digital Sovereignty 2030' programme. The strategy is structured around three main objectives: developing quantum computing expertise and services through the future MeluXina-Q computer; building a quantum-secure communication infrastructure; and driving economic value through quantum technologies.

On the computing side, LuxProvide was selected as a new EuroHPC JU hosting site, with MeluXina-Q set to be integrated into the existing MeluXina supercomputer and co-funded by the EuroHPC JU through the Digital Europe Programme, with EU investment of up to EUR 8.5 million. MeluXina-Q will initially feature a 10-qubit silicon spin-qubit quantum processing unit (QPU), with a planned upgrade path to 80 physical qubits, targeting use cases in chemistry, personalised medicine, and AI. The system is expected to be operational and available to researchers, industry and public sector users in the second half of 2026.

On quantum communications, Luxembourg delivered a landmark result. In collaboration with the BeQCI consortium, Luxembourg's LUQCIA lab achieved the first terrestrial cross-border connection with Belgium spanning over 41 km, linking Belnet's PoP in Arlon (BE) and the University of Luxembourg's QCI Lab in Kirchberg (LU). In parallel, the INT-UQKD project also set up an operational Quantum-secure communication between the European Space Agency's (ESA's) European Space Security and Education Centre (ESEC) in Redu (BE) and a datacenter located in Windhof (LU), bridging a distance of 101 km. In November 2025, the SpeQtre satellite which hosts a quantum communication payload developed by SpeQtral has been launched. This satellite will provide a platform for the demonstration of intercontinental quantum-safe communication through the INT-UQKD project.

In December 2025 the European Commission accepted 2 new projects building on the legacy of LUQCIA and Lux4QCI. The BENELUX-QCI project, in which Belgium, the Netherlands and Luxembourg are building a cross-border quantum communication infrastructure linking the three countries via a fibre-optic backbone and counting on the participation of their respective national research and education networks. This project will possibly integrate the INT-UQKD project as a use case. Alongside

this, Luxembourg also participates in the TransEuroOGS project, coordinated by Germany, which focuses on the technical harmonisation and interoperability of 8 European optical ground stations in preparation for the Eagle-1 satellite mission. The launch of Eagle-1, a precursor to the EuroQCI space segment, is scheduled for 2027.

Luxembourg's quantum ambitions are firmly anchored in Europe's broader sovereignty agenda. With MeluXina-Q coming online, a first cross-border QKD backbone operational, and active participation in EuroQCI and EuroHPC, Luxembourg is positioning itself as a small but strategically significant node in Europe's emerging quantum infrastructure.

Supporting EU-wide digital ecosystems and scaling up innovative enterprises

SMEs with at least basic digital intensity

Performance assessment

In Luxembourg, after an annual increase of 15.1% between 2023 and 2025, 76.68% of SMEs have at least a basic level of digital intensity, standing above the EU average of 71.39%. In 2023, the figure for Luxembourg was 57.85%, slightly below the EU average of 57.90%. Luxembourg's annual growth rate of 15.1% surpasses the EU's growth rate of 11.0%, and the country has moved from below to above the EU average over the period. The country is on track according to its national trajectory of 75.1%.

Regarding SMEs with a very high digital intensity index, after an annual increase of 60.4% between 2023 and 2025, Luxembourg is at 8.82%, remaining marginally below the EU average of 9.07%. In 2023, Luxembourg's figure was 3.43%, compared to the EU's 4.38%. Although Luxembourg's annual growth rate of 60.4% significantly outpaces the EU's 43.9%, Luxembourg SMEs continue to trail their EU peers slightly in achieving a very high level of digital intensity.

Policy context and assessment of recommendations

Luxembourg's strong progression in terms of the basic digital intensity of SMEs has to be considered in the context of a small, highly internationalised and service-oriented economy where the SME base is disproportionately concentrated in financial services, professional services and logistics. This structural composition means that headline digital intensity indicators tend to perform relatively well, while the challenge of reaching genuinely low-intensity sectors such as construction and retail remains structurally harder to address. The limited size of the domestic market also constrains the scale at which digital tools generate productivity returns for smaller firms, making the cost-benefit calculus less favourable than in larger economies. A persistent structural barrier is the limited in-house digital skills and managerial capacity within smaller firms, which restricts their ability to identify, implement and sustain digital tools without external support even when co-funded instruments are available. The OECD Economic Survey Luxembourg 2025 confirms that SMEs constitute the bulk of productivity laggard firms and that the administrative procedures for accessing public innovation support have historically been identical for SMEs and large enterprises, discouraging smaller firms from applying.

Luxembourg's national strategy 'Accelerating Digital Sovereignty 2030' has mobilised EUR 3 billion over 2025-2030, of which EUR 424 million constitutes newly earmarked funding for new initiatives, including sector-specific flagship projects in areas directly relevant to SMEs such as finance, mobility, health and energy. Within this framework, the policy architecture supporting SME digitalisation rests

on a structured combination of diagnostics, advisory support and co-funding instruments. The Fit 4 Digital programme provides digital maturity assessments and targeted guidance. The SME Packages framework was expanded in March 2025 to five tracks, adding AI and Cybersecurity to the existing Digital Transformation, Customer Experience and Energy Transition packages, with financial aid covering up to 70% of eligible costs within a range of EUR 3 000 to EUR 25 000. Two additional instruments were launched in 2025: the Fit 4 Digital AI track, providing accredited consultant support for AI feasibility studies and implementation roadmaps, and the New Tech Adaptation for Companies (NTAC) led by IMS Luxembourg, directly targeting SME employees through awareness-raising and hands-on training, with 137 participants from nine companies already involved. Administrative simplification also advanced in 2025, with the Fit 4 Digital audit cost reduced to EUR 5 000, which is now fully covered by a government grant. This directly addresses the fact that the EUR 15 000 Fit 4 Innovation audit cost was previously identified as a barrier.

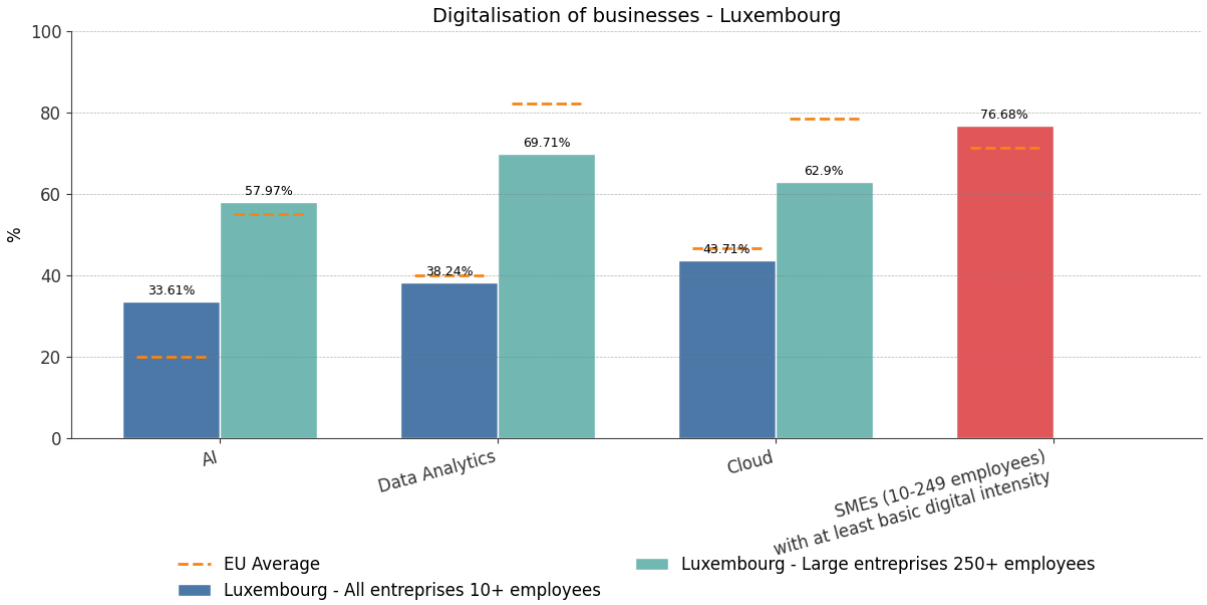
The progression from below to above the EU average on basic digital intensity between 2023 and 2025 suggests improvement in tackling early-stage digitalisation. However, the conversion from introductory to frontier digital adoption remains incomplete, with SMEs with a very high digital intensity index still marginally below the EU average despite rapid growth. The challenge is therefore less about introducing new instruments and more about increasing effective uptake and converting advisory support into measurable technology deployment, particularly among micro-enterprises and less digitally mature sectors.

