Luxembourg Connectivity Report

FEBRUARY 2026

Luxembourg has a well-established, highly specialized telecommunications sector shaped by a long-standing interplay between public support and deep private expertise. Entrepreneurs, operators and service providers have been central to building a market that continues to evolve, diversify and expand.

In this context, the Luxembourg Connectivity Report is an important tool for presenting Luxembourg's telecommunications sector to a wide audience. By consolidating key facts and capabilities, it enhances international visibility and supports the promotion of Luxembourg as a leading hub for digital infrastructure and services.

Elisabeth Margue
Minister Delegate to the Prime Minister for Media and Connectivity

MyConnectivity, founded in 2021 by the Luxembourg government and LU-CIX GIE, operates at the crossroads of an ecosystem that is broader and more dynamic than it may appear from the outside. We daily encounter companies, services and capabilities that are well known within specialized circles yet remain largely invisible beyond them, alongside new players emerging in fast-growing niches.

With this report, MyConnectivity fulfills one of its roles: improving orientation within the landscape, reducing fragmentation, and making it easier for the right actors to find each other. By facilitating interaction across the ecosystem, we aim to support business development and long-term sector growth. The Luxembourg Connectivity Report is one contribution to that goal. It brings together selected, market-relevant information on Luxembourg's telecom and ICT environment in a single publication, designed as a practical reference for professionals working in economic development and international promotion. It represents our curated selection of key insights, not intended as exhaustive coverage.

We would like to thank all contributors who generously shared their expertise during the preparation of this report. Their input was essential in ensuring its accuracy and relevance.

Julien Larios
CEO of MyConnectivity

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1.Education and Innovation

In a sector defined by rapid technological change, skills and innovation are what keep momentum going. Luxembourg's telecommunications and ICT ecosystem relies on strong education pathways, applied research and continuous upskilling to meet evolving industry needs. This chapter therefore focuses on initiatives that are closely linked to connectivity and the practical demands of the sector, rather than providing an exhaustive overview of the country's education and research landscape.

1.1 TELECOM AND ICT HIGHER EDUCATION INSTITUTIONS

The **Lycée des Arts et Métiers** (LAM) in Luxembourg, founded in 1896, is the country's oldest public secondary school and is renowned for blending tradition with innovation. It specializes in fields such as ICT, media, and STEM, while maintaining a strong connection to practical and creative professions. The school is well-known for fostering future-ready citizens through a multidisciplinary and forward-looking curriculum.

LYCÉE DES ARTS ET MÉTIERS

1563 Students currently enrolled

43 BTS students

3 Campuses (4 in September 2026)

The **Lycée Guillaume Kroll** (LGK), originally founded in 1914 as a private vocational school for metallurgical workers and nationalized in 1924, has evolved into a leading centre for innovation and technology. Awarded the prestigious Future Hub label, LGK combines strong scientific and technological programs, with modern tools like tablet-based classes to strengthen students' digital, analytical, and media skills.

Lycée Guillaume Kroll

1943 Total number of students

64 BTS students

1 Campus

Founded in 2003, the **University of Luxembourg** is the Grand Duchy's only public university. It hosts over 7,200 students, more than 1,100 PhD candidates and 2,500 staff from around the world, offers multilingual programs and ranking among the top 250 universities globally. With strategic focuses on digital transformation, medicine and health, and sustainable and societal development, it provides 24 Bachelor's and 51 Master's degrees. Within the University, the Faculty of Science, Technology and Medicine (FSTM) advances teaching, research, and societal service across mathematics, physics, engineering, computer science, life sciences, and medicine to foster knowledge and responsible citizenship.

UNIVERSITÉ DU LUXEMBOURG

56% International students

623 Number of researchers

778 Number of publications

KPIs from the Faculty FSTM.

The **Luxembourg Institute of Science and Technology** (LIST) is a mission-driven Research and Technology Organization (RTO) that develops advanced technologies and delivers innovative products and services to industry and society. Its work addresses key societal challenges in areas such as the environment, security, education, sustainable development, and resource efficiency. As a driver of Luxembourg's economic diversification and growth, LIST supports solutions across sectors including energy, space, construction, agriculture, mobility, finance, and advanced manufacturing.

LUXEMBOURG INSTITUTE OF SCIENCE AND TECHNOLOGY | LIST

756 Employees

34% Women

83 PhD students hosted

The **Interdisciplinary Centre for Security, Reliability and Trust** (SnT) is the University of Luxembourg's research centre for digital innovation. SnT conducts internationally competitive research in areas including autonomous systems, cybersecurity, fintech, space systems, artificial intelligence, and quantum technologies. The centre's unique Partnership Programme includes over 70 industry, government, and societal partners, ensuring real-world challenges shape research, and research fuels innovation. This collaborative approach delivers lasting strategic advantages, strengthens Luxembourg's digital sovereignty, and serves society.

SnT

540 Employees

27% Women

210 Doctoral candidates currently enrolled

1.2 EDUCATIONAL PROGRAMS

Brevet de Technicien Supérieur – BTS

The **Brevet de technicien supérieur** (BTS) is a short cycle higher education study program commonly lasting 2 years (minimum 120 ECTS*). A BTS is a higher education qualification with a strong professional focus, designed to meet the needs of employers.

The BTS professional diploma can be obtained through formal study, or, in part, through the recognition of prior educational or professional experience (VAE - Validation des acquis de l'expérience). The following BTS programs are most relevant to Connectivity and Telecom in Luxembourg.

Lycée des Arts et Métiers (LAM)

- BTS Génie technique
- BTS Informatique
- BTS Connected Buildings and Cities
- BTS Applied Artificial Intelligence
- BTS Internet of Things

Lycée Guillaume Kroll (LGK)

- BTS Cloud Computing
- BTS Communication Technologies
- BTS Cybersecurity

7
LAM
2025 graduates

24
LGK
2025 graduates

BACHELOR – University of Luxembourg

The following Bachelor's degrees are provided by the **Faculty of Science, Technology and Medicine** (FSTM), **Department of Computer Science,** at the University of Luxembourg. The programmes are conducted mainly in **English.**

Program enrollment capacity:

Bachelor's

- Bachelor's in Computer Science: 75
- Bachelor's in Applied Information Technology: 75
- Bachelor's in Applied Information Technology - Continuing Education Programme: 25

83
Recent graduates

MASTER – University of Luxembourg

The following Master's degrees are provided by the **Faculty of Science, Technology and Medicine** (FSTM), **Department of Computer Science,** at the University of Luxembourg. The programs are conducted entirely in **English**.

