LUXEMBOURG

A PERFECTLY

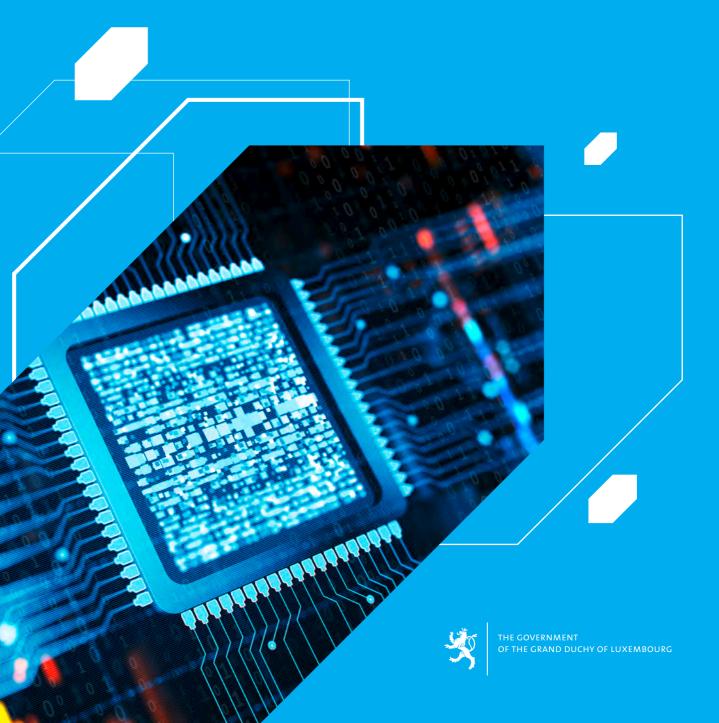
XX XX CONNECTED HOST

XXX X FOR THE EUROPEAN

X XX CYBERSECURITY

XX XX COMPETENCE

X XXX CENTRE





- 1.
 A digital hub for the European Union
- 2. Potential premises
- A vibrant cybersecurity ecosystem
- 4.
 Excellent connectivity,
 security and interoperability
 with IT facilities
- 5. Making connections
- 6. Learning and growing up
- 7. Safe and sound
- 8. Working well
- 9. Healthy attitude
- 10. Enjoying the good life



LUXEMBOURG, A PERFECTLY CONNECTED HOST FOR THE CENTRE, BECAUSE:

- IT is a digital hub for the European Union, hosting several European Commission units in the digital area and the EuroHPC Joint Undertaking;
- IT has long-standing experience as a seat for EU institutions, bodies and agencies;
 - IT offers tailor-made, high-quality premises in a safe environment;
 - IT boasts a dynamic and open cybersecurity ecosystem;
- IT offers state-of-the-art, high-performance and secure IT infrastructure:
 - IT is located at the heart of Europe with direct connections to over 85 European destinations and free country-wide public transport;
 - IT enjoys an exceptional quality of life;
 - IT stands out for its wide choice of multilingual schooling options, including European Schools;
- IT has a dynamic labour market offering an impressive choice of job openings for non-nationals;
 - IT offers one of the best and most generous healthcare systems in the world.



STRONG SYNERGIES THROUGH THE PROXIMITY TO THE EUROPEAN COMMISSION'S DIGITAL POLE AND TO THE EuroHPC

A WELCOMING AND EXPERIENCED HOST

As the first historic seat and one of the three European capitals, Luxembourg prides itself of being a welcoming and experienced host to European and international organisations. Its effective interministerial cooperation and coordination consistently ensures that the staff of EU institutions, bodies and agencies, which are organised around 3 poles – financial, judicial and digital – benefit from the best living and working conditions. The recent preparations to host the EuroHPC Joint Undertaking and the European Public Prosecutor's Office in Luxembourg have once again highlighted the quality and efficiency deployed by Luxembourg to accommodate all European and international organisations to the highest standard.



