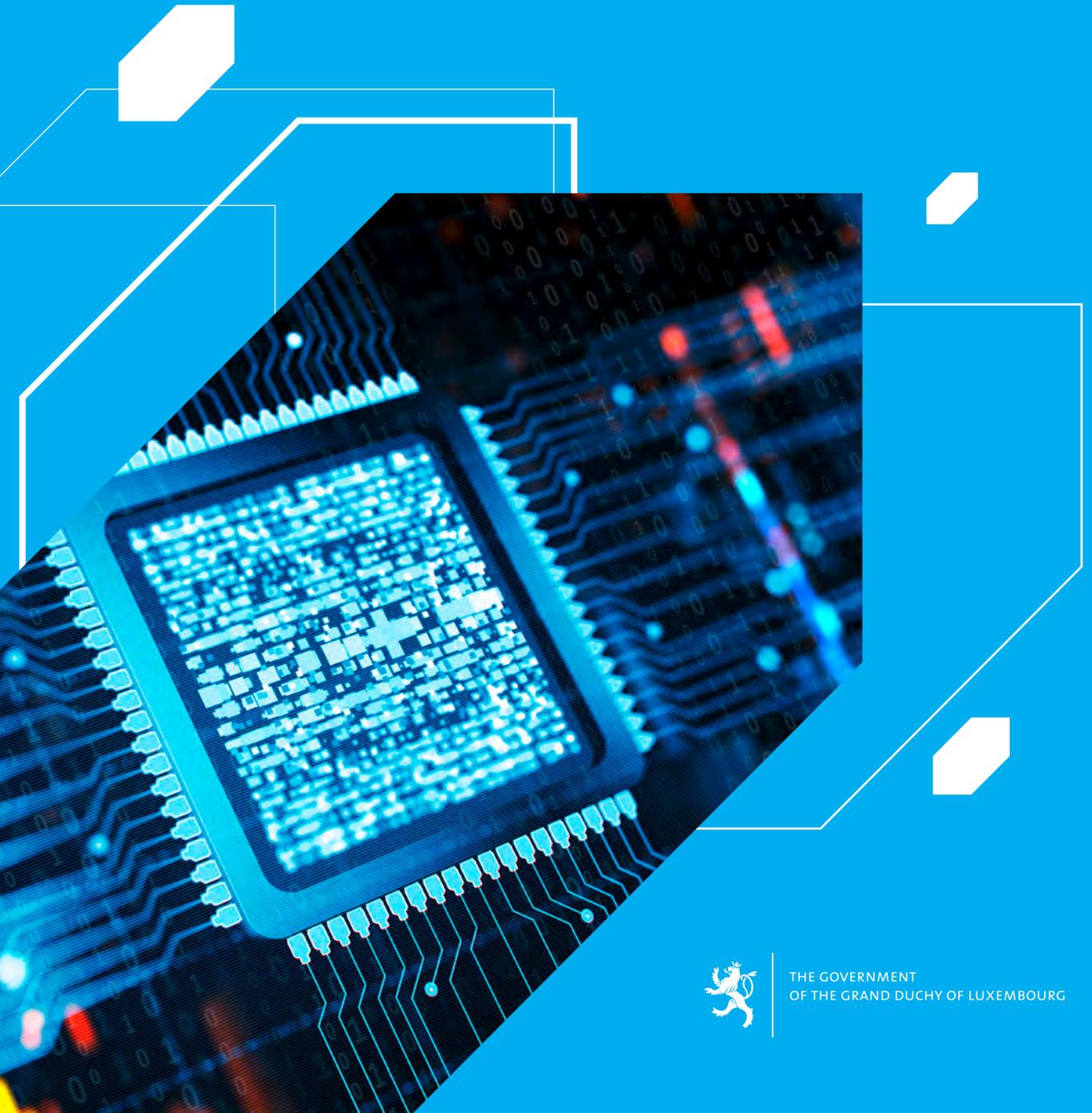
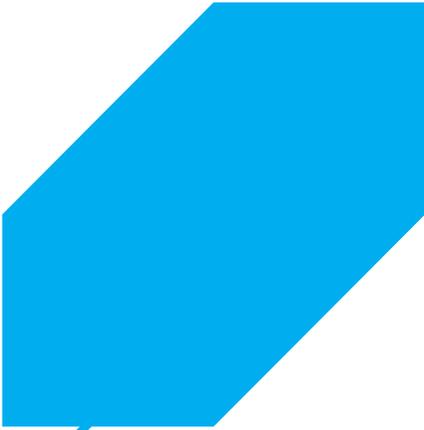