Program enrollment capacity:

Master's 120 ECTS

- Master's in Information and Computer Sciences: 40
- Master's in Space Technologies and Business: 20
- Master's in High Performance Computing: 40
- Master's in Cybersecurity and Cyber Defence: 40
- Erasmus Mundus Joint Master's in Cybersecurity: 32
- Master's in Data Science (Department of Mathematics): 25

Master's 60 ECTS

- Master's in Information System Security Management: 18
- Master's in Technopreneurship: 20

125
Recent graduates

DOCTORAL PROGRAMME – University of Luxembourg

The Doctoral programme is provided by the **Faculty of Science, Technology and Medicine** (FSTM), **Department of Computer Science,** at the University of Luxembourg. The programme is conducted entirely in **English.**

Program enrollment capacity:

Doctoral Programme

- Doctoral Programme in Computer Science & Computer Engineering: 240

65
Recent graduates

**ECTS: European Credit Transfer and Accumulation System.*

1.3 RESEARCH ACTIVITIES

LIST Activities Related to Telecommunication and Connectivity*

LUXEMBOURG INSTITUTE OF SCIENCE AND TECHNOLOGY | LIST

LIST conducts research advancing next-generation telecommunication technologies, delivering trustworthy connectivity for fifth- and sixth-generation **(5G/6G)** mobile networks and beyond. Its activities include **AI-driven** networking solutions, network digital twins, and flexible software-defined architectures across terrestrial mobile, radio, and satellite segments, as well as reliable time-critical, vehicular communication, and **self-managing networks** coordinating data and computing across the **edge–cloud** continuum, from devices and local "edge" resources to large cloud data centers, for connected mobility, smarter cities and other **mission-critical** digital services.

LIST's research also develops enabling technologies such as ferroelectric materials and **transparent phased-array antennas** for 5G/6G vehicle connectivity and future Connected, Cooperative and Automated Mobility (CCAM) applications, ensuring innovation from **materials and devices** up to network and service intelligence.

5G-META: Making 5G mobile networks ready for self-aware applications (FNR/Ministry of Economy, Luxembourg) — TRL 5-6

The objective is to facilitate the development of network-aware applications by closing the gap between network providers and the specific requirements of vertical use cases. It brings together network exposure, network digital twinning, and real-world experimentation in Luxembourg, enabling applications that can understand, anticipate, and adapt to network conditions in a reliable and scalable way. Started in 2025.

6G-TWIN: Integrating Network Digital Twinning into Future AI-based 6G Systems (SNS JU, European Commission) — TRL 3-4

The goal is to provide the foundation for the design, implementation and validation of an AI-native reference architecture for future 6G systems that incorporates Network Digital Twins (NDT) as a core mechanism for the end-to-end, real-time optimization, management and control of dynamic and complex network scenarios. Started in 2024.

SMARTSPIRES: Inspiring smart communities with 5G and Edge AI (CEF Digital, European Commission) — TRL 7-8

The objective is to turn Luxembourg's Belval campus into a smart city living lab, serving as a blueprint for cities across Europe. SmartSpires aims to combine densified 5G connectivity with edge computing infrastructure, located closely to the end-users. This infrastructure will be deployed and tested during the project, along with AI-driven and IoT-based use-cases benefiting smart communities in the country. Started in 2025.

SnT Research Groups and Projects Related to Connectivity*

uni.lu | SnT

SPARC: Signal Processing Applications in Radar and Communications

The Signal Processing Applications in Radar and Communications (**SPARC**) group conducts research on enhancing **radar performance** through digital signal processing, and integrated sensing and communication. Applications range from automotive radars to future uses of radar signal processing in areas like **biomedicine and environmental sensing.**

SIGCOM: Signal Processing and Communications

The Signal Processing and Communications (**SIGCOM**) group conducts research aimed at designing, emulating and testing new high-performance systems for the **future of mobile and satellite communications.** Fields of applications range from 5G/6G **telecommunications** to satellite-based Internet connectivity.

ETHER: sElf-evolving terrestrial/non-Terrestrial Hybrid nEtwoRks — TRL 7

ETHER is a project involving SnT's SIGCOM research group that will provide a framework for the terrestrial/non-terrestrial network ecosystem that involves an efficient and zero-touch resource management, provides solution for key radio access network challenges, and identifies the business opportunities for potential stakeholders. Started in 2023.

INSTRUCT: Integrated Satellite-Terrestrial Systems for Ubiquitous Beyond 5G Communications. — TRL 3-6

INSTRUCT is an industry-led research partnership. It aims to create a fundamental shift in the existing ecosystem of 5G wireless systems towards a ubiquitous, intelligent, self-organized and secured satellite-terrestrial integrated system.
The research exploits ground-breaking Satellite Communications (SatCom) technologies. Started in 2020.

TRANTOR: 5G+ Evolution to Multiorbital Multiband Networks — TRL 6

The aim of TRANTOR is to perform a significant step forward by paving the path for the 5G Non-Terrestrial Network (NTN) evolution towards 6G. To do so, TRANTOR targets the in-orbit validation of a complete satellite value chain, involving an automated management of satellite resources across multiple bands, satellites, and orbits, as well as a converged radio access network. Started in 2023.

**These are examples of ongoing projects, for quantum-related projects please visit page 26.*

TRL is a nine-level scale that evaluates a technology's maturity, from early research (TRL 1) to market-ready deployment (TRL 9).

1.4 UPSKILLING

When technologies, tools and standards evolve quickly, **continuous learning** is key to maintain **competitiveness**. Luxembourg has developed a broad and accessible offer of vocational training, designed for people at different stages of their careers, from newcomers building core competencies to experienced professionals updating specialized expertise.

This section highlights a selection of **upskilling programs** with a particular focus on digital skills and their relevance to the telecommunications and ICT sectors. Rather than providing an exhaustive overview of the national training landscape, it points to practical pathways that help strengthen the talent base and support the day-to-day needs of an increasingly **connected economy**.

DIGITAL SKILLS & JOBS COALITION LUXEMBOURG

The **Digital Skills and Jobs** platform in Luxembourg is the « one-stop shop » for all training and news on digital skills and opportunities in Luxembourg. The Digital Skills Coalition shares and promotes digital skills initiatives to encourage matchmaking, support growth and increase outreach.

zesummen digital

The **Zesummendigital** portal has been set up by the Ministry for Digitalisation to provide information about actors and their initiatives in the field of digital inclusion in Luxembourg, as well as informative, awareness-raising and self-help publications and resources. It serves as a central platform for all information and initiatives related to the country's digital inclusion efforts.

For more information please visit the **Zesummen Digital** or the **Digital Skills & Jobs Coalition** websites.

Upskilling Initiatives

42 LUXEMBOURG · anefore · BEE SECURE · CLAE ASBL · Digital Inclusion · Digital Learning Hub · EwB · gero KOMPETENZZENTER FIR DEN ALTER · Digital inclusion for all ages GoldenMe · HOUSE OF TRAINING · Keyjob training & support · KIDS Life Skills · make it · maison des associations · POLYTECHNIC CYBER INSTITUTE · UNIVERSITÉ POPULAIRE LUXEMBOURG · wëssens atelier LËTZEBUERG · we+ stem · WIDE · WOMEN 4CYBER LUXEMBOURG · WORKSHOP4ME

2. Workforce

To ensure that the workforce insights in this chapter are consistent and comparable, the data is based on a clearly defined sectoral scope. For the purposes of this report, the figures refer to activities classified under **NACE Section J** (the European statistical classification of economic activities covering information and communication). Within that section, the analysis places particular emphasis on the categories most directly connected to **Luxembourg's telecom and ICT ecosystem**: telecommunications (J61), computer programming, consultancy and related activities (J62), and information service activities (J63).