2025 recommendation on digitalisation of SMEs: Further support the uptake of advanced digital technologies (cloud, AI, data) by SMEs, who currently lag significantly behind larger enterprises.
Luxembourg made some efforts to address the recommendation through new policy actions in 2025. The launch of Fit 4 Digital AI, the new SME Package AI and Cybersecurity tracks, the lowering of the audit cost barrier, and the NTAC project collectively represent new measures that directly target advanced technology uptake among SMEs. However, given that these measures were only recently introduced, measurable evidence of their impact remains to be documented.

Luxembourg

Take up of advanced technologies

Performance assessment



In Luxembourg, after an annual increase of 8.6% between 2023 and 2025, 38.24% of enterprises have adopted data analytics, slightly below the EU average of 39.85%. The country is lagging behind its national trajectory of 68.6%. In 2023, the figure for Luxembourg was 32.41%, comparable to the EU average of 33.25%. Luxembourg's growth rate of 8.6% lags behind the EU's growth rate of 9.5%. Focusing on SMEs, after an annual increase of 8.9%, Luxembourg is at 37.15%, which is below the EU average of 38.59%. Luxembourg's 8.9% growth rate for SMEs is also lower than the EU's growth rate of 9.7%. For large enterprises, after an annual increase of 4.1%, Luxembourg is at 69.71%, significantly below the EU average of 82.03%. Luxembourg's 4.1% growth rate for large enterprises also lags behind the EU's growth rate of 6.9%.

After an annual increase of 15.7% between 2023 and 2025, 43.71% of Luxembourg enterprises have adopted cloud technologies. This puts Luxembourg below the EU average of 46.69%. The country is on track according to its national trajectory of 37.8%. In 2023, the figure for Luxembourg was 32.63%, lower than the EU average of 38.97%. Although Luxembourg's growth rate of 15.7% surpasses the EU's growth rate of 9.5%, Luxembourg enterprises still lag behind their EU counterparts in cloud adoption. For SMEs, after an annual increase of 16.7%, Luxembourg is at 43.05%, which is below the EU average of 45.74%. Luxembourg's 16.7% growth rate exceeds the EU's growth rate of 9.7%. For large enterprises, after an annual increase of 0.2%, Luxembourg is at 62.9%, significantly below the EU average of 78.32%. Luxembourg's 0.2% growth rate for large enterprises is considerably lower than the EU's 6.0%.

After climbing 41.6% between 2024 and 2025, 33.61% of enterprises have adopted artificial intelligence, putting Luxembourg above the EU average of 19.95%. The country is lagging behind its national trajectory of 52.1%. In 2024, the figure for Luxembourg was 23.73%, above the EU average of 13.48%. Luxembourg's growth rate of 41.6% is lower than the EU's growth rate of 48.0%. For SMEs, after rising 42.7% over the year, Luxembourg is at 32.77%, above the EU average of 18.9%. In 2024,

the figure for Luxembourg was 22.96%, above the EU average of 12.64%. Luxembourg's 42.7% growth rate for SMEs also lags slightly behind the EU's 49.5%. For large enterprises, Luxembourg is at 57.97% after an increase of 27.1% over the year. This puts it above the EU average of 55.03%. Luxembourg's 27.1% growth rate for large enterprises is lower than the EU's 33.7%.

In Luxembourg, 64.35% of enterprises have adopted AI, cloud, or data analytics technologies after an annual increase of 11.2% between 2023 and 2025. This puts it above the EU average of 63.20%. In 2023, the figure for Luxembourg was 52.01%, below the EU average of 54.7%. Luxembourg's growth rate of 11.2% surpasses the EU's growth rate of 7.5%. For SMEs, after an annual increase of 11.7%, Luxembourg is at 63.54%, which is above the EU average of 62.32%. Luxembourg's 11.7% growth rate exceeds the EU's 7.7%. For large enterprises, Luxembourg is at 87.84% after an annual increase of 3.0%. This puts it below the EU average of 92.78%. Luxembourg's 3.0% growth rate for large enterprises is lower than the EU's 3.4%.

Luxembourg presents a mixed picture in terms of the adoption of advanced digital technologies. AI adoption stands out as a clear strength, with Luxembourg significantly above the EU average across businesses of all sizes. **However, cloud and data analytics adoption continue to trail the EU average, particularly among large enterprises where the gaps are most pronounced.** Overall enterprise adoption of AI, cloud or data analytics combined is marginally above the EU average, driven primarily by strong AI performance, while cloud and data analytics remain areas requiring further policy attention.

Policy context and assessment of recommendations

Luxembourg's mixed performance on advanced technology adoption, with AI uptake above the EU average but cloud and data analytics still trailing, has to be understood in the context of a small, highly service-oriented economy where digital transformation is concentrated in financial services and a few other advanced sectors. This structural concentration means that aggregate figures mask significant disparities: AI adoption appears strongest in sectors where Luxembourg has established comparative advantages, such as in finance. Beyond the digitally advanced core, adoption is held back by further in-house capacity constraints, and data interoperability challenges. Against this backdrop, 2025 marked a decisive shift in Luxembourg's policy approach, combining infrastructure investment, data governance and ecosystem development within a consistent framework.

On infrastructure, Luxembourg was selected as one of the first seven EU countries to host an AI Factory under the EuroHPC JU, with MeluXina-AI as its centrepiece. MeluXina-AI is an AI-optimised supercomputer costing a total of EUR 112 million, co-financed 50% by EuroHPC JU and with EUR 60 million from the Luxembourg State. It is expected to be operational in the second half of 2026. Meanwhile, the Luxembourg AI Factory is already operational and builds on the existing MeluXina supercomputer; the first concrete output was seen in February 2026, with nine projects awarded EUR 11.6 million through the HPC-AI BRIDGES call.

On data, Luxembourg adopted a national Data Strategy in 2025, establishing the Data Factory run by the Ministry for Digitalisation to help create interoperable data services and products accessible to private companies, the public sector and research organisations. This is underpinned by a governance model built around the national data portal letzdata.lu, the Government Commission on Data Sovereignty (CGSD), the secure CTIE (Government IT Centre) infrastructure and the Luxembourg National Data Service (LNDS). Luxembourg is also coordinating the national roll-out of several European Data Spaces and Data Hubs in health and mobility and contributing to major EDICs including

the Impacts EDIC – improving data exchange between Member States – and LLMs4EU. These initiatives create an ecosystem that can support data analytics adoption across the economy, though their impact on private enterprise uptake remains to be seen.