# LUXEMBOURG

A PERFECTLY  
CONNECTED HOST  
FOR THE EUROPEAN  
CYBERSECURITY  
COMPETENCE  
CENTRE



THE GOVERNMENT  
OF THE GRAND DUCHY OF LUXEMBOURG



- 1.** A digital hub for the European Union
- 2.** Potential premises
- 3.** 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

Moien

# 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.

A DIGITAL HUB    ✕ ✕ ✕  
FOR THE    ✕ ✕ ✕ ✕ ✕  
EUROPEAN UNION ✕ ✕ ✕

1



# 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.





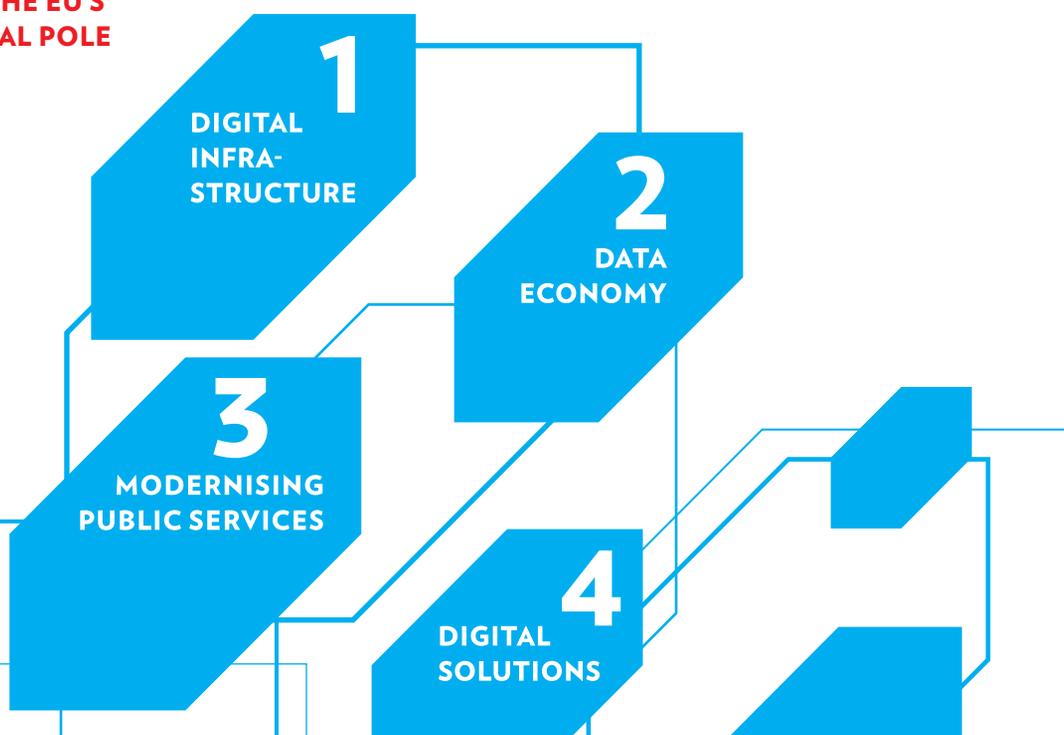
## THE EU'S DIGITAL POLE

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.