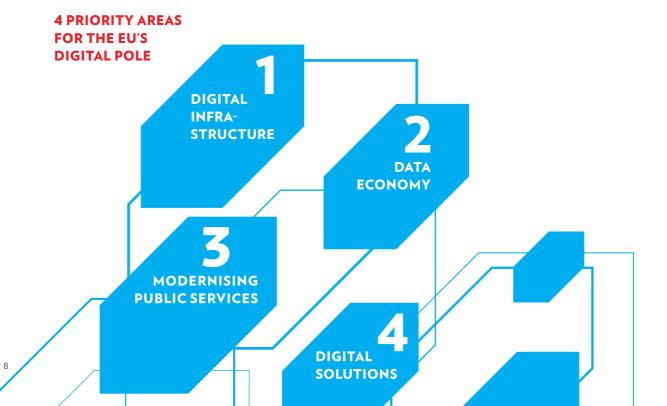


THE EU'S DIGITAL POLE

Under its **Digital Pole** initiative, the European Commission is locating more of its **digital services together in Luxembourg**, thereby **further enhancing a critical mass of knowledge and expertise in Luxembourg.** Cooperation across these services is thus improved in four priority areas: (1) digital infrastructures; (2) data economy; (3) modernising public services and (4) digital solutions.

The Luxembourg Digital Pole hosts:

- DG CONNECT's Directorate C: Digital Excellence & Science Infrastructure; its Directorate G: Data; its units A.1: Robotics & Artificial Intelligence, H.3: eHealth, Well-Being & Ageing and H.4: eGovernment & Trust. In order to further strengthen the Luxembourg Digital Pole, DG CONNECT's Directorate H: Digital Society, Trust & Cybersecurity is to be moved to Luxembourg.
- **DG DIGIT's** Director General; its Directorate C: Digital Workplace & Infrastructure; its Directorate D: Digital Services and its unit S2: IT Security Operations, which includes the Computer Security Incident Response Capability.





Furthermore, Luxembourg is also home to the **European High Performance Computing Joint Undertaking** (EuroHPC), which allows the EU and EuroHPC participating countries to coordinate their efforts and pool their resources with the objective of deploying in Europe a **world-class exascale supercomputing and quantum computing infrastructure** and developing innovative supercomputing technologies and applications.

Luxembourg contributes furthermore extensively to the establishment of a **network of European cybersecurity competence centres** by actively participating in 3 out of the 4 pilot projects selected in the framework of the Horizon 2020 programme (Concordia, Sparta and CyberSec4Europe).

The proximity of the new Centre to these relevant Commission services and EU bodies will enable an efficient and cost-effective setting-up and running of the new Centre and allow for strong synergies between these different entities.





POTENTIALX XX XXXX PREMISES X X XX XX



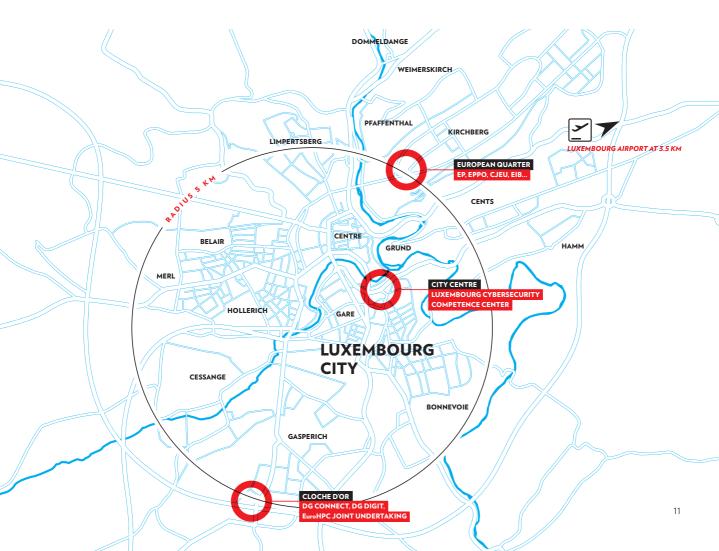
Building on its long-standing experience as host to **EU** institutions, bodies and agencies, **Luxembourg offers free of charge, tailormade, high-quality premises** in a safe and secure environment.



Luxembourg has identified several suitable locations, which all offer major benefits in terms of security and proximity to the various relevant actors and decision-makers, be it competent European Commission services like DG Connect and DG Digit or the EuroHPC Joint Undertaking; be it national cybersecurity infrastructures and research facilities.

The European Cybersecurity Competence Centre can thus take full advantage of the vibrant national, European and international cybersecurity ecosystem in Luxembourg.