On cloud, Luxembourg-based sovereign providers, notably through the GovCloud/Clarence infrastructure, are developing commercial offerings increasingly adapted to private business needs. However, no new instruments specifically targeting cloud adoption among private enterprises more broadly were introduced in 2025, and uptake continues to trail the EU average.

On business support, the Fit 4 Digital AI track and the new SME Package AI track, both launched in 2025, provide accredited advisory support and co-funded access to AI solutions. On the regulatory side, Luxembourg was the first EU Member State to submit a national draft bill implementing the AI Act, with the country's competent authorities already preparing regulatory sandboxes and accompanying measures.

While Luxembourg's policy response on AI is comprehensive and well-funded, and the data governance framework provides a meaningful foundation for data analytics adoption, the instruments specifically targeting cloud adoption among private enterprises remain less developed. The time lag before MeluXina-AI becomes fully operational and the limited availability of impact data on existing instruments are further near-term constraints.

Unicorns, scale-ups and start-ups

Performance assessment

Luxembourg's number of unicorns remained stable at 2 in early 2026, showing no change compared to the previous year. The country is not targeting a specific number of unicorns, reflecting the structural features of its ecosystem. In particular, the small size of the domestic market and Luxembourg's positioning as a testing ground for innovation tend to favour the outward scaling of start-ups.

Policy context and assessment of recommendations

The institutional backbone of the ecosystem has continued to strengthen in 2025. **Luxinnovation** remains the central orchestrator with an explicit focus on deepening SME outreach. The Fit 4 Start accelerator call for its 16th edition, launched in October 2025, attracted a record 495 applications from 61 countries - a record that reflects Luxembourg's international appeal as an entry point to the EU market - with 20 startups ultimately selected across digital, health technologies and space sectors. . The programme provides seed funding, mentoring and ecosystem access to early-stage start-ups. The programme, which has supported 184 start-ups since 2015 with 121 still active and EUR 299 million raised in total, received the official EIC plug-in scheme certification from the European Innovation Council in 2025, enabling graduates to access EU funding directly through the EIC Accelerator.

In 2025, Luxinnovation also launched Fit 4 Scale, a new programme providing nine months of tailored support to help start-ups move beyond the seed stage and prepare for Series A funding, with a first cohort of five companies selected. The **Luxembourg-City Incubator** and the **Technoport** accelerator complement this offer for hardware and deep-tech ventures.

On financing, Luxembourg's venture capital ecosystem benefits from the country's established status as a leading European fund domiciliation centre, which is home to a significant share of EU-domiciled

venture capital and private equity vehicles. However, as flagged in the 2025 Digital Decade report, access to late-stage private venture capital for domestic scale-ups remains a structural gap. The national strategy 'Accelerating Digital Sovereignty 2030' has mobilised EUR 3 billion for 2025-2030, with EUR 424 million in newly earmarked funding, part of which targets flagship projects in sectors such as finance, space, health and mobility where Luxembourg-based scale-ups are most active. The **strategic partnership with Mistral AI**, signed in June 2025, signals a new model of public-private collaboration that could catalyse further international technology partnerships and attract AI-focused ventures to Luxembourg's ecosystem.

A significant demand-side lever is emerging through Luxembourg's AI Factory. The **HPC-AI BRIDGES call** – as mentioned above – provides start-ups and SMEs with access to MeluXina's computing capacity for AI development. This 'compute-as-support' model directly addresses one of the key bottlenecks for AI-focused scale-ups: access to affordable high-performance infrastructure.

Looking ahead, the main challenge for Luxembourg's ecosystem is less about early-stage support – which is well-structured – and more about retaining and scaling companies beyond the seed and early-growth phases. The strong presence in Luxembourg of subsidiaries of multinational groups, often deploying proprietary digital solutions developed abroad means that digital transformation patterns tend to be cross-border and uneven. Luxembourg's distinctive positioning as a deeply integrated financial centre with strong capital market expertise could provide a basis for developing integrated public-private financing vehicles targeting growth and later-stage rounds, directly addressing the structural gap identified above.

2025 recommendation on unicorns: Strengthen the growth pipeline for scale-ups by facilitating greater access to private venture capital.
In 2025, Luxembourg made some efforts to address the recommendation through new policy actions. The launch of Fit 4 Scale, providing nine months of tailored support for start-ups preparing for Series A funding, and the HPC-AI BRIDGES call awarding EUR 11.6 million to nine projects represent meaningful steps toward strengthening the scale-up pipeline. However, access to late-stage private venture capital remains a structural gap, with growth and later-stage ticket sizes still dependent on foreign lead investors and exit pathways remaining primarily driven by mergers and acquisitions.

Strengthening Cybersecurity & Resilience

As for general digitalisation, Luxembourg enterprises show an overall level of cybersecurity uptake broadly in line with the EU average. In 2024, 55.25% of enterprises applied at least 5 cybersecurity measures (out of 11, as measured by Eurostat), only slightly below the EU average of 56.85%. However, this aggregate masks contrasting patterns across specific measures. While Luxembourg performs above the EU average in the use of encryption techniques (40.21% vs 39.72%) and ICT security tests (37.21% vs 34.64%), it lags in the adoption of biometric authentication methods (15.02% vs 18.27%).

Luxembourg's cybersecurity framework is among the most institutionally developed in the EU relative to its size, built around a dense architecture of specialised public bodies and a strong tradition of public-private collaboration. The Luxembourg House of Cybersecurity (LHC) serves as the central pillar of national cyber resilience, housing CIRCL and NC3 and providing incident response, competence

development, certification support and sector-specific guidance across critical sectors including finance, health, defence, municipalities and education.

Against this backdrop, 2025 saw a series of targeted policy developments. On the open-source and sovereignty side, the Open-Source Programme Office (OSPO) – inaugurated within the LHC in late 2024 – became operational and active in 2025, contributing to European open-source cybersecurity initiatives and participating in the Digital Commons EDIC, of which Luxembourg became the fifth member in December 2025. The CLAUSEN project advanced its open cybersecurity dataspace, providing collaborative threat detection tools intended to benefit a broader ecosystem beyond direct IPCEI participants. The Law of 6 June 2025 on the renewal of aid schemes for research and innovation introduces a 15% higher State aid intensity for activities whose results are disseminated through open-source software, and up to 25% for multi-country projects, reinforcing the sovereign-by-design dimension of Luxembourg's cybersecurity posture.

On enterprise cybersecurity, the most significant new policy action was the launch of the **SME Package - Cybersecurity** in March 2025, providing co-funded access to IT security technologies for smaller firms and directly targeting a segment where awareness and resource constraints have been consistently identified as barriers. This was complemented by a private-sector initiative: a 24/7 Security Operations Centre specifically designed for SMEs was launched in 2025 by Luxembourg cybersecurity firm RSecure, combining proactive threat detection, incident response and employee awareness training. The cybersecurity-focused track within the MeluXina-AI AI Factory consortium – led by the Luxembourg House of Cybersecurity – further embeds security-by-design into Luxembourg's advanced computing infrastructure.

On awareness specifically, Luxembourg deployed several complementary actions. BEE SECURE, as the the Safer Internet Centre of Luxembourg, continued its broad-based awareness programme targeting children, young people and their entourage (parents, teachers and educators), delivering 1 211 training sessions reaching approximately 27 000 participants in 2025.