### 4 PRIORITY AREAS FOR THE EU'S DIGITAL POLE

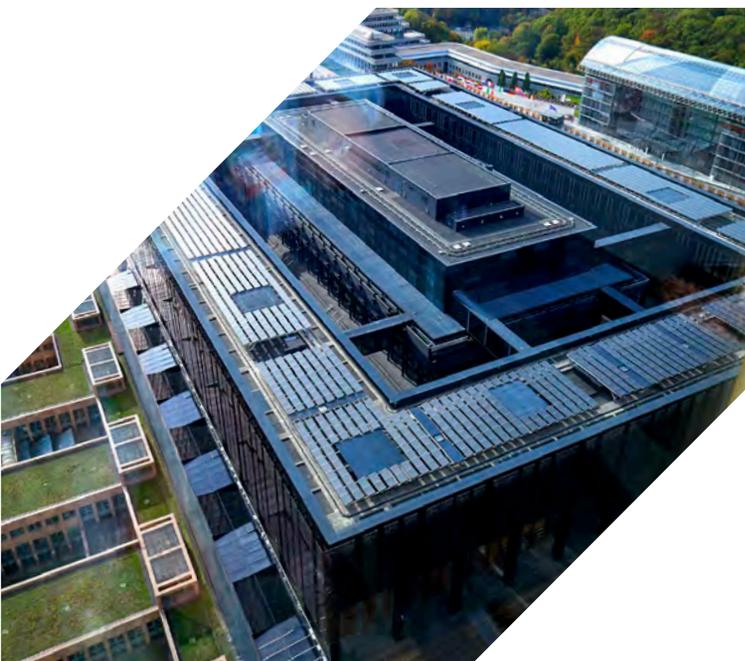




Furthermore, Luxembourg is also home to the **European High Performance Computing Joint Undertaking** (EuroHPC), which allows the EU and EuroHPC participating countries to coordinate their efforts and pool their resources with the objective of deploying in Europe a **world-class exascale supercomputing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



# POTENTIAL PREMISES



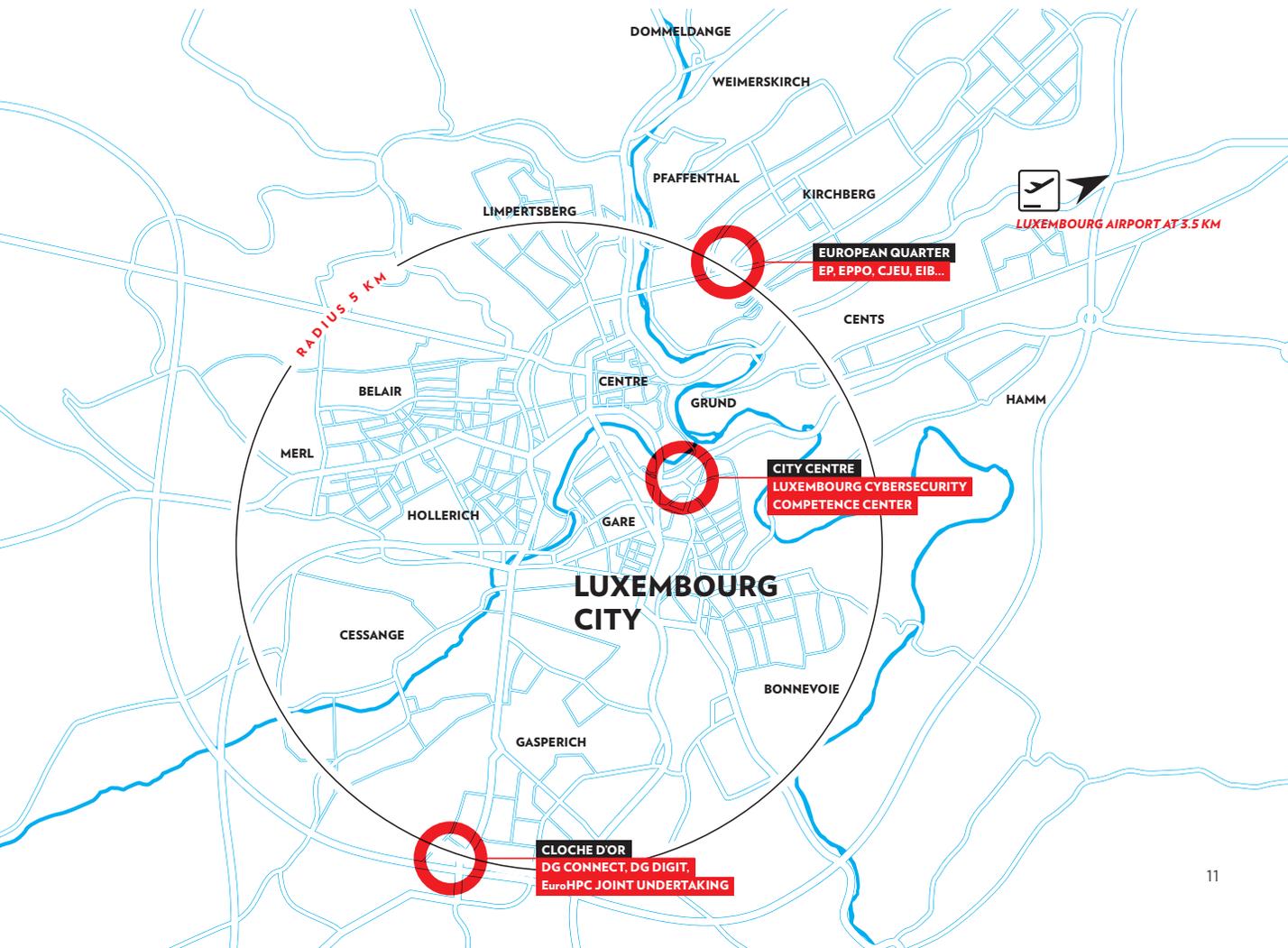
Building on its long-standing experience as host to **EU institutions**, bodies and agencies, **Luxembourg offers free of charge, tailor-made, high-quality premises** in a safe and secure environment.