All potential premises are easily accessible by free public transport.



Besides the availability of modern, high-quality and secure premises, Luxembourg stands ready to assist in getting the Centre up-and-running, fully operational and expandable, space and infrastructure-wise.

High-performing telecommunications and data storage networks are guaranteed as Luxembourg offers one of the highest density of Tier IV certified data centres in Europe and acts as an ultra-low latency hub.



Luxembourg has a long experience when it comes to **head-quarter agreements** with European agencies and bodies. What's for sure: **the Centre and its staff will enjoy, from day one, the privileges and immunities** foreseen by the Protocol N° 7 on the Privileges and Immunities of the EU.





1ST

AMONG EU

MEMBER

STATES

2ND

WORLDWIDE

CISCO'S 2019 DIGITAL READINESS INDEX

IN THE GLOBAL CYBERSECURITY INDEX

11TH

Building on a 20-year strong experience in cybersecurity, Luxembourg offers world-class skills in this field. It has a very vibrant, dynamic, open and inclusive cybersecurity ecosystem, which constitutes an attractive environment for cybersecurity actors, notably by facilitating public-private partnerships. Some 310 companies, including 75 start-ups, are providing cybersecurity services and products in Luxembourg. Thanks to the sector's steady growth, ICT specialists currently represent 5,4% of total employment, thus ensuring the availability of a large number of varied and cutting-edge skills on the market. In this context, Luxembourg ranks 2nd worldwide and 1st among EU Member States in Cisco's 2019 Digital Readiness Index. In addition, the Grand Duchy ranks 11th in the Global Cybersecurity Index.



NATIONAL ACTORS

EDUCATION & RESEARCH

















SERVING THE PUBLIC SECTOR



Agence nationale de la sécurité des systèmes d'information Luxembourg



CERT gouvernements

SERVING THE PRIVATE SECTOR











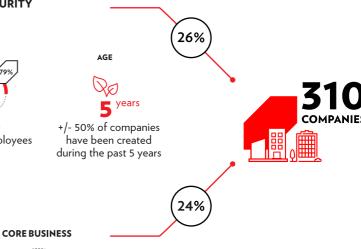




COMPANIES WITH CYBERSECURITY AS A CORE BUSINESS









START-UPS

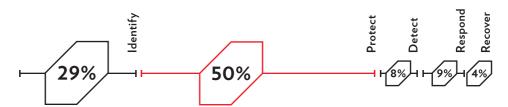
Start-ups represent more than 20% of the national cybersecurity ecosystem



One third of start-ups have cybersecurity as a core business

DIVERSIFIED SOLUTIONS

Luxembourg companies mainly specialised in risk identification and systems protection



AMONG THE TOP 7 SOLUTIONS

COVERING 61% OF THE NATIONAL MARKET, ARE: **



Identity & access management



Data security



Penetration testing



Awareness & training

- $^{\star}~$ Based on the latest available figures from Editusdata and the LBR
- ** Based on the categories from the ECSO Cybersecurity Market Radar Content of infographic: Luxinnovation

ONE OF ONLY EIGHT SITES IN THE EU

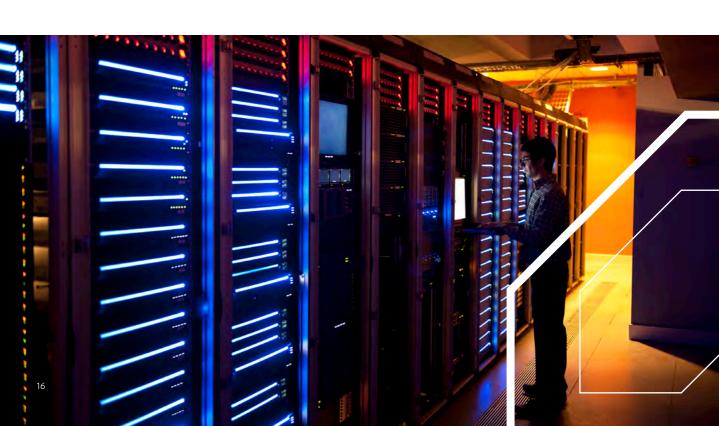
TO HOST A PETA-SCALE SUPERCOMPUTER



A TOP-NOTCH DIGITAL INFRASTRUCTURE

Thanks to its **first-rate digital infrastructure** and its ambition to develop a state-of-the-art, sustainable and reliant digital economy, **Luxembourg has been selected by the EuroHPC Joint Undertaking** as one of only eight sites in the EU to **host a peta-scale supercomputer**. Through its own such high-performance computer, the **MeluXina**, Luxembourg can actively participate in the **establishment of the European HPC network**. This initiative will further support the digital transition of the economy by facilitating the competitiveness and innovation of companies, with a particular focus on **SMEs and start-ups**.