The SME Package Cybersecurity and the NTAC project represent genuine new entry points targeting employee awareness within firms, but they are recent instruments whose reach beyond the most digitally engaged firms remains to be demonstrated. Luxembourg's structural challenge in this area is not institutional capacity, which is strong, but uptake: translating a sophisticated national framework into systematic behavioural change at firm level, particularly in sectors outside finance where cyber maturity is lower.

2025 recommendation on cybersecurity: Continue efforts in cybersecurity to address evolving threats, particularly regarding employees' awareness.
In 2025, Luxembourg made some efforts to address the recommendation through new policy actions in 2025, notably the SME Package – Cybersecurity and the national cyberfraud campaign. While these measures directly target enterprise and citizen-level awareness, the recommendation's focus on employee awareness within firms goes beyond what these instruments alone can deliver, as systematic behavioural change at firm level requires sustained engagement over time.

Protecting and empowering EU people and society

Empowering people and bringing the digital transformation closer to their needs

Equipping people with digital skills

Basic digital skills

Performance assessment

In Luxembourg, 62.4% of individuals aged 16-74 have at least basic digital skills after an annual increase of 1.9% since 2023, when the figure was 60.14%. This places Luxembourg above the EU average of 60.40% in 2025 and 55.56% in 2023. However, Luxembourg's annual growth rate of 1.9% lags behind the EU's 4.3%, indicating a slower pace of improvement compared to the broader EU trend. The country is lagging behind its national trajectory of 71.0% as defined in its Digital Decade national roadmap.

Regarding the **gender gap,** Luxembourg exhibits a difference of 2.92 pps in favour of men, with 63.84% of men and 60.92% of women possessing basic digital skills. This gap is slightly wider than the EU average of 2.75 pps in favour of men. Luxembourg's figures for both genders are above the EU averages of 61.77% for men and 59.03% for women.

Education level significantly influences digital proficiency in Luxembourg. Individuals with no or low formal education have a digital skills rate of 31.66%, which is below the EU average of 37.56% and represents a 30.74 pp. gap relative to the national average, larger than the EU's 22.84 pp. gap.

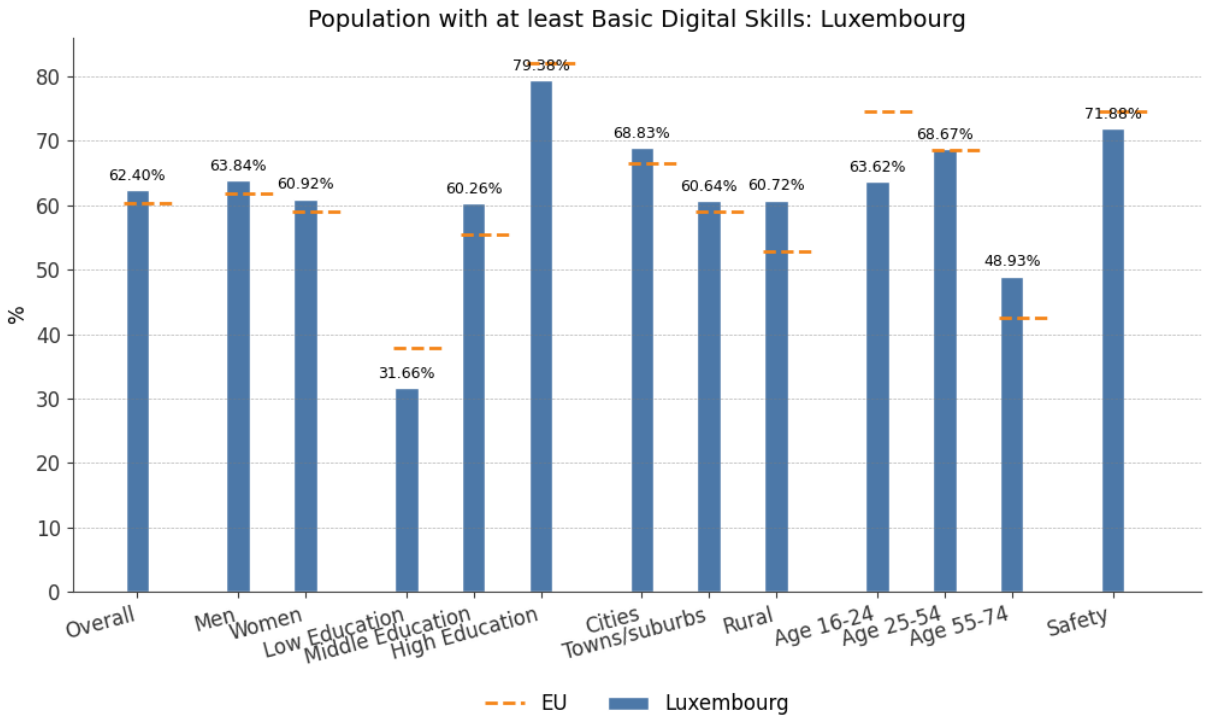
In **urban areas,** 68.83% of individuals in Luxembourg have basic digital skills, surpassing the EU average of 66.50%. In towns and suburbs, the figure is 60.64%, slightly above the EU average of 59.02%. The gap between these areas in Luxembourg is 8.19 pps, smaller than the EU's highest gap between cities and rural areas of 13.67 pps.

Younger adults aged 25 to 54 in Luxembourg have a digital skills rate of 68.67%, marginally higher than the EU average of 68.57%. For older adults aged 55 to 74, the figure is 48.93%, above the EU average of 42.60%.

In terms of **digital safety skills**, 71.88% of individuals in Luxembourg have at least basic safety skills, slightly below the EU average of 74.63%. This warrants attention to ensure that individuals are equipped to protect themselves in the digital environment.

Regarding the **use of generative AI,** 42.54% of people in Luxembourg used it in 2025, significantly above the EU average of 32.66%. For professional purposes, the usage rate is 24.87%, significantly higher than the EU average of 15.36%. Based on the results of the Digital Decade Eurobarometer 2026, the main obstacles preventing Luxembourg citizens from using or using more generative AI tools are concerns about privacy or data protection (49%), concerns about accuracy or incorrect information (42%), and concerns about ethical issues or misuse of generative AI tools (39%).

In summary, Luxembourg's digital skills profile reveals a mixed picture. While the country outperforms the EU in most areas, the slower growth rate and the lag behind its planned national trajectory are causes for concern. The significant disparity based on education level requires targeted interventions, and Luxembourg's strong generative AI adoption must be accompanied by efforts to ensure inclusive digital skills acquisition across all segments of the population.



In Luxembourg, 65.98% of **individuals were exposed to untrue or doubtful content online** in 2025, marking an annual increase of 2.0% since 2023, when the figure was 63.4%. This places Luxembourg above the EU average, which stood at 55.90% in 2025 and 49.25% in 2023. The annual growth rate for Luxembourg (2.0%) is significantly lower than that of the EU (6.5%). When examining the age groups, younger individuals (16-24) are more exposed to such content: 75.08% in 2025, compared to 68.22% for those aged 25-64. This age-group gap of 6.86 pps in Luxembourg is slightly lower than the EU average gap of 7.77 pps.