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.



**A VIBRANT  
CYBERSECURITY  
ECOSYSTEM**

**3.**

# 1<sup>ST</sup>

AMONG EU  
MEMBER  
STATES

# 2<sup>ND</sup>

WORLDWIDE

**CISCO'S 2019  
DIGITAL READINESS  
INDEX**

**IN THE GLOBAL  
CYBERSECURITY  
INDEX**

# 11<sup>TH</sup>

**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 2<sup>nd</sup> worldwide and 1<sup>st</sup> among EU Member States in Cisco's 2019 Digital Readiness Index. In addition, the Grand Duchy ranks 11<sup>th</sup> in the Global Cybersecurity Index.



## NATIONAL ACTORS

### EDUCATION & RESEARCH



### SECTORAL PPPS



### SERVING THE PUBLIC SECTOR



Agence nationale de la sécurité  
des systèmes d'information  
Luxembourg

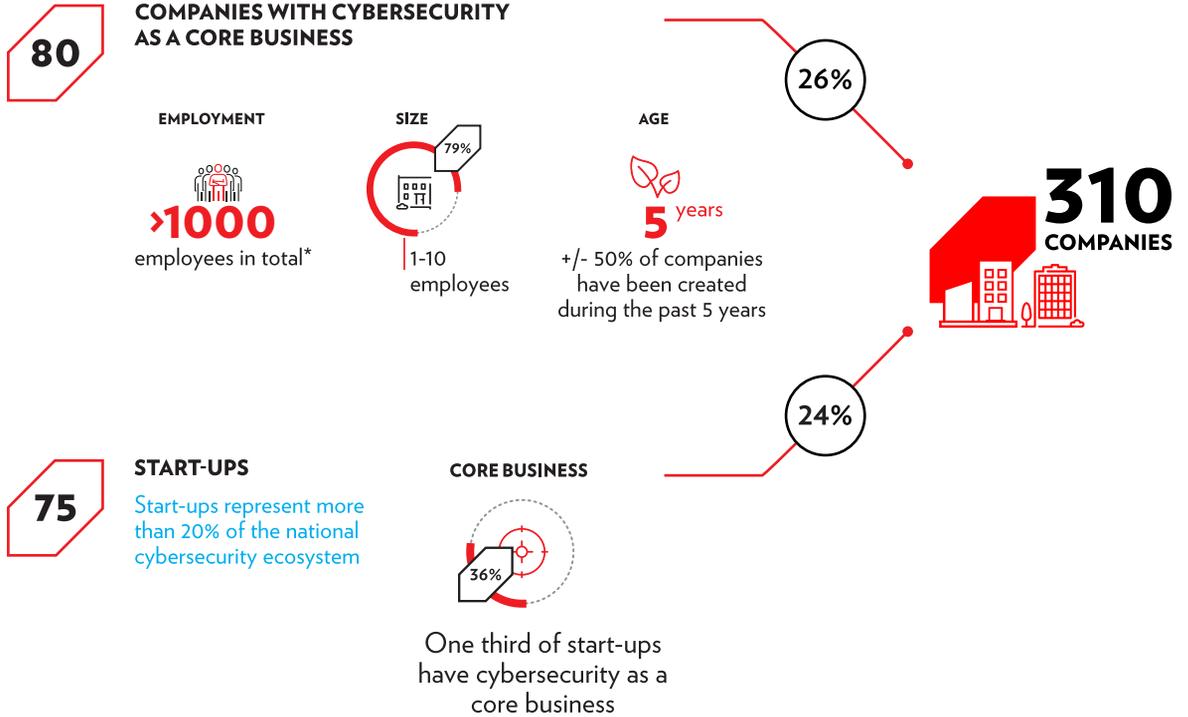


CERT gouvernemental  
Luxembourg

SERVING THE PRIVATE SECTOR



**COMPANIES**



**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

\* 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**.



**MELUXINA**  
HIGH PERFORMANCE  
COMPUTING IN LUXEMBOURG





**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 AI, 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.



✕ ✕✕✕ ✕✕ EXCELLENT  
✕ ✕ ✕✕ CONNECTIVITY,  
✕✕ ✕ ✕ SECURITY AND  
✕ ✕✕ INTEROPERABILITY  
✕✕ WITH IT FACILITIES



4.

23

**GREEN DATA CENTERS**

1<sup>ST</sup>

**WORLDWIDE FOR ICT ACCESS**

Ranking **1<sup>st</sup> 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**.



**European Business Reliance Centre East,  
Data Centre in Betzdorf**

EXCELLENT CONNECTIVITY, SECURITY AND INTEROPERABILITY WITH IT FACILITIES



European Business  
Reliance Centre East



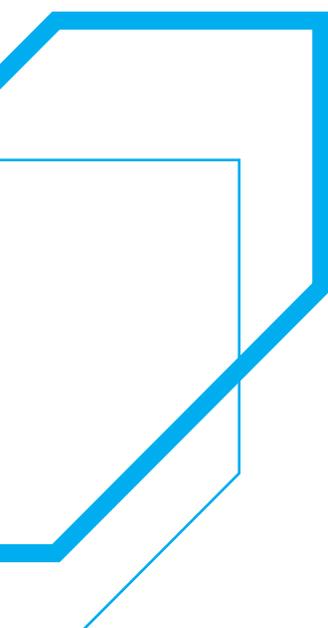
**BEST CONNECTIVITY IN  
THE EU, 2020 DIGITAL  
ECONOMY AND SOCIETY  
INDEX RANKING**

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<sup>rd</sup> 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.