2.1 FACTS AND FIGURES

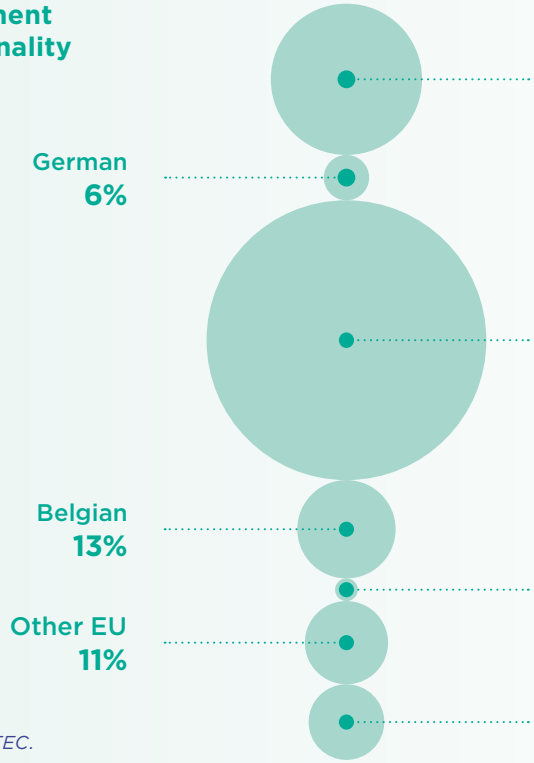
Employment by Occupation

Specialists
70%
Managers
15%
Support
12%
Other
3%

Employment by Gender

Employment by Age Categories

Employment by Nationality



Luxembourger
20%
German
6%
French
37%
Belgian
13%
Portuguese
3%
Other EU
11%
Non-EU
10%

Source: STATEC.

2.2 WAGES AND TAX REGIME

While the parties are free to negotiate a wage, the Labour Code imposes social minimum wages (Salaire Social Minimum, SSM).

SSM in Luxembourg (effective from May 1, 2025):

Unskilled adult gross/month — **€ 2703**

€ 3244 — Skilled adult gross/month

Luxembourg's impatriate tax regime, effective from January 2025, offers a clear and competitive framework, providing a **50% tax exemption on the gross annual salary** (up to EUR 400,000) for highly skilled workers coming to work in the Grand Duchy.

Source: CSL - Chambre des Salaries Luxembourg, LPG - Fiduciary Luxembourg Paris Geneva.

2.3 TELECOM EMPLOYMENT OVERVIEW

The data presented in this section refer to NACE codes J61, J62, J63, and ROME* code M18 for the period from **01/01/2025 to 31/10/2025**.

Number of declared positions to ADEM (Agence pour le développement de l'emploi):

191	568	62
J61 Telecommunications	J62 Computer programming, consultancy and related activities	J63 Information services activities

Type of diploma indicated in the positions declared to ADEM:

- Bachelor's **39%**
- Master's / Doctorate **33%**
- Unspecified **22%**
- Post-secondary** **5%**
- Other*** **2%**

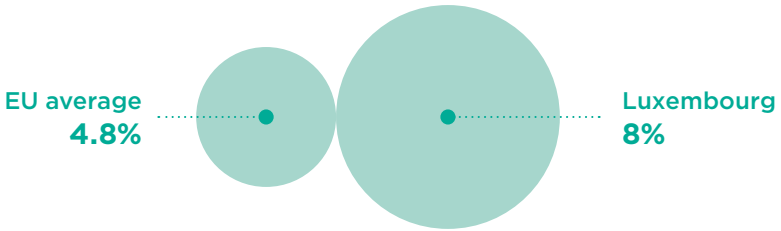
Distribution of mandatory languages in the positions declared to ADEM:

- English **96%**
- French **55%**
- German **6%**
- Luxembourgish **4%**

*ROME: Répertoire Opérationnel des Métiers et des Emplois.
**Post-secondary: BTS, 14th year, Vocational Diploma.
***Other: 1% DAP (Diplôme d'Aptitude Professionnelle) + 1% High School Diploma.

Source: ADEM.

ICT specialists in employment 2024



- EU average **4.8%**
- Luxembourg **8%**

Source: Digital Decade 2024: Country report - Luxembourg, European Union.

2.4 JOB PORTALS

Luxembourg's recruitment ecosystem is supported by a well-established network of job portals and employment platforms, shaped by both public services and private initiatives. This section brings together a selection of resources that are particularly relevant to recruitment in the telecommunications and ICT sectors.

Job Portals

adem – Agence pour le développement de l'emploi; Work in Luxembourg; All eyes on me .jobs; ictjob.lu; indeed; jf.lu jobfinder; Jobs in Luxembourg; jobs.lu; letz recruit; LINTERN.LU; MOOVIjob.com; silicon Luxembourg

Newspaper

L'essentiel; land; Luxemburger Wort; Tageblatt Letzebuerg

Institutions

EURES; La fonction publique GovJobs

Social Media

LinkedIn

Explore **the ADEM website** to discover more job portals in Luxembourg.

Source: ADEM.

3. Domestic Connectivity

3.1 KEY INDICATORS

95%

of the country is covered by **Very High-Capacity Networks** (VHCN) infrastructure.

Infrastructure coverage (% of premises)	**2023**	**2024**	**Variation**
DOCSIS 3.1	83.2%	83.3%	+0.1 PP
Optical Fiber	80.2%	83.8%	+3.6 PP

99% of the population is covered **by at least one 5G operator.**

Network Investments 2024

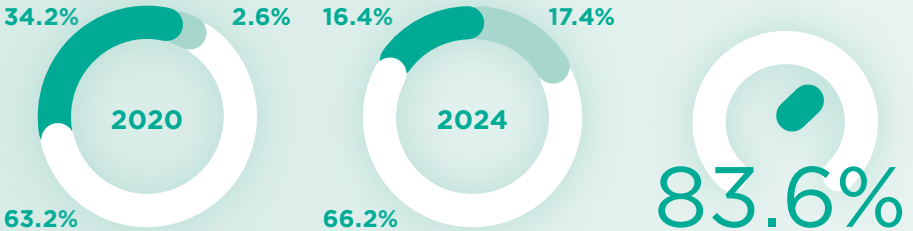
Mobile networks
€31.6
millions

Fixed networks
€108.6
millions

Total
€140.2 millions
+34.2%
Compared to 2023

Fixed Internet Service

Evolution of Internet access speeds.



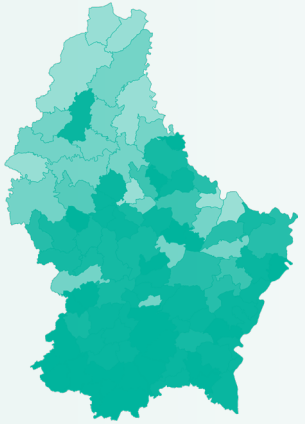
83.6%

of Internet subscriptions have a speed **≥ 100 Mbps**

Source: Institut Luxembourgeois de Régulation (ILR).