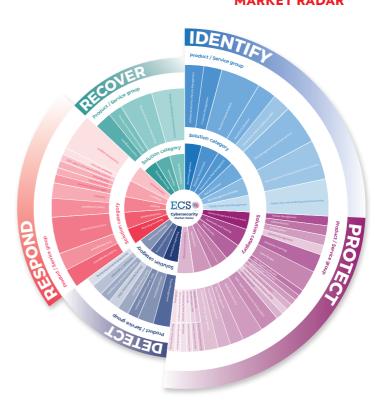


A LABORATORY FOR TESTING DIGITAL INNOVATIONS AND ANALYSING EMERGING THREATS

Being located in the heart of a **dynamic cross-border region** incorporating five regions from four countries, Luxembourg constitutes a microcosm of Europe and is hence the **perfect laboratory for testing digital innovations and analysing emerging threats.** It is already engaged in cross-border cooperation with various entities such as universities and local companies in promoting experimental approaches around cybersecurity training or exploitation of research results through commercial exploitation or entrepreneurial initiatives. It also participates in the "**European Cyber Valleys**" pilot action for developing interregional cooperation on cybersecurity.

THE TAXONOMY OF THE EUROPEAN CYBER SECURITY ORGANISATION MARKET RADAR

PARTICIPANT OF THE "EUROPEAN CYBER VALLEYS" PILOT ACTION



320 EXPERTS

WORKING IN A DYNAMIC INTERDISCIPLINARY RESEARCH ENVIRONMENT

DIGITAL SKILLS PROMOTION AND RESEARCH

In its digital skills strategy, Luxembourg puts growing focus on advanced digital skills and encourages the deployment of a wide-ranging education and continuous training offer for a tech savvy population. The Government initiative "Digital Luxembourg" systematically supports advanced training programs addressing skills needs in Al, blockchain and 5G. Luxembourg's cybersecurity actors are a natural ally in these efforts. Luxembourg actively promotes the Digital Skills and Jobs Coalition, a platform initially designed by the European Commission, which counts a growing number of active members comprising key actors from the cybersecurity field.

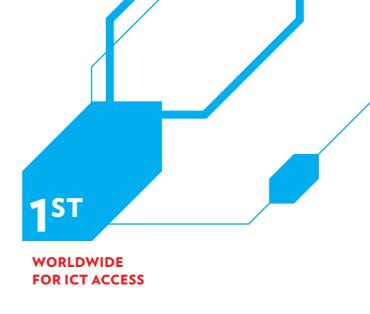
The European Cybersecurity Competence Centre will benefit from the University of Luxembourg's Interdisciplinary Centre for Security, Reliability and Trust (SnT), which conducts internationally competitive ICT research, including in cybersecurity, in a dynamic interdisciplinary research environment with some 320 experts.











Ranking 1st worldwide for ICT access in the World Intellectual Property Organisation's 2020 Global Innovation Index, Luxembourg remains fully committed to providing state-of-the-art infrastructure that is efficient and secure to support the development of a digital hub of excellence for the European Union.

EXCELLENT ICT INFRASTRUCTURE

Luxembourg is highly regarded as a **digital trust centre** in Europe and prides itself on its **excellent ICT infrastructure** in the field of connectivity and data centres.

Thanks to one of the highest density of Tier IV certified data centres in Europe, Luxembourg is hosting extensive and green data centres not only from a large number of EU institutions and bodies, including the European Commission, the European Investment Bank and the European Public Prosecutor's Office, but also from multiple organisations, including the NATO Support and Procurement Agency and the European Patent Office.





Luxembourg is also home to the world's first "data embassy" opened by **Estonia.** This **fruitful and trust-based partnership** highlights the collective potential of countries that embrace ICT cooperation.