**28**

**INTERNATIONAL  
FIBRE ROUTES TO MAIN  
EUROPEAN HUBS**





## 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**.



MAKING CONNECTIONS



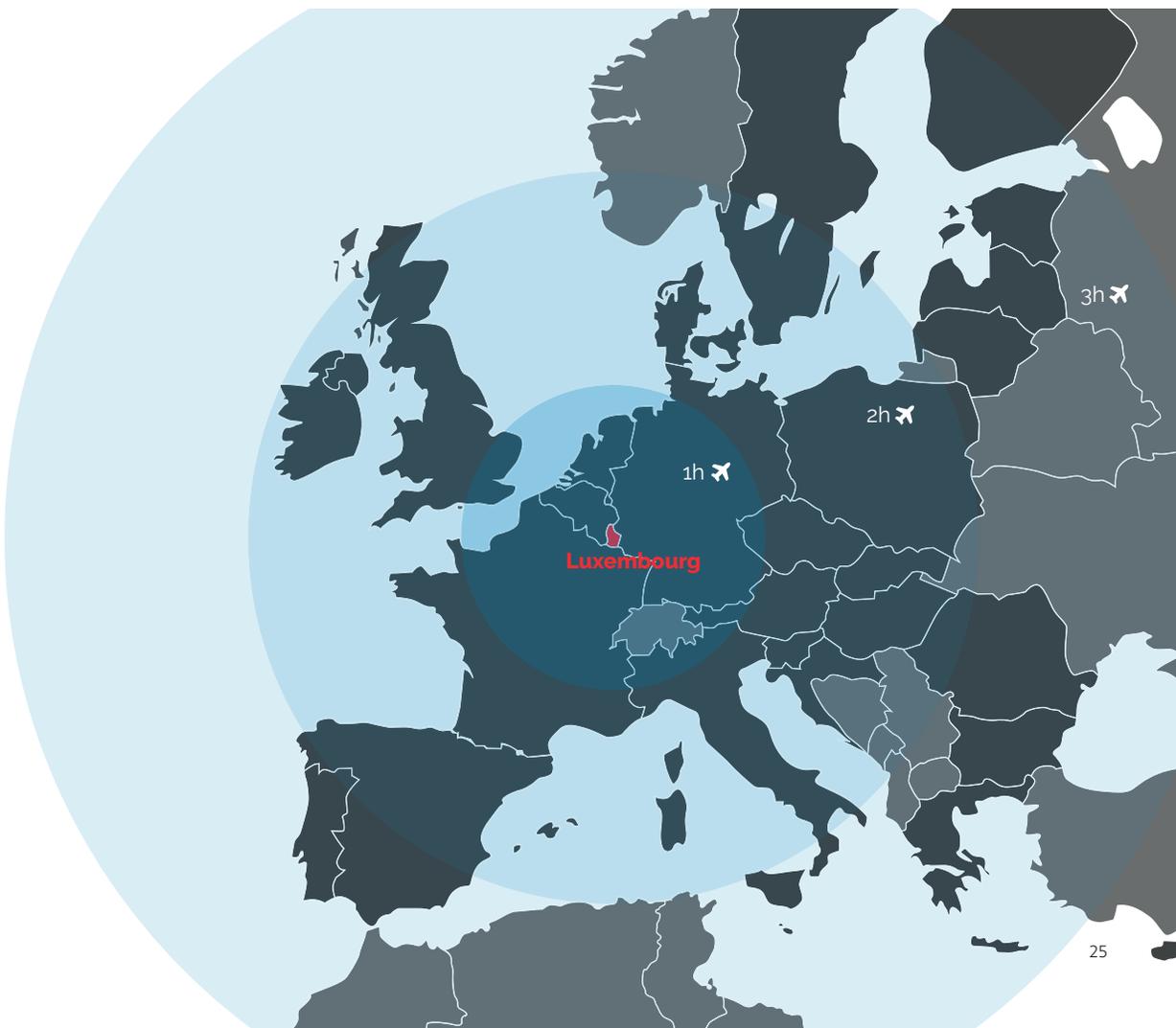
5.

## 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.





Luxembourg prides itself on the 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.



THE WORLD'S  
FIRST AND  
ONLY

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.



**1<sup>ST</sup> 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.



**European Convention Centre  
Luxembourg**



# LEARNING AND GROWING UP



6.