3.2 BROADBAND LANDSCAPE

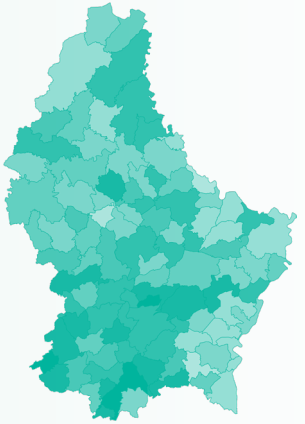
Coax - DOCSIS: Data Over Cable Service Interface Specification



Source: geoportail.lu.

- 1 national and several community DOCSIS networks covering 83.3% of buildings.
- 4 commercial operators selling corporate and consumer services on DOCSIS networks.
- **DOCSIS 3.1** was introduced in 2018, offering speed **up to 1 Gbit/s.**

Optical Fiber - FTTH: Fiber to the Home



- **1 open-access FTTH Network covering 83.8% of buildings,** of which 73% are connected to a Point to Point (P2P) architecture.
- Dozens of **Other Licenced Operators (OLOs)** selling corporate and consumer services on the FTTH infrastructure.
- **XGS-PON** introduced in the market in 2021, and most operators now offer subscriptions **up to 8.5 Gbit/s.**

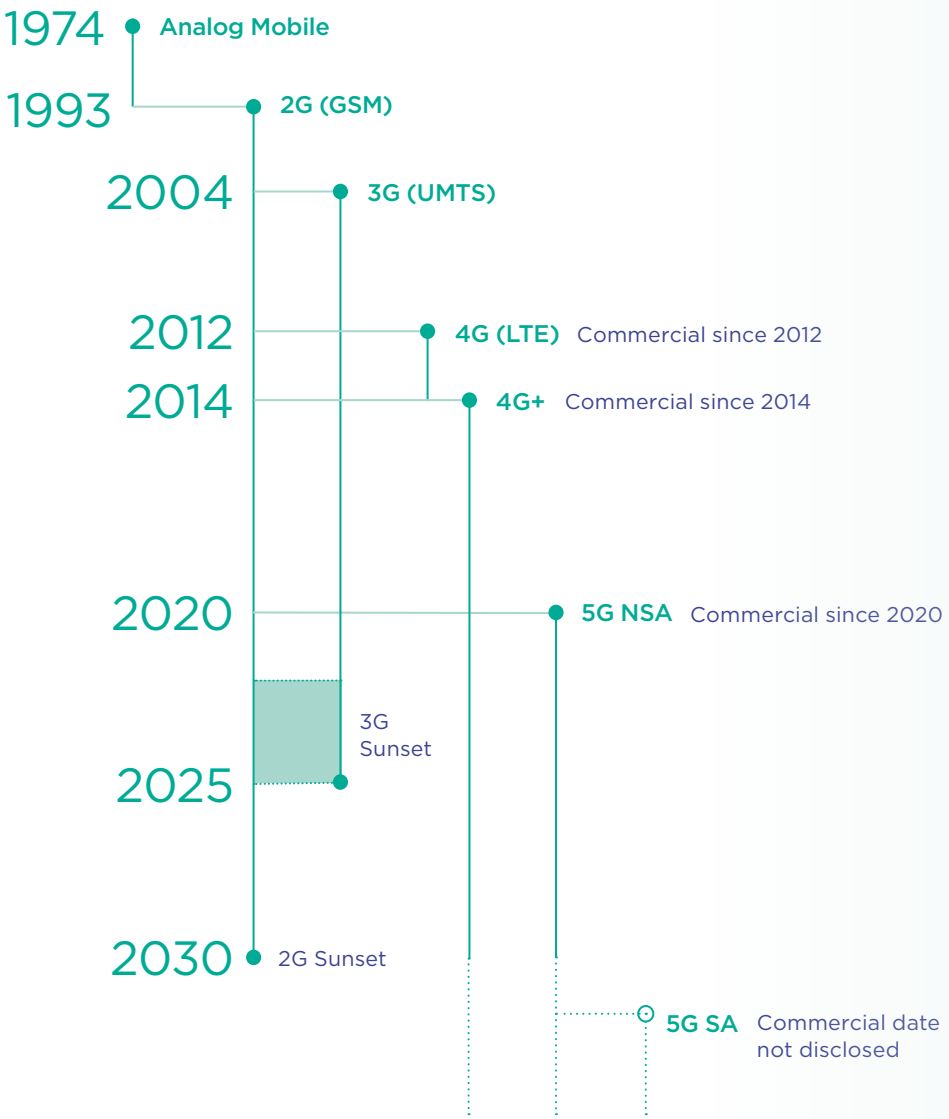
- The **National Register of Vertical Cabling** was launched in 2025 as a joint sector initiative led by **MyConnectivity** to centralize and share network inventories of in-building infrastructures.
- The country offers numerous **dark fiber routes** across the country, serving many office buildings, industrial zones, data centers, Points of Presence (PoPs) and points of interests.
- **Copper switch-off,** the phase-out of legacy copper-based telephony network, started in **2023** with a target of complete disconnection by **2030.**

3.3 WIRELESS LANDSCAPE

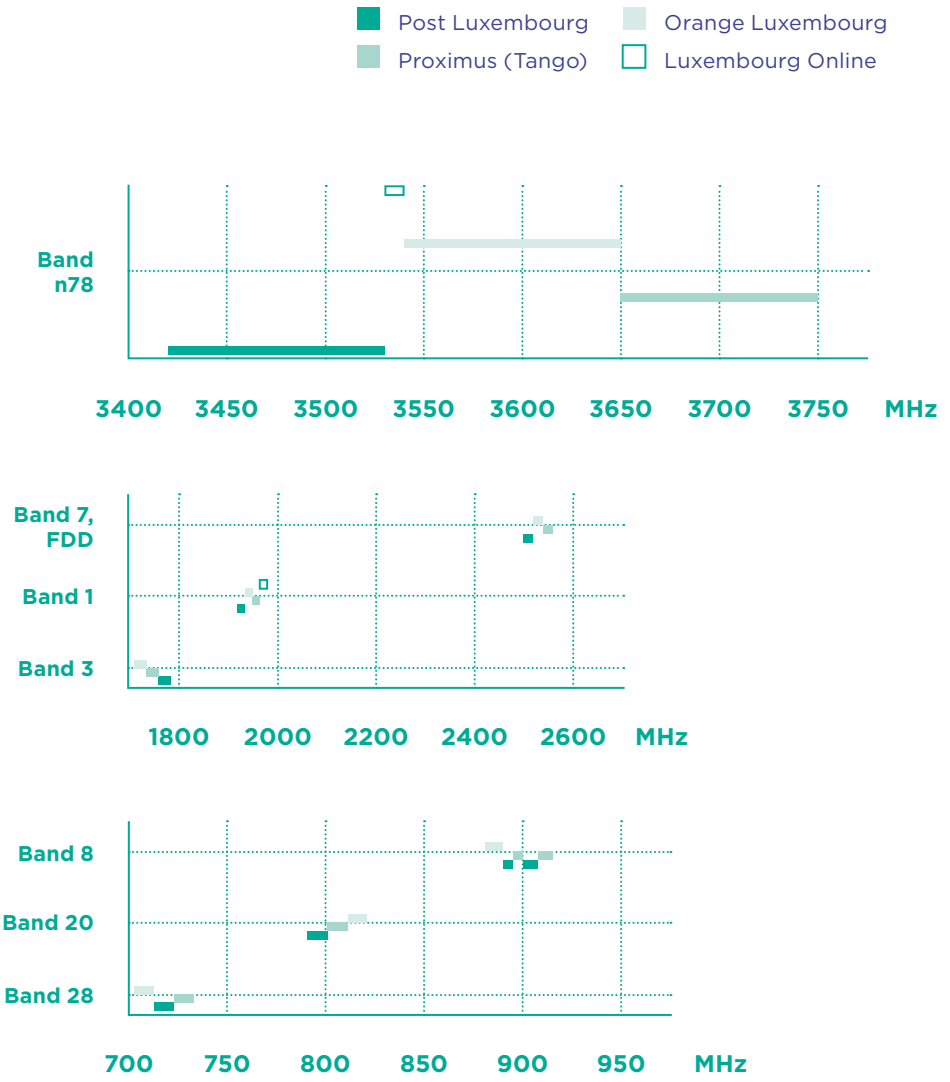
• 3 **Mobile Network Operators (MNOs)** operate in the market.