Luxembourg's Tier IV data centres are designed to comply with the **highest cybersecurity standards**.

STRONG CONNECTIVITY

A highly fault-tolerant data centre landscape would not be too useful without strong and reliable connectivity: Luxembourg has the 3^{rd} best connectivity in the EU, offering exceptional connectivity secured by very fast, ultra-low-latency connections and nation-wide coverage of ultra-high-speed broadband. The Grand Duchy indeed acts as an ultra-low latency hub to both citizens and businesses, excelling in this field with 28 international fibre routes to main European hubs, served by 31 different carriers.





NETWORK SECURITY

Luxembourg attaches high importance to the security of networks and fully complies with the recommendations of the **5G Cybersecurity toolbox** elaborated by the NIS Cooperation Group.

In the framework of the **NIS directive** implementation, Luxembourg plays a key role in the deployment of an open platform to facilitate collaboration among computer security incident response teams (CERT/CSIRT) within the **EU Agency for Cybersecurity's MeliCERTES II project.**

With the objective to upraise Europe's capacities in the field of cybersecurity and quantum technology infrastructure, Luxembourg has been among the initial signatories of the declaration on **Quantum-secure Communication Infrastructure (QCI)** in June 2019.

The Luxembourg Government has mandated the country's High Commission for National Protection and the national Internet Exchange to set up a **national DDoS (Distributed Denial of Service attack) scrubbing centre** as a national cyber crisis management instrument. The objective of this DDoS mitigation centre is to protect the country's infrastructure and population against the effects of a large DDoS cyber-attack. This national DDoS mitigation concept is, as of now, **unique in the world**.

In close collaboration with NATO, Luxembourg is also developing a Cyber Range platform, which will be used mainly to simulate cybersecurity scenarios in a realistic environment and thus will contribute significantly to the enhancement of cyber defence competence.

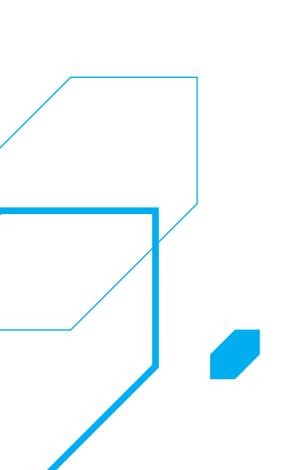




LUXEMBOURG'S CYBERSECURITY COMPETENCE CENTRE

Luxembourg's own Cybersecurity Competence Centre (C3) has been operational since 2017. Its primary mission is to **support companies in reaching a mature level of competence management in cybersecurity.** It focuses furthermore on supporting the **ecosystem maturation** through initiatives aimed at developing new types of training, spotting and coaching emerging talents in cooperation with education institutions and research laboratories. One of its core goals is to ensure SMEs have access to affordable and meaningful tools and services.

Its experience can be most valuable to the EU Cybersecurity Competence Centre and offer potential for collaboration in a comprehensive digital ecosystem.







ALL OF EUROPE WITHIN EASY REACH BY ROAD, RAIL AND AIR

Located **at the very heart of Europe**, Luxembourg stands at the confluence of the continent's main communication and travel routes, within easy reach of the political, economic and financial centres of the EU.

Direct flights are available to **85 destinations in Europe and beyond** from Luxembourg's sleek, modern **airport**, **just a 15-minute drive from the city centre**, known for its short queues. Major European cities like Frankfurt, Munich, Paris, and Milan are all within an hour's flight.

Luxembourg is also **well connected by train** to European capitals and major destinations, including a high-speed train link to Paris.





world's first and only free national public transport. Bus and train rides throughout the country and in the near border regions cost the traveller nothing.

Luxembourg's **road and tram networks, already very extensive, have seen considerable investment** in recent years. A new tram line, operational since 2017, is being extended to connect the city centre to key residential and business districts by 2022, and to the airport by 2023.



FREE NATIONAL PUBLIC TRANSPORT SYSTEM MORE THAN 170 KM

OF CYCLING LANES IN LUXEMBOURG CITY

The city's network of cycle lanes and bike-hire stations continues to grow, encouraging 'soft mobility' and complementing the 1000 km of cycling routes criss-crossing the country.