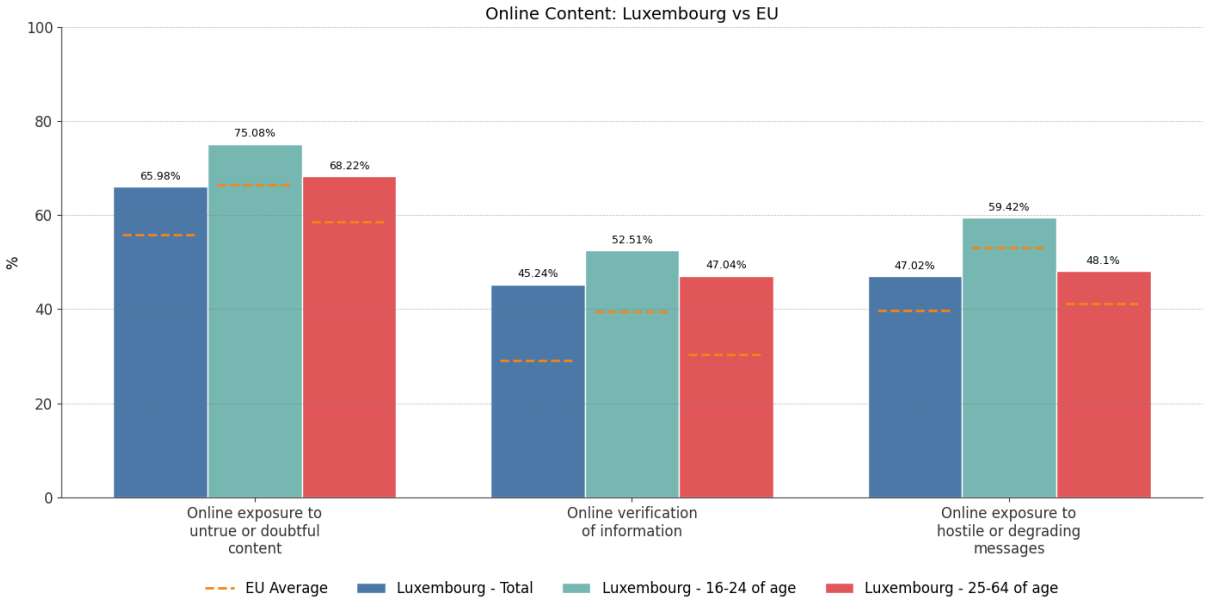
However, 45.24% of individuals **verified the truthfulness of online content in 2025**, following an annual increase of 6.0% from 40.29% in 2023. This figure is significantly above the EU average of 29.16% in 2025 and 24.29% in 2023. The annual growth rate for Luxembourg (6.0%) is lower than that of the EU (9.6%). Younger individuals (16-24) are more likely to verify online content, with 52.51% doing so in 2025 compared to 47.04% of those aged 25-64. The gap between both age categories is 5.47 pps, lower than the EU average gap of 9.09 pps.

Concerning **individuals exposed to hostile or degrading messages online**, Luxembourg reached 47.02% in 2025, reflecting an annual increase of 1.3% from 45.82% in 2023. This figure is above the EU average of 39.72% in 2025 and 33.50% in 2023. Luxembourg's annual growth rate (1.3%) is significantly lower than that of the EU (8.9%). Younger individuals (16-24) are more exposed to such content, with 59.42% in 2025 compared to 48.1% for those aged 25-64. The gap between these age categories is 11.32 pps, slightly lower than the EU average gap of 11.85 pps.

Luxembourg

According to the Digital Decade Eurobarometer 2026, 87% of Luxembourg people agree that online manipulation, such as disinformation, foreign interference, AI-generated content and deepfakes, poses a threat to our democratic processes. In addition, when asked about the online issues with the biggest personal impact on them, Luxembourg citizens highlighted 'fake news and disinformation' (58%), 'insufficient protections for minors' (50%), and 'misuse of personal data' (49%). In relation to the latter, 92% of people think it should be a priority for the EU to further strengthen the protection of children and young people online.

Overall, Luxembourg consistently reports higher figures than the EU average across all three online content indicators, reflecting a highly connected and digitally engaged population. A notable strength is Luxembourg's significantly above-average rate of online content verification, more than 50% above the EU average, suggesting a relatively resilient and critically engaged population. At the same time, the lower annual growth rates compared to the EU across all three indicators suggest that Luxembourg's online content engagement is stabilising at already elevated levels, with age-group gaps generally smaller than EU averages, indicating uniform behaviour across demographics.



Policy context and assessment of the recommendations

Luxembourg's above-EU-average performance on basic digital skills has to be considered against a set of structural features that both support and constrain further progress. Near-universal connectivity infrastructure and high GDP per capita create favourable enabling conditions for digital engagement. Luxembourg's intrinsically multilingual environment, with three official and administrative languages and foreign nationals making up nearly half the population according to STATEC (2025), means that training material and support services must be accessible across multiple linguistic backgrounds to effectively reach all segments of the population. This structural challenge is particularly acute for the segments that remain most digitally excluded – older people, women, and those with a lower level of formal education – for whom proximity-based and personalised interventions are most effective but least scalable through mainstream channels.

The slower growth rate in basic digital skills relative to the EU average reflects the inherent difficulty of reaching those groups that remain excluded once the more easily reachable population has been addressed, a pattern common to Member States that start from a relatively high baseline.

Luxembourg took a significant governance step with the January 2026 adoption of the second National Action Plan for Digital Inclusion, co-developed with 33 non-state stakeholders and structured around 95 initiatives across 12 specific objectives, each with a defined timeline and measurable indicators monitored by an external expert. This represents a meaningful upgrade in accountability and ambition compared to the first plan and responds directly to the three target groups identified in the recommendation.

In terms of delivery, several targeted initiatives directly address these groups. For older people, GoldenMe significantly scaled its proximity activities in 2025, with 82 SmartCafé events reaching 529 participants and 23 SmartTalks sessions reaching 558 participants. The 'Digital Doheem' project – providing personalised at-home digital support for older adults losing autonomy – was recognised as one of the Digital Inclusion Prize 2025 laureates. The Luxembourg Tech School extended its AI literacy workshops for seniors by two additional years. For populations with a lower level of education, the 'Starter Pack' module for persons with intellectual disabilities and the 'Éisleker Koppen' board game for seniors with low digital confidence both received Digital Inclusion Prize funding. The LISER study on digital inclusion in Luxembourg, published in 2025, provides an updated analytical foundation for targeting future interventions more precisely.

On workforce upskilling, the **Skillsbridges** programme trained 70 people in digital skills during its first year (2024-2025) and is scaling to up to 500 participants in 2025-2026 across 31 digital-focused sessions covering AI, data science and green IT, targeting adults seeking to develop immediately applicable skills for the labour market. Additionally, ADEM, Luxembourg's Public Employment Agency, launched the "e-office" programme in 2025 in collaboration with the Chamber of Employees to support the upskilling of jobseekers in basic digital office skills through self-paced online modules. Since its launch, the programme has trained 750 jobseekers and is set to train an additional 750 participants by June 2027.

On online safety and media literacy, BEE SECURE delivered 1,211 training sessions in 2025 reaching approximately 27,000 participants across school classes, out-of-school children's and adolescent groups, parents, teaching and educational staff. Two dedicated awareness campaigns were deployed in 2025. The 'Gleef net alles am Netz' campaign on sextortion and romance scams, launched in summer 2025, generated over 1.6 million impressions across social media, reaching predominantly the 18-65 age group. The 'Cornhub ≠ Reality' spring campaign targeting young people's perception of online pornography won the Best Awareness-Raising Resource award from the European network of Safer Internet Centres and is being translated into multiple EU languages for wider distribution. Luxembourg's relatively high rate of online content verification compared to the EU average suggests a resilient population, though the notably high rates of exposure to hostile and doubtful content, particularly among younger age groups, warrant continued attention, especially as generative AI adoption accelerates well above the EU average.