• Several **Mobile Virtual Network Operators (MVNOs)** serve both the domestic market and international markets.

Mobile Networks Roadmap - All MNOs combined



Spectrum overview



Fixed Wireless Access (FWA): all operators offer 4G or 5G **mobile routers** and subscription for domestic use. However, these services rely on the macro cellular network and existing spectrum, as there is **no dedicated spectrum or infrastructure for FWA.**

Source: Institut Luxembourgeois de Régulation (ILR).

IoT and LPWAN

Low Power Wide Area Networks (LPWANs) are standardized wireless communication technologies designed specifically for the **Internet of Things (IoT).**

Using a **narrow bandwidth,** LPWANs provide a **reliable, energy-efficient connection** for devices that need to transmit **small amounts of data over long distances,** such as underground water meters, intelligent parking systems, or street lighting solutions.

LPWANs offers several advantages: power efficiency (ultra-low power), provide deep indoor and rural coverage, optimized for low data speeds (up to 250 kbps) with high latency (on the order of seconds), low device costs, and overall optimization for low-power, wide-area IoT applications.

• Proximus offers Narrowband IoT (NB-IoT) nationwide, based on their 4G infrastructure. 180 kHz are dedicated in the LTE 800 MHz band.

• RMS.lu offers Sigfox network composed of 88 antennas, covering 96.8% of the outdoor territory, 82.3% indoor (residential buildings) and 72.7% deep indoor (underground).

• The Things Network (TTN) community offers 45 public Long Range Area Network (LoRaWan) gateways.

• OQ Technology offers nationwide Non-Terrestrial Networks (NTN) 5G IoT services via satellite.

3.4 PUBLIC AND CITY SERVICES

Wi-Fi

11

municipalities offer **public Wi-Fi services**

1K+

access points

±50K

connections per day

All train stations offer **public Wi-Fi services,** and rollout ongoing on CFL trains and buses.

GSM-R

The National railway network is **fully covered by the Global System for Mobile Communications – Railway (GSM-R) technology,** a branch of the GSM standard specializing into railways communications needs such as emergency services, resilience and accessibility.

PPDR

PPDR refers to **Public Protection and Disaster Relief** (PPDR) networks. In Luxembourg, the PPDR network is known as RENITA (Réseau National Intégré de radiocommunication pour les services de sécurité et de secours luxembourgeois).

RENITA public safety network	Covering national territory including tunnels, air-ground-air, and critical buildings
RENITA availability	>99.99%
RENITA design capacity	17000 users, 14 PPDR agencies

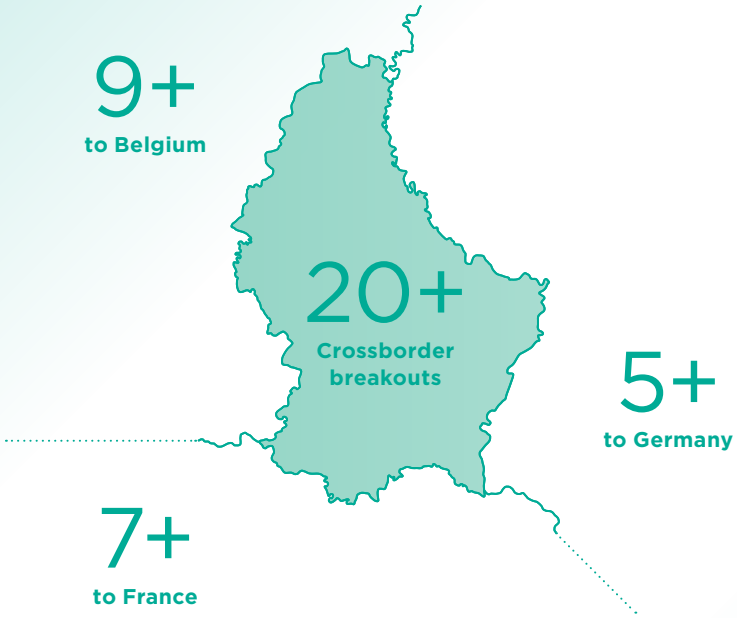
The current solution based on **TErrestrial Trunked RAdio** (TETRA) was initiated in 2012, with the network entering service in 2015.

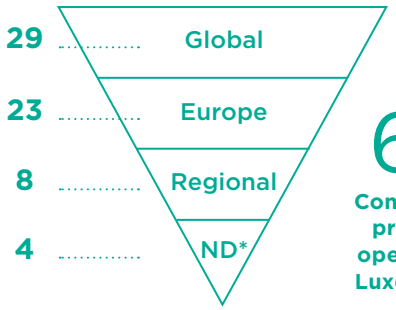
In 2025, the **Luxembourg Mission Critical Connectivity** (LUMICC) project was launched, aiming to introduce a new generation of PPDR network based on the 4G/5G technology.

4. International Connectivity

4.1 B2B CONNECTIVITY LANDSCAPE

Luxembourg benefits from a **dense cross-border connectivity fabric,** combining the presence of multiple Tier 1 connectivity providers with a high number of physical cross-border fiber breakouts toward neighboring hubs. These breakouts provide direct, redundant links to major European interconnection points **(Belgium, France, Germany, and the Netherlands)**, reinforcing Luxembourg's role as a resilient transit and interconnection node.





64
Connectivity providers operating in Luxembourg

6
Tier I

- Arelion
- Cogent Communications
- GTT Communications
- NTT Global IP Network
- TATA Communications
- Zayo Europe

**ND: Non-Disclosed.*

4.2 QUANTUM CONNECTIVITY

Quantum connectivity refers to the use of quantum technologies to enable highly secure communication and networking, including deployment models that integrate **Quantum Key Distribution** (QKD) into telecommunications environments. It is relevant for telecom operators, infrastructure providers and public institutions, as the European Quantum Communication Infrastructure initiative seeks to **protect sensitive data and critical infrastructures** through quantum-secure communications.