1ST CLASS HOTEL ACCOMMODATION AND CONFERENCE FACILITIES

Arriving in Luxembourg, you have an impressive range of hotel **accommodation** to choose from. Boutique hotels rub shoulders with international hotel brands and serviced apartments with concierge on call, all dedicated to business travel.

Regarding conference facilities, the **European Convention Centre Luxembourg,** is ideally located at the heart of the European Quarter. It offers space and an atmosphere which is ideal for all types of business meetings and conferences.



LEARNING AND XX X GROWING UP X XX X







EXCELLENT EDUCATION AND CHILDCARE IN A NATURALLY DIVERSE AND OPEN SYSTEM

Luxembourg has a strong reputation when it comes to education and childcare, ensuring that all children are given the best opportunities. This starts even before school age, with **up** to 20 hours of free childcare available per week for every child, from birth to the age of four. The same high standards are applied to all childcare facilities.







What sets education in Luxembourg apart is the **multilingualism at its core**. Given that more than 60% of pupils and students come from outside of Luxembourg originally, multilingualism ensures that education is inclusive.

Learning more than one foreign language to a high level is the norm in Luxembourg. Indeed, in the country's public school system, **all students learn at least three foreign languages:** German, French and English, with the option to learn additional languages later.

International schools throughout the country offer a **wide range of international qualifications.** The International, European, French and the multilingual Luxembourg Baccalaureate are all available, as are British A-levels and the German Abitur.

There are also **two European Schools** and **four Accredited European Schools**, covering the nursery, primary and secondary levels, all with English, French and German speaking sections.



2 EUROPEAN SCHOOLS





WORLDWIDE IN 2020

The University of Luxembourg is an international, multilingual and interdisciplinary institution embodying the values of innovation, research and personal development.

Founded in 2003, Uni.lu has a comprehensive selection of courses at degree level and beyond. It has been steadily climbing the Times Higher Education ranking of the world's young universities, reaching number 12 in 2020.









SAFEST COUNTRY IN THE WORLD FOR EXPATS

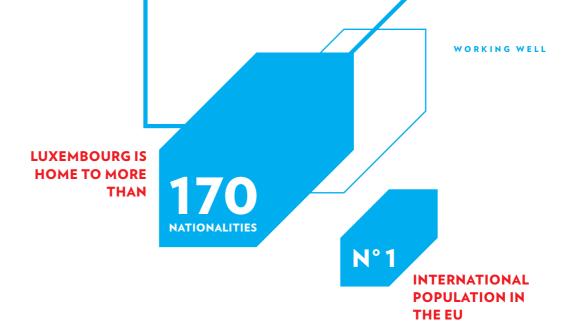
A SAFE ENVIRONMENT FOR LONG-TERM THINKING

Luxembourg is an exceptionally secure and stable place to live and work. Here, new arrivals and their ventures find a welcoming, dynamic and inspiring environment. Whether you're starting a family, building a business or founding an institution, Luxembourg allows you to think long term.

The values of neighbourliness and friendship are as important to the Luxembourgish national identity as **international partnerships and alliances.** These ideas transcend the political, economic and social spheres and are confirmed by study after study.

For many years, Luxembourg has consistently ranked as **one of the safest capitals in the world**, topping the 2019 Mercer quality of living survey in terms of safety.





A HIGHLY SKILLED, MULTI-LINGUAL WORKFORCE POWERS A DYNAMIC LABOUR MARKET

The labour market in Luxembourg mirrors the country's diverse population: it's a melting pot of cultures and nationalities, with the highest share of high-skilled workers in the world. It also has the largest cross-border labour market in the EU, with more than 200,000 daily commuters from its three neighbouring countries.





EUROPE'S SECOND-LOWEST

GENDER PAY GAP

Home to a happily integrated workforce, which has come to the Grand Duchy from around the world, this is a place where **expats can feel immediately at home.** Luxembourg has been judged the **number one country, globally, for economy and job security** (Expat Insider 2019) and among the best locations for expat families looking for an improved quality of life (OECD).