2025 recommendation on Digital skills: Scale up targeted programs to reach older citizens, women, and populations with lower education background.
Luxembourg addressed fully the recommendation by putting significant policy actions into place in 2025, notably through the adoption of the second National Action Plan for Digital Inclusion and the scaling of targeted initiatives for seniors, women and groups with a lower level of education.

While the pace of improvement in basic digital skills remains below the EU average and the full impact of the new Action Plan will take time to materialise, the governance upgrade and the breadth of new targeted initiatives represent a substantive and direct response to all three dimensions of the recommendation.

ICT specialists

Performance assessment

In 2025, ICT specialists made up 8.7% of total employment in Luxembourg, marking an increase of 8.7% since 2024. This puts it well above the EU average of 5.0% and the second highest rate in Europe. The country is on track according to its national trajectory as defined in its Digital Decade national roadmap.

The picture on gender and talent supply is mixed but improving. The share of women ICT specialists returned to above the EU average of 19.5% to reach 20.0% in 2025, after a sharp decline to 17.5% in 2024. While this represents a positive reversal, the share remains below its 2023 level of 22.5%. At the same time, 24.84% of enterprises in Luxembourg provided ICT training in 2024, slightly above the EU average of 22.29%, suggesting that while firms are relatively active in upskilling, this does not yet translate into sustained gender balance in ICT roles. Luxembourg is one of the Member States with the highest share of ICT graduates, at 8.50% of all graduates in 2025. In 2024, 12.39% of Luxembourg enterprises recruited or tried to recruit personnel with ICT specialist skills, above the EU average of 9.55%.

Policy context and assessment of the recommendations

Luxembourg's position as Europe's second highest-ranking country by share of ICT specialists in total employment has to be understood in the context of its highly specialised economic structure. As a tertiary economy built around financial services, investment funds, logistics and increasingly digital infrastructure, Luxembourg generates disproportionate demand for ICT profiles relative to its size and has historically relied on cross-border mobility and international recruitment to fill skilled positions. Bilingual or multilingual tech professionals are particularly in demand, given the multilingual environment in which firms operate. This structural reliance on attracting international talent is both a strength, enabling rapid scaling of the ICT workforce, and a weakness, leaving it vulnerable to broader economic cycles and labour market shifts in neighbouring countries.

The volatility observed in terms of the share of ICT specialists since 2024 has to be read against the backdrop of a broader contraction in the IT sector. Between June 2024 and June 2025, recruitments in the IT sector (5 130) were slightly outpaced by separations (5 420), resulting in a negative net balance, and vacancies reported to ADEM by IT employers declined by 68% between June 2022 and the end of 2025. In this context, the sharp decline in women ICT specialists in 2024 is partly explained by STATEC's Note de conjoncture 2-2025, which finds that lower-skilled profiles in the IT sector – where women tend to be more represented – are more exposed to job substitution linked to AI, while highly specialised profiles see their roles reinforced rather than replaced. The recovery observed in 2025, both in overall ICT specialist share and in the proportion of women, is encouraging but occurs against a still-challenging labour market backdrop, and the underlying structural vulnerabilities identified by STATEC warrant continued monitoring. The Luxembourgish government therefore continues programmes to encourage girls aged 13–16 towards tech/STEM careers, through school immersion

days for girls and teacher mobilisation and has also set up "TechTalks4Girls" events to inspire girls through real-world tech role models.

On the supply side, Luxembourg's ICT graduate share is among the highest in the EU, suggesting the pipeline is not the primary bottleneck. The challenge is rather one of retention, gender balance, and ensuring that the domestic training offering translates into sustained employment, particularly as the sector adjusts to AI-driven productivity shifts. In response, Luxembourg has reinforced its upskilling infrastructure: ADEM continued to expand its digital training offer in 2025 through partnerships with training institutions including the Digital Learning Hub (DLH) and 42 Luxembourg. In 2025, ADEM recorded 3 866 ICT-related training registrations at the DLH involving 703 individual jobseekers, with women representing 51.1% of participants, a positive signal on gender rebalancing at entry and mid-career levels. The opening of specialised ICT academies within the Digital Learning Hub in April 2026, covering AI, cybersecurity and quantum technologies, is expected to further strengthen structured progression pathways. The multi-year partnership with Mistral AI and the MeluXina-AI AI Factory are also creating new demand for high-level ICT profiles domestically, which may support recovery in specialist employment as the broader economic cycle improves.

On talent attraction, Luxembourg launched a dedicated 'talent desk' in January 2026 to guide on the one hand international talents either if interested in working in Luxembourg or through their relocation process. On the other hand, the talent desk provides guidance to Luxembourg-based companies interested in recruiting talents internationally. Further, the Talent Desk is developing a spouse programme to support the integration of partners of international talent into Luxembourg and more specifically the labour market.

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

Performance assessment

In 2025, Luxembourg's total digital public services score for citizens (which covers both national and cross-border users) reached 94.69/100 points. This represents a 3.1% decrease compared to 2024. As such, Luxembourg is above the EU average of 84.64/100 points. The country is lagging behind compared to its national trajectory of 97.4/100 points defined in its Digital Decade national roadmap.

When looking specifically at digital public services for national citizens, Luxembourg reached 93.49/100 points in 2025. This is below the EU average of 94.01/100 points, and it marks a 3.4% decrease from 2024. For cross-border digital public services for citizens, Luxembourg's 2025 score was 95.89/100 points, which is above the EU average of 75.28/100 points. Compared to 2024, this reflects a 2.7% decrease.

Citizen-related life events that score particularly well include Moving (100.0), Studying (100.0), and Transport (98.33). Conversely, Career (86.16), Family (91.67), and Starting a small claims procedure (91.67) show the most room for improvement. Across levels of government for national citizens' digital public services, central government services scored 89.22/100 points, and local government services scored 70.83/100 points. No regionally provided government services were landscaped for Luxembourg.

Luxembourg's total digital public services score for businesses (covering both national and cross-border businesses) was 100.0/100 points in 2025, maintaining the level already reached in 2024, above the EU average for 2025 of 88.59/100 points. The country is on track according to its national trajectory of 98.3/100 points. Both business-related life events, namely Business Start-Up and Regular Business Operations, score a full 100 points. Notably, Luxembourg's cross-border digital public services

score for businesses reached 100.0/100 points since 2024. These results are above the EU average of 78.37/100 points. Digital public services for businesses available to national users in Luxembourg also scored 100.0/100 points, above the EU average of 98.81/100 points.

Overall, Luxembourg's performance across the two Digital Decade KPIs is strong, with business-facing services achieving a perfect score and citizen-facing services well above the EU average. However, the 3.1% decline in citizen services and the slight underperformance on national citizen services relative to the EU average warrant attention. A similar pattern appears across government tiers, where local administrations show the greatest need for improvement. Lower-scoring areas such as Career, Family and Justice life events do not yet exhibit the same level of maturity as the leading life events.

Luxembourg's access to electronic health records grew 1.4% to reach a score of 77.14/100 points for 2025, below the EU average of 86.51. The country is on track according to its trajectory presented in the Digital Decade national roadmap. e-Prescription and e-Dispensation data remain entirely unavailable to citizens (score: 0%), and only 4 out of 11 applicable categories of healthcare providers currently supply data to the access service, corresponding to a provider connectivity rate of 36% against an EU average of 78%[3].

Policy context and assessment of the recommendations

Luxembourg's strong performance on digital public services for businesses (where it achieves a perfect score) reflects its long-standing strategic priority of reducing the administrative burden and facilitating the functioning of the country's internationally oriented economy. The country's status as a major hub for financial services, investment funds and cross-border business activities has created consistent demand for high-quality, interoperable business-facing e-Government services, which Luxembourg has addressed through sustained investment in MyGuichet.lu and the underlying CTIE infrastructure. For citizens, performance remains above the EU average overall, though slightly below on services for national users; this difference reflects the inherent complexity of delivering personalised, life-event-based services to a multilingual, highly mobile population where a significant share of users are cross-border workers or non-citizen residents. According to the Digital Decade Eurobarometer 2026, 76% of Luxembourg people consider that the digitalisation of daily public and private services is making their life easier, above the EU average of 73%.

The areas where improvement remains most needed – citizen services related to Career, Family and Justice life events, and local government digitalisation – reflect structural rather than purely technical challenges. Local authorities in Luxembourg operate with significant autonomy and varying levels of digital maturity, making centralised acceleration difficult without dedicated support mechanisms. The gap between central and local government service quality is a recognised challenge that the national roadmap does not yet fully address.

MyGuichet.lu has continued to deepen its role as the central platform for citizen-state interaction. With over 577 000 user accounts ('espaces'), 153 000 professional accounts and more than 2.28 million total transmissions, the platform is very much structurally embedded in daily administrative life. The GouvID mobile application, with over 120 000 first-time downloads, and the MyGuichet app with over 586 000 downloads, reflect active citizen engagement with mobile-first e-Government. In 2025, the platform underwent a comprehensive redesign of its service catalogue and introduced new communication tools including a virtual meeting room, improving accessibility for citizens who face

[3] Luxembourg country Factsheet Digital Decade e-Health indicators 2025

difficulties with fully autonomous digital procedures. The information portal Guichet.lu was restructured around the logical sequence of life events and enriched with accessibility features for users with dyslexia or dyspraxia – a direct response to the inclusivity dimension of digital public services.

Several significant governance and legislative milestones were reached in 2025. The **Law of 19 December 2025** establishing the Government Commission on Data Sovereignty (CGSD) operationalised the trusted data environment framework, enabling citizens, companies and researchers to request reuse of public sector data through the recently launched Letzdata.lu single information point. The **Once Only** principle – which will substantially reduce the administrative burden by eliminating the need for citizens and businesses to submit the same data to public authorities multiple times – is progressing through Luxembourg Chamber of Deputies with a vote anticipated in 2026. The **Digital Mandate** pilot, which will allow citizens to delegate digital procedures to trusted third parties, is scheduled for mid-2026. These reforms collectively represent a meaningful shift from service availability to service simplification.

On artificial intelligence in public services, the government signed a multi-year strategic partnership with Mistral AI in June 2025, with all solutions hosted on Luxembourg infrastructure. This ensures that data remains under exclusive State control. By early 2026 this partnership entered an operational phase, with all civil servants expected to gain access to a sovereign chatbot enabling them to handle sensitive information securely and to design personalised intelligent agents. This was accompanied by the March 2026 launch of the AI4LUX national campaign, positioning AI as a tool serving citizens, economic competitiveness and national sovereignty.

On digital identity, Luxembourg successfully concluded its participation in the **POTENTIAL large-scale pilot** in September 2025, having tested the EUDI Wallet across four use cases – e-Government, bank account opening, mobile driving licence and electronic signature – with successful results in all cases. The pilot delivered a functioning cross-border testing infrastructure, developed reusable attestations and validated wallet uses in sensitive sectors such as health and banking. It also provided the opportunity to learn essential lessons for governance, interoperability and the security framework. Building on this experience, Luxembourg has committed to delivering a full national EUDI Wallet by December 2026, with development underway at CTIE since autumn 2025 and a national certification scheme expected in March 2026. A draft national law on EUDI Wallet implementation was submitted to Luxembourg Chamber of Deputies in July 2025.

Leveraging digital transformation for a smart greening

In Luxembourg, the ICT sector's air emissions are significantly above the EU average, largely driven by service-based activities, but the recycling of electronic equipment performs comparatively well. Recently published sectoral data show that the ICT sector emitted 62.2 kg CO_2 eq per capita, almost three times the EU average (22.8 kg CO_2 eq, 2022). All emissions originate from ICT service activities, reflecting the absence of a manufacturing component in the sector. The ICT sector accounted for 0.49% of total air emissions in the economy, slightly above the EU average (0.35%). At the same time, Luxembourg performs well in the management of electronic waste, with 87.94% of ICT-related waste collected (corresponding to two categories of waste electrical and electronic equipment) being recycled of prepared for reuse, above the EU average of 80.23%.

According to the Digital Decade Eurobarometer 2026, 50% of Luxembourg people consider that green digital technologies, such as energy-saving technologies, will have the most positive impact in the next 10 years, slightly below the EU average of 54%.

Luxembourg has taken concrete steps towards greener digital practices, underpinned by its newly adopted Digital Government Strategy 2026-2030. This strategy, adopted by the Council of Government in December 2025, integrates a 'sustainable by design' principle across public-sector digital services, aiming to reduce the State's ecological footprint through efficient, durable and resource-conscious digital infrastructure. On data centre sustainability, the Government IT Centre (CTIE) has ensured that all its hosting operators rely on 100% green electricity, employ innovative cooling technologies such as Kyoto Wheels and food-waste-based heat generation, and are on track to achieve carbon neutrality. The Leneda energy data platform, launched in March 2025, represents another forward-looking initiative, enabling consumers and businesses to track and visualise load profiles and electricity usage, with plans to extend functionality to grid tariffs, renewable levy billing calculation, and market communication by 2027.

However, Luxembourg has not developed a dedicated integrated green-digital strategy, considering that the dual transition is already embedded across existing frameworks, notably the National Energy and Climate Plan and the Data, AI and Quantum Strategy. While this approach reflects a preference for mainstreaming green-digital objectives, it may limit the overall visibility and measurability of policy efforts. Luxembourg contributes to EU-level monitoring of data centre energy consumption through the Energy Efficiency Directive (EED) reporting framework. However, a broader national monitoring framework to systematically quantify ICT-enabled emission reductions across all sectors has yet to be established.

2025 recommendation on 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.
In 2025, Luxembourg made some efforts to address the recommendation through new policy actions. The country adopted the Digital Government Strategy 2026-2030, embedding a 'sustainable by design' principle across public-sector digital infrastructure. The strategic choice not to develop a standalone green-digital strategy reflects a deliberate preference for mainstreaming

the dual transition across existing frameworks. However, a dedicated national monitoring framework to systematically quantify ICT-enabled emission reductions across sectors, as called for in the recommendation, has yet to be established beyond existing EU reporting obligations.

Annex I: National roadmap analysis

Luxembourg's national Digital Decade strategic roadmap

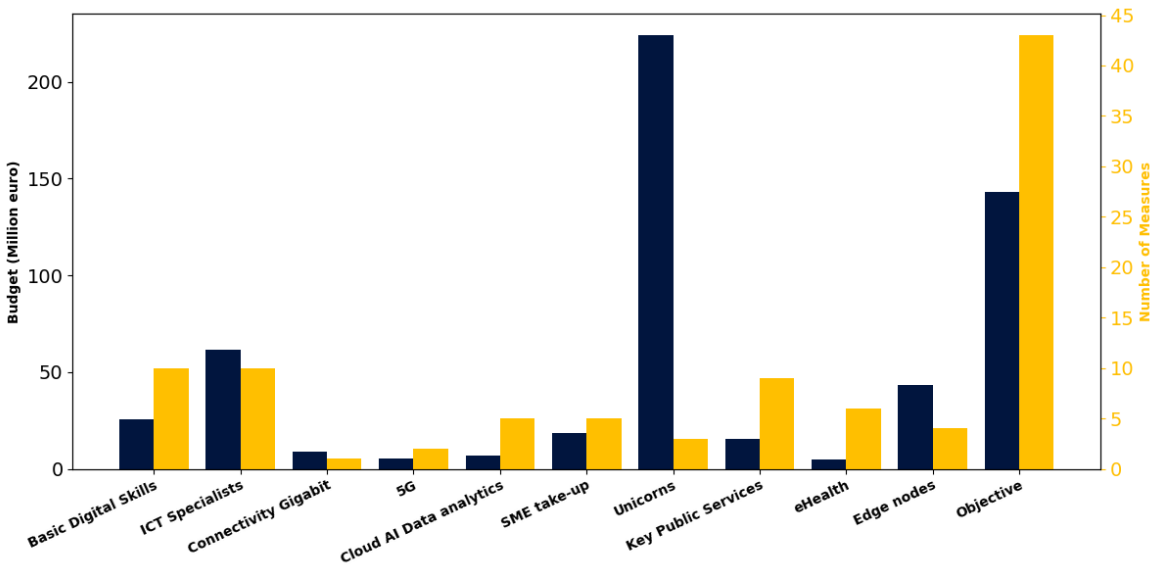
Luxembourg submitted a fully revised national Digital Decade roadmap on 2 December 2024, containing more than 30 new and edited measures and revised trajectories. The roadmap notably strengthens the focus on SMEs and AI, with new support tools set to be launched in 2025. It addresses a substantial number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

- *(i) Examine the opportunity of providing a target and trajectory for unicorns, (ii) provide a target and trajectory for edge nodes*: Luxembourg has not set a national target or trajectory for unicorns or edge nodes. For unicorns, Luxembourg highlights the small market size and its role as a testbed for innovative companies as reasons why setting a target is not feasible. For edge nodes, Luxembourg considers that due to its near-complete high-speed internet coverage and small territory, the need for edge nodes is limited, and contributions will mainly occur through participation in EU initiatives like the IPCEI on Next-Generation Cloud Infrastructure and Services. In addition, in its revised roadmap, Luxembourg did not provide a national target for Edge Nodes but continues to monitor the work on the definition of a methodology for the KPI assessment.
- *Review and reinforce, if deemed necessary at this stage, measures to contribute to the targets that are the most challenging to reach, such as the digital skills for all, the basic level of digital intensity for SMEs:* six new measures were added for digital skills and two important ones for SMEs.
- *Provide more information on the implementation of digital rights and principles, including what national measures contribute to it:* Luxembourg addressed this recommendation in the roadmap adjustment by mapping national policies and measures to the digital rights and principles, ensuring alignment with the Digital Decade objectives.

Measures and budget in national roadmap[4]

[4] When referring to national roadmaps, data used in this report are those declared by the Member States in their national roadmaps, on the basis of the Commission's guidance (C(2023) 4025 final). Data might reflect possible variations in reporting practices and methodological choices across Member States. No systematic assessment of the extent to which Member States followed the guidance was carried out.

Luxembourg



The revised roadmap continues to prioritise connectivity, cybersecurity, SME digitalisation, and in general the adoption of advanced technologies such as AI and cloud. A total of 98 measures is now part of Luxembourg's national strategic roadmap with a total budget of EUR 558 million, EUR 528 million comes from public budgets, equivalent to 0.59% of Luxembourg's GDP in 2025.[5] It covers all objectives of the Digital Decade, including human-centred digital transformation, resilience and security, technological sovereignty, the twin green and digital transition, and digital rights and principles.

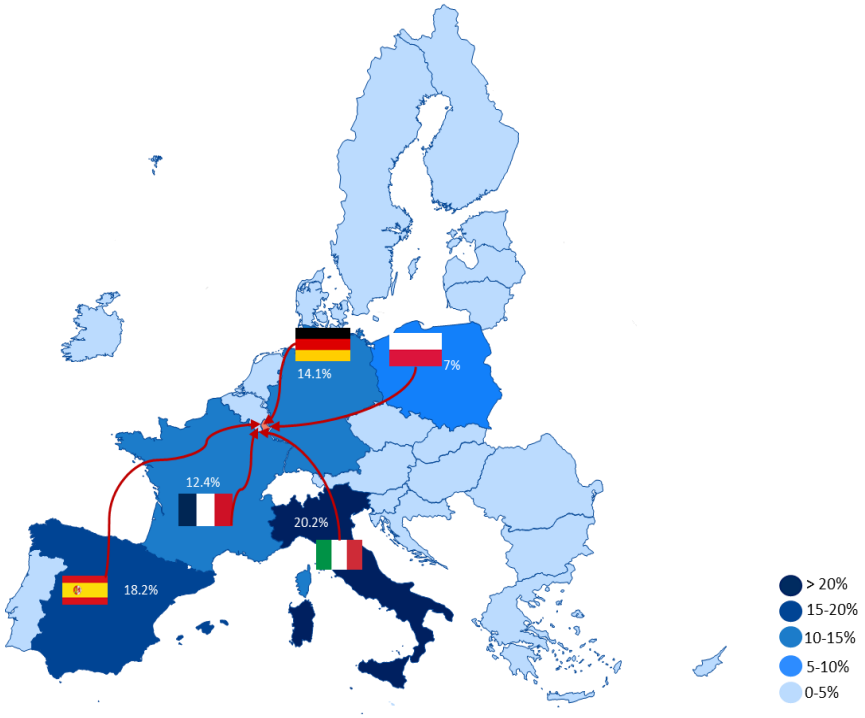
[5] The budget figures were corrected since the 2025 Country Report.

Annex II: Funding, economic impacts & Multi-Country Projects

Country results from the study 'Assessing the Economic Impact of Digital Investments under the Recovery and Resilience Facility'

A modelling study conducted by the European Commission services, with the FIDELIO model, assesses the economic impact of the digital component of the RRF. As of November 2025, the digital part of the Recovery and Resilience Plan of Luxembourg was evaluated to EUR 23.9 million with EUR 1 million for digital skills, EUR 10 million for the digitalisation of businesses, and EUR 13 million for the digitalisation of public services.

The total economic impact of RRF digital measures is estimated to EUR 362 million for the national economy. Of this, EUR 47 million stems from the direct effects of Luxembourg's own RRP and EUR 315 million corresponds to spillover effects from the implementation of other EU Member States' plans. Luxembourg benefited the most from spillover effects from RRPs of Italy (EUR 63.6 million), Spain (EUR 57.2 million), Germany (EUR 44.3 million). The most impacted sectors are Finance & Insurance (EUR 105 million), Professional Services (EUR 47.7 million), and Manufacturing (EUR 38 million).



RRF spillover effects to Luxembourg

Funding from the Recovery and Resilience Facility (RRF) & Cohesion Policy

Luxembourg allocates 27% of its total recovery and resilience plan to digital (EUR 17 million)[6]. In addition, under cohesion policy, EUR 0.01 billion, representing 17% of the country's total cohesion policy funding, is dedicated to advancing Luxembourg's digital transformation[7].

Multi-Country Projects

Luxembourg is a member of the Alliance for Language Technologies EDIC, of the Local Digital Twins towards the CitiVERSE EDIC, of the EUROPEUM EDIC, of the IMPACTS EDIC and of the Digital Commons EDIC. It has also offered to host an EDIC in the making in the area of genomics. 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.

[6] 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: 23 April 2026.

[7] 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 (including Interreg), the Cohesion Fund, the European Social Fund Plus, and the Just Transition Fund.