Quantum communication relies on QKD mechanisms, whereby any attempt to intercept or measure quantum states introduces detectable disturbances, making **eavesdropping observable**. This capability is gaining importance as organizations address cryptographic risks driven by advances in quantum computing, prompting them to start looking into solutions based on quantum technologies, respectively looking into a migration towards **post-quantum cryptography**.

Quantum Connectivity Research

EAGLE-1: Europe's first satellite Quantum Key Distribution system

The aim of the EAGLE-1 project is to demonstrate and validate the feasibilty QKD technologies from Low Earth Orbit (LEO) to the ground. The system is being developed by a consortium led by SES headquartered in Luxembourg, comprising more than 20 EU companies. The EAGLE-1 project is co-funded by the European Space Agency (ESA), the European Commission (EC) and the industry.

EAGLE-1 will provide valuable mission data for the development and deployment of the European Quantum Communication Infrastructure and thus also benefit the national Quantum Communication Infrastructure (QCI).

INT-UQKD: International Use cases for Operational QKD Applications and Services

Launched in September 2022, the INT-UQKD project is currently in its advanced design and demonstration phase. The project develops future-proof, quantum-safe communication networks to protect data against emerging cyber threats.
The project is being developed by a consortium led by Starion Luxembourg, comprising 3 companies from Luxembourg and 2 international partners.

It combines terrestrial fiber networks and low-earth-orbit satellites to enable secure connectivity across Europe and Asia. By integrating quantum key distribution with post-quantum encryption, the solution remains compatible with existing telecom infrastructure.

Quantum Research Landscape - LIST

The Quantum Materials group at LIST develops semiconductor **quantum hardware** for quantum technologies, with a focus on silicon carbide (SiC). The group works on efficient quantum colour centers, nanofabrication of Photonic Integrated Circuits (PICs), post-fabrication treatments, and application-relevant quantum benchmarking. Its goal is to **advance SiC quantum chips** for applications in quantum communication, quantum computing, and quantum sensing.

AQuaTSiC: Luxembourg's first quantum chips

This FNR PEARL project establishes Luxembourg's first research group on quantum hardware development. The material choice is silicon carbide, being the leading 3rd-gen semiconductor in power electronics. Atomically small defects and impurities in this material implement quantum systems, which are integrated in electronic and photonic circuitry.

QIA: Semiconductor quantum chips for the quantum internet

This EU Quantum Technology Flagship project develops the hardware and software for establishing a quantum Internet with use cases beyond direct cryptography links. LIST's task is to investigate the potential of semiconductor quantum hardware as quantum repeater nodes.

SiCqurTech: Advanced fab-compatible fabrication of semiconductor quantum chips

This EU QuantERA project develops new nanofabrication techniques of semiconductor quantum chips, which can be scaled up from academic cleanroom processing to large-scale industrial manufacturing lines.

Q-Chip: Benchmarking of quantum chips for quantum communication and computing

This ERC Consolidator Grant project investigates the performance of semiconductor quantum chips that incorporate, at the same time, an optical interface for quantum communication tasks, and quantum memories and processing nodes for network-relevant tasks such as error correction.

Quantum Research Landscape - SnT

The **Applied Security and Information Assurance group** (APSIA) designs, analyses, and models secure systems. The group uses classical, quantum, and post-quantum cryptography. APSIA's research includes protocol verification, secure communication, and privacy tools. The **SIGCOM** group also contributes to the quantum research landscape, additional details about this group are available on page 11.

LUQCIA: LUxembourg Quantum Communication Infrastructure lAb

The objective of this project is to develop and implement an ultra-secure communication infrastructure based on quantum technology and enable advanced collaborative research in this domain. A key milestone is the development of a cross-border QKD link between Luxembourg and Belgium. The project focuses on building a robust QCI, fostering collaborations with industry and academia, and advancing research in quantum-secure networking. This project is carried out by the University of Luxembourg's SnT, in collaboration with the Department of Media, Connectivity and Digital Policy (SMC) of the Ministry of State.

Lux4QCI: Luxembourg Experimental Network for Quantum Communication Infrastructure

The objective of this project is to establish a national network of 6 to 7 Points of Presence (PoPs) interconnected within a maximum distance of 33 km, integrating data centres, university campuses, governmental facilities, and a satellite teleport. It is being carried out in collaboration with the public and private partners of the consortium. The initiative is led by the University of Luxembourg's SnT, in collaboration with the Department of Media, Connectivity and Digital Policy (SMC) of the Ministry of State.

4.3 EMERGENCY. LU

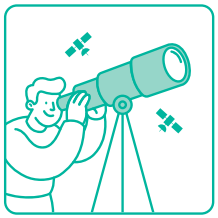
Launched in 2010 following the Haiti earthquake, Emergency.lu was developed by Luxembourg's Directorate for Development Cooperation and Humanitarian Affairs to **restore communications in disaster affected areas and humanitarian crises**. It provides **rapidly deployable mobile, satellite-based systems** that support humanitarian coordination as well as access to information for affected communities. Operated as a public-private partnership between the Ministry of Foreign Affairs, SES, HITEC Luxembourg, and Luxembourg Air Services, the platform is deployed in support of UN agencies, the Emergency Telecommunications Cluster, as well as a capacity of the European Civil Protection Pool. Activated by the Luxembourg government, Emergency.lu **can be deployed worldwide within hours and has supported more than 30 crises regions.**

emergency.lu
LUXEMBOURG'S EMERGENCY RESPONSE

4.4 SPACE CONNECTIVITY

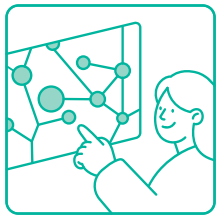
Luxembourg's vibrant space sector, detailed in the Luxembourg Space Agency (LSA) Space Directory, encompasses a broad range of actors and activities. The directory provides a comprehensive overview of the sector, and the following non-exhaustive list highlights a selection of initiatives specifically related to connectivity.

SES



SES Geostationary Earth Orbit (GEO) satellites

40+



SES Medium Earth Orbit (MEO)

28

MEO HTS (O3b and O3b mPOWER)

GovSat

GovSat bands and features: UHF, X, military Ka; anti-jamming, geolocation

GovSat-1 (launched) GovSat-2 (planned): Secure SATCOM for Luxembourg/ Europe/NATO/ US Department of Defense (DoD)

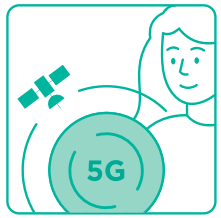
OQ Technology

OQ Technology Low Earth Orbit (LEO) satellites

10+

Status and scope of NB-IoT and 5G NTN services: commercially active Middle East, Africa, Australia, International waters and parts of Europe, soon in Latin America.