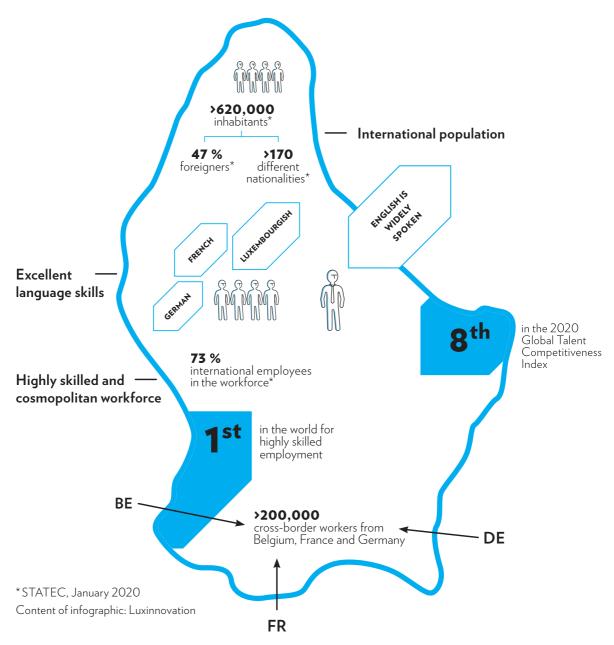


IN THE WORLD FOR ATTRACTING TALENT



MOST PROFICIENT ENGLISH-SPEAKING POPULATION IN THE WORLD

Entrepreneurship has boomed in recent years, resulting in the emergence of a **dynamic ecosystem of start-ups** across all industries. Start-up culture has been boosted by public and private incubators, by various networking associations, and by Government stimulus packages.







HEALTHCARE AND SOCIAL SECURITY ARE CONSISTENTLY RATED AMONG THE BEST IN THE WORLD

Luxembourg is rightly proud of its efficient health and social security systems. The Grand Duchy boasts **a generous social security system and world-class healthcare**, with an extensive network of hospitals and assistance and care at home.

During the COVID-19 pandemic, Luxembourg's health-system has proven extraordinarily resilient and flexible. The country has rigorously pursued a **large-scale testing strategy,** in line with the recommendations of the European Centre for Disease Prevention and Control, containing the virus at manageable levels. Early on during the pandemic, Luxembourg was also quick to react in **solidarity** with France by welcoming intensive care patients from the Grand Est region to Luxembourgish hospitals.

Doctors in Luxembourg regularly consult in English, French and German. If you speak another language, no problem, listings are available of doctors happy to consult in 25 different languages.







A HIGH STANDARD OF LIVING, BUILT ON AN UNPARALLELED QUALITY OF LIFE

Luxembourg offers high quality of life on all fronts. The cultural offering is rich and the mindset resolutely international. Luxembourg City was European Capital of Culture in both 1995 and 2007, and it will be the city of Esch's turn in 2022. Luxembourg also has a well-earned reputation as an ideal place to enjoy family life. Here you can find that much sought-after work-life balance.

Luxembourg City's cultural scene is flourishing. Nightlife is thriving and restaurants offer something for everyone, including the most Michelin-starred restaurants per capita in the world.





A UNESCO WORLD HERITAGE SITE

SINCE 1994

For children, numerous multilingual activities are on offer throughout the year, traditionally free of charge. Meanwhile, the old quarters of Luxembourg City and its medieval fortress are a **UNESCO World Heritage Site** and one of the country's foremost tourist attractions.

Half the capital is made up of parks and green spaces, but the capital takes up just 2% of the country. The other 98% hold enchanting landscapes, picturesque villages and fascinating cities. For sports lovers and explorers of all ages, there are myriad possibilities.

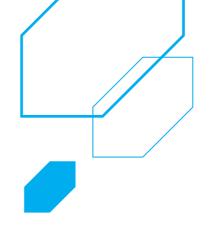




USEFUL LINKS

Cybersecurity in Luxembourg

https://cybersecurite.public.lu/fr.html https://securitymadein.lu/ https://www.c-3.lu/ https://www.cases.lu/ https://www.circl.lu/ https://www.cert.lu/



Administrative support

https://guichet.public.lu/en.html

Education

http://www.euroschool.lu/site/https://men.public.lu/fr/secondaire/offre-scolaire-organisation/offre-scolaire.html https://men.public.lu/fr/enfance/O1-vaste-offre.html https://wwwen.uni.lu/https://www.lifelong-learning.lu/Accueil/en

The Grand Duchy

https://www.visitluxembourg.com/en https://gouvernement.lu/en.html https://luxembourg.public.lu/en.html

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