3.6

**LANGUAGES SPOKEN/  
LEARNT IN SCHOOL  
N°1 IN EUROPE**

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.

**4 ACCREDITED  
EUROPEAN  
SCHOOLS &**



**2 EUROPEAN  
SCHOOLS**





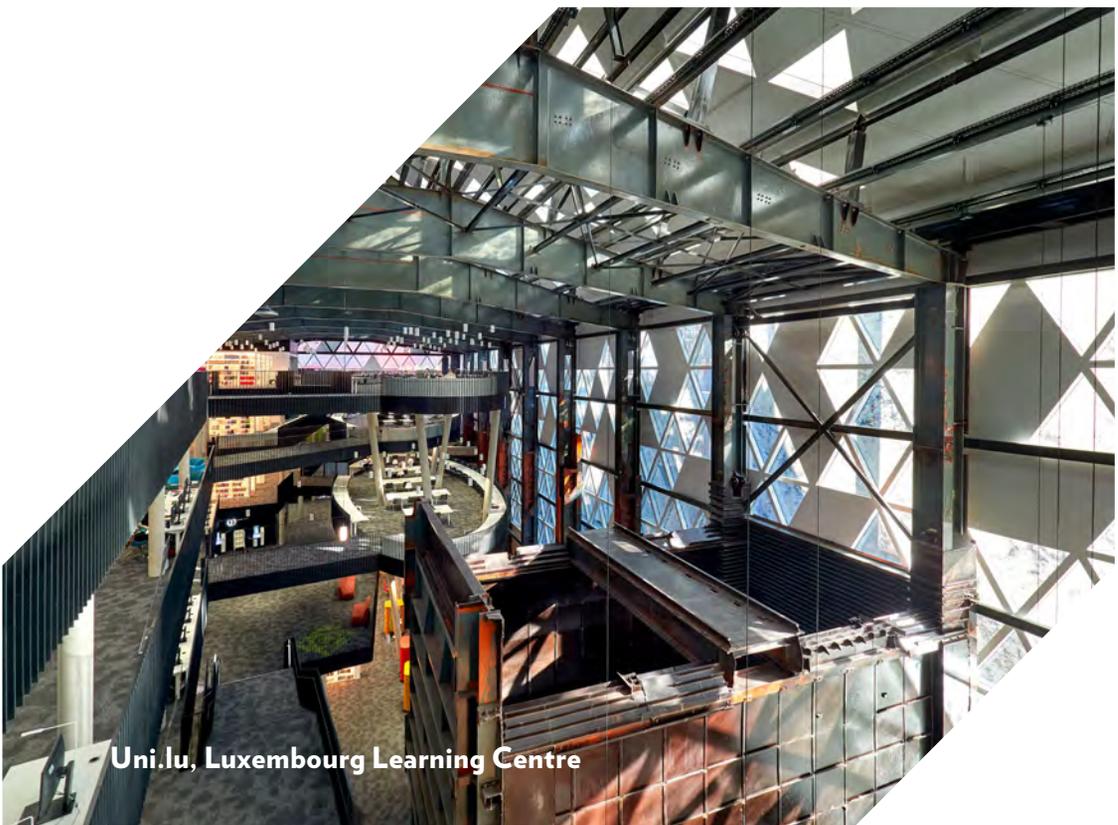
Uni.lu

12<sup>TH</sup> BEST  
YOUNG  
UNIVERSITY

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.



Uni.lu, Luxembourg Learning Centre

SAFE AND   
SOUND 

7.



4<sup>TH</sup>

## 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.



**WORKING  
WELL**



INNOVATION

8

Maison de l'Innovation, Belval

LUXEMBOURG IS  
HOME TO MORE  
THAN

170  
NATIONALITIES

N°1

INTERNATIONAL  
POPULATION IN  
THE EU

## 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** (Expats Insider 2019) and among the best locations for expat families looking for an improved quality of life (OECD).

N°2

IN THE WORLD FOR  
ATTRACTING TALENT