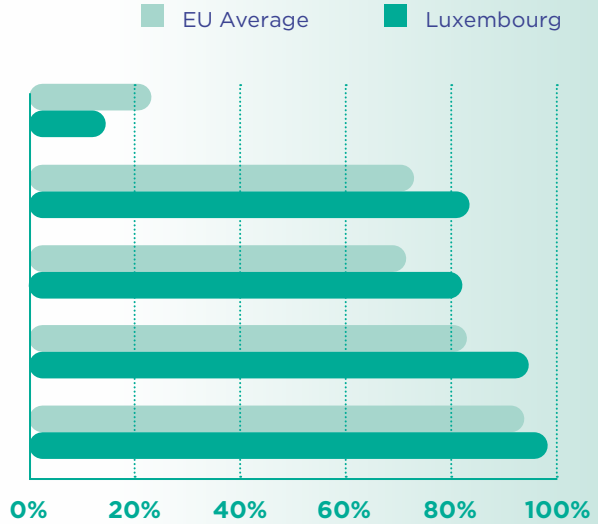
Direct-To-Device (D2D) communication capabilities and deployment plans:
3 missions planned for 2026/2027 prioritizing SMS and SOS services.



OQ Technology received a spectrum concession to operate satellite-based 5G services in Luxembourg.

5. Digital Decade

The EU Digital Decade is the **European Commission**'s framework for setting EU-wide digital priorities, monitoring implementation and reporting progress towards 2030. In force since 2023, it establishes **binding targets** across four pillars: digital skills, secure connectivity/computing/data infrastructure, business uptake of AI/cloud/data, and online public services.



**FTTB: Fiber to the Building. / Source: DESI 2025 (data from 2024).*

6. Ecosystem

6.1 DATA CENTERS

Data centers and connectivity facilities are a core component of Luxembourg's digital ecosystem, supporting connectivity, cloud services, critical infrastructure resilience, and economic competitiveness.

Luxembourg benefits from a **dynamic ecosystem** of leading hosting providers such as Datacenter.eu and root.lu, as well as innovative cloud and value-added service providers including Cegecom, Clarence, Gcore, LuxProvide, Proximus NXT and Rcarré. The country hosts multiple Tier III and Tier IV certified data center facilities (~10), meeting the highest international standards.

Facility name	IT approx. Surface (m2)	IT approx. Power (MW)	PUE*	Location
11:11 Systems	~1000	1	-	Contern
11:11 Systems	~1000	1	-	Munsbach
BCE DC	908	2.2	1.5	Kirchberg
DATA4	3000	4	-	Gasperich
DEEP Resilience Centre East	~5000	~6	-	Betzdorf
DEEP Resilience Centre South	~5000	~10	<1.4	Kayl
DEEP Resilience Centre West	~5000	~6	<1.5	Windhof
Labgroup DC	-	-	-	Grass
LuxConnect DC1.1	3100	12.6	1.55	Bettembourg
LuxConnect DC1.2	1300	12.6	1.45	Bettembourg
LuxConnect DC1.3	5500	20	1.3	Bettembourg
LuxConnect DC2	4800	25.2	1.35	Bissen
Portus LUX1	5000	3.4	1.4	Cloche d'Or
Restena	-	-	-	Belval
SES Betzdorf / Teleport	-	-	-	Betzdorf
Telkea Group DC	-	-	-	Hamm
Visual Online DC	-	-	-	Contern

**Power Usage Effectiveness. A lower PUE (closer to 1.0) indicates better energy efficiency.*
Notes: (-) indicates data not publicly available. (~) indicates approximate values.

6.2 KEY ORGANIZATIONS FOR CONNECTIVITY

This section provides an overview of the organizations, initiatives and coordination mechanisms **initiated or supported by the government** that influence how the ecosystem evolves and how it connects with industry. The content has been deliberately curated to highlight, in alphabetical order, the actors and structures that play a defining role in the connectivity landscape, without seeking to present an exhaustive overview of all public or institutional activities.

CHAMBER OF COMMERCE LUXEMBOURG
POWERING BUSINESS

The flagship institution representing the country's businesses and economy, uniting companies across industry, commerce, banking and finance, services, insurance, and hospitality sectors. Its core mission is to protect and promote the interests of businesses and the economy.

emergency.lu
LUXEMBOURG'S EMERGENCY RESPONSE

A platform launched in 2010, operated as a public–private partnership between the Ministry of Foreign Affairs, SES, HITEC Luxembourg, and Luxembourg Air Services. It delivers rapidly deployable mobile satellite systems to support humanitarian coordination; additional details about it are available on page 27.

GOVSAT

A public-private joint venture between the Luxembourg government and SES, a world-leading satellite operator. Its mission is to provide secure, reliable and accessible satellite communication services for governments, addressing the demand for connectivity arising from defence and civilian security applications.

HOUSE OF STARTUPS
powered by the Luxembourg Chamber of Commerce

Luxembourg's hub for innovation that brings together incubators, accelerators, and innovation programs under one roof. Created by the Luxembourg Chamber of Commerce, it provides startups with the space, tailored support, and ecosystem they need to grow. The House of Startups hosts three major incubators, Luxembourg-City Incubator (LCI), the Luxembourg House of Financial Technology (LHoFT), and Le Village by CA, supporting up to 175 startups, and gathers key players in fundraising, sustainability, advocacy, education, and venture capital. Through its Open Innovation Club, HoST also connects corporates with the startup ecosystem, fostering co-creation through hackathons, barcamps, and innovation challenges.

INSTITUT LUXEMBOURGEOIS DE RÉGULATION

The ILR protects consumers and promotes efficient markets through sustainable competition and universal service provision. It regulates and oversees Luxembourg's electronic communications, electricity, natural gas, postal, transport, radio frequency, and cybersecurity sectors.

Luxembourg House of Cybersecurity

LHC is the backbone of leading-edge cyber resilience in Luxembourg and aims to capitalise on and further developing innovation, competencies, collaboration and capacity building.

LU-CIX GIE

The Luxembourg Internet exchange, was founded in 2009 based on a not-for-profit association with an open and neutral philosophy. Its aim is to develop and support the Internet and data centre ecosystem in Luxembourg by providing the national peering and Voice over Internet Protocol (VoIP) exchange services to its members.

LUXEMBOURG SPACE AGENCY

Established in 2018 by the Ministry of Economy with the goal of developing the national space sector, it fosters new and existing companies, develops human resources, facilitates access to funding and provides support for academic research. The agency implements the national space economic development strategy, manages national space research and development programs, and leads the SpaceResources.lu initiative. The LSA also represents Luxembourg within the European Space Agency, as well as the space related programs of the European Union and the United Nations.

LUXINNOVATION
#MakingInnovationHappen

Luxembourg's national innovation agency, empowers companies to innovate for future readiness and drives economic growth by identifying innovation opportunities and fostering collaborative projects that build a sustainable, competitive, and digital economy. Established as an Economic Interest Group, it is supported by several ministries, the Chamber of Commerce, the Chamber of Skilled Crafts, and the FEDIL.

THE GOVERNMENT OF THE GRAND DUCHY OF LUXEMBOURG
Ministry for Digitalisation

The Ministry for Digitalisation acts as a facilitator and coordinator for ministries and state bodies engaged in the digital transition, while also initiating government-wide projects to simplify daily life for citizens and businesses. It ensures the coherent development, updating, and implementation of strategies driving Luxembourg's digitalisation and digital transformation.

THE GOVERNMENT OF THE GRAND DUCHY OF LUXEMBOURG
Ministry of the Economy

The Ministry of the Economy oversees the country's economic policy, thus making strategic choices and implementing the instruments necessary to support the dynamism and sustainable development of the national economy, in line with its remit.

THE GOVERNMENT OF THE GRAND DUCHY OF LUXEMBOURG
Ministry of Foreign and European Affairs, Defence, Development Cooperation and Foreign Trade

The Ministry of Foreign and European Affairs, Defence, Development Cooperation and Foreign Trade defines and implements Luxembourg's foreign and European policy and coordinates the Luxembourg government's external action. The ministry acts in the best interests of Luxembourg and its citizens and seeks to promote a coherent approach towards diplomacy, defence and development.

THE GOVERNMENT OF THE GRAND DUCHY OF LUXEMBOURG
Ministry of State
Department of Media, Connectivity and Digital Policy

The Department of Media, Connectivity and Digital Policy (SMC) is part of the Ministry of State. The SMC works for: pluralism of media and information sources in Luxembourg, high-performance technological connectivity throughout the Luxembourg territory and forward-looking policies that put people first.

MY CONNECTIVITY

A Luxembourg economic interest group (G.I.E.) that drives the improvement and acceleration of connectivity for individuals and businesses. It works to ensure that everyone can benefit from very high-speed broadband in daily life and work, serving as the main interface, information centre, and advisory platform for public and private stakeholders in connectivity implementation.

technoport®
technology business incubator

Established in June 2012 through the merger of the former Technoport® and Ecostart I and II, Technoport®'s mission is to help and support individuals and small teams to validate and bridge their ideas to success through the Technology Business Incubator and the Event Space.

TOMORROW STREET

An innovation centre that accelerates advanced technologies by scaling late-stage startups. It is a joint venture between Vodafone and Luxembourg's technology incubator, Technoport.

6.3 GOVERNMENT INITIATIVES TIMELINE

This section traces how **public action** has accompanied the development of Luxembourg's **telecommunications and ICT sectors** over time. Presented as a chronological overview from 1997 to 2025, the timeline brings together **selected initiatives** that helped set direction, create enabling frameworks and support major steps in the sector's evolution. Rather than attempting to catalogue every measure, it focuses on **key policy, regulatory and infrastructure milestones**, the moments that marked shifts in priorities, capabilities or market conditions, and that have contributed to shaping today's ecosystem.

1997

Creation of the National Regulatory Agency (Institut Luxembourgeois de Regulation, ILR).

1999

Market liberalization of the fixed networks and definition of different categories of licences.

2000

Introduction of **number portability for fixed networks.**

2005

Introduction of **mobile number portability.**

2006

Luxembourg became the first EU member state to transpose the directive regarding e-commerce and electronic signatures into the national legal framework.

2009

Founding member of **LU-CIX,** an Internet peering point to which all of the local operators quickly connected.

2010

Adoption of the **National Ultra-High-Speed Broadband Strategy 2010-2020.**

-

The Government, as their sole shareholder, asked the incumbent operator (POST) to **invest aproximately €180 million** until 2015 **to fund the initial rollout.**

2012

The 3 existing mobile operators, POST, Tango and Orange (formerly Voxmobile) received 4G LTE licences and additional **1800 MHz spectrum was released.**

2017

Adoption of a law on measures to **reduce the cost** of deploying high-speed electronic communications networks, aimed at **increasing roll-out speed** and reducing the costs of broad band networks.

2018

Implementation of **NIS 1 Directive.**

2019

The government presented its proposal for a national 5G strategy.

2021

Auction of 5G licences and spectrum.

-

Adoption of the **National Ultra-High-Speed Broadband Strategy 2021-2025.**

-

Inauguration of the Meluxina High Performance Computing (HPC) system.

-

Launch of the National Action Plan for Digital Inclusion.

-

Creation of **MyConnectivity G.I.E.**

2022

The National Regulatory Agency **launched a new platform (myILR).**

-

Launch of **High Committee for Digital Transformation.**

-

Launch of **Luxchat.**

2023

Creation of a geographical database of national telecommunications networks.

2025

Launch of the National Registry of Vertical Cabling platform.

-

First Luxembourgish 5G satellite communication license **granted to OQ Technology.**

6.4 INDUSTRY CALENDAR

This section looks ahead to 2026, highlighting a **selection of events** in Luxembourg that are particularly relevant to the telecommunications and ICT community. The list is an editorial selection rather than a complete calendar.

01.

GovSatCom - The Conference for Defence & Security

The GovSatCom Luxembourg Conference it's a key event on the agenda of International SATCOM stakeholders from the satellite, governmental, institutional, space and defence sectors.

February 26, 2026.

GOVSATCOM CONFERENCE 2026

02.

TechSense Summit

TechSense Summit event brings together IT leaders and technology providers to explore how infrastructure choices shape resilience, trust and long-term competitiveness; from cloud strategy and AI-ready architectures to security, governance and operational readiness.

March 18, 2026.

techsense summit.

03.

Nexus 2026

Nexus Luxembourg is an annual tech event that serves as an international hub for stakeholders working at the intersection of ecological and digital transitions. It aims to leverage technology to support governments, organizations and businesses to achieve their net-zero strategies by 2050.

June 10 & 11, 2026.

NEXUS LUXEMBOURG 2026

Discover all upcoming telecom and digital events in Luxembourg and around the world on **MyConnectivity**'s website.

04.

Luxembourg Internet Days

The Luxembourg Internet Days is an annual event that showcases trends, developments and challenges for the ICT professionals in the Greater Region and beyond. The event attracts more than a thousand participants who attend free-of-charge high-level conferences, business case presentations, round tables, networking sessions and an exhibition.

November 17 & 18 2026.

luxembourg internet-days

05.

TNT Symposium

The TNT Symposium event brings together the technology, innovation and digital decision-makers for an insightful evening.

December 1, 2026.

TNT SYMPOSIUM

06.

Data Summit Luxembourg

Data Summit Luxembourg is an annual event created by the Luxembourg National Data Service (LNDS), dedicated to showcasing how public sector data, and the responsible use of AI, can generate innovation and value. Bringing together experts from academia, government, and industry, the summit explores real-world use cases and opportunities across the data and AI landscape.

December 2, 2026.

DATA SUMMIT LUXEMBOURG

6.5 DIRECTORY OF DIRECTORIES

To support orientation within Luxembourg's telecommunications and digital infrastructure ecosystem, this report uses a "Directory of directories" approach. Rather than compiling a single list of actors, this section points to **established sources, platforms and datasets** that are maintained and updated over time.

These directories are practical tools for **navigating the ecosystem** from different angles: entrepreneurship and business support, innovation and research, sector regulation, recruitment and labour-market information, and day-to-day discovery resources. Depending on what you are looking for, they can help you identify organizations and initiatives, **map the landscape** around a specific topic, or find the right entry point for contact and collaboration.

In other words, if this report is the overview, these resources are the next step: the places where details live, where new actors appear, and where the ecosystem is easiest to follow as it changes.

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MyConnectivity,
PR-B

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Florencia Ferraro

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Reka SA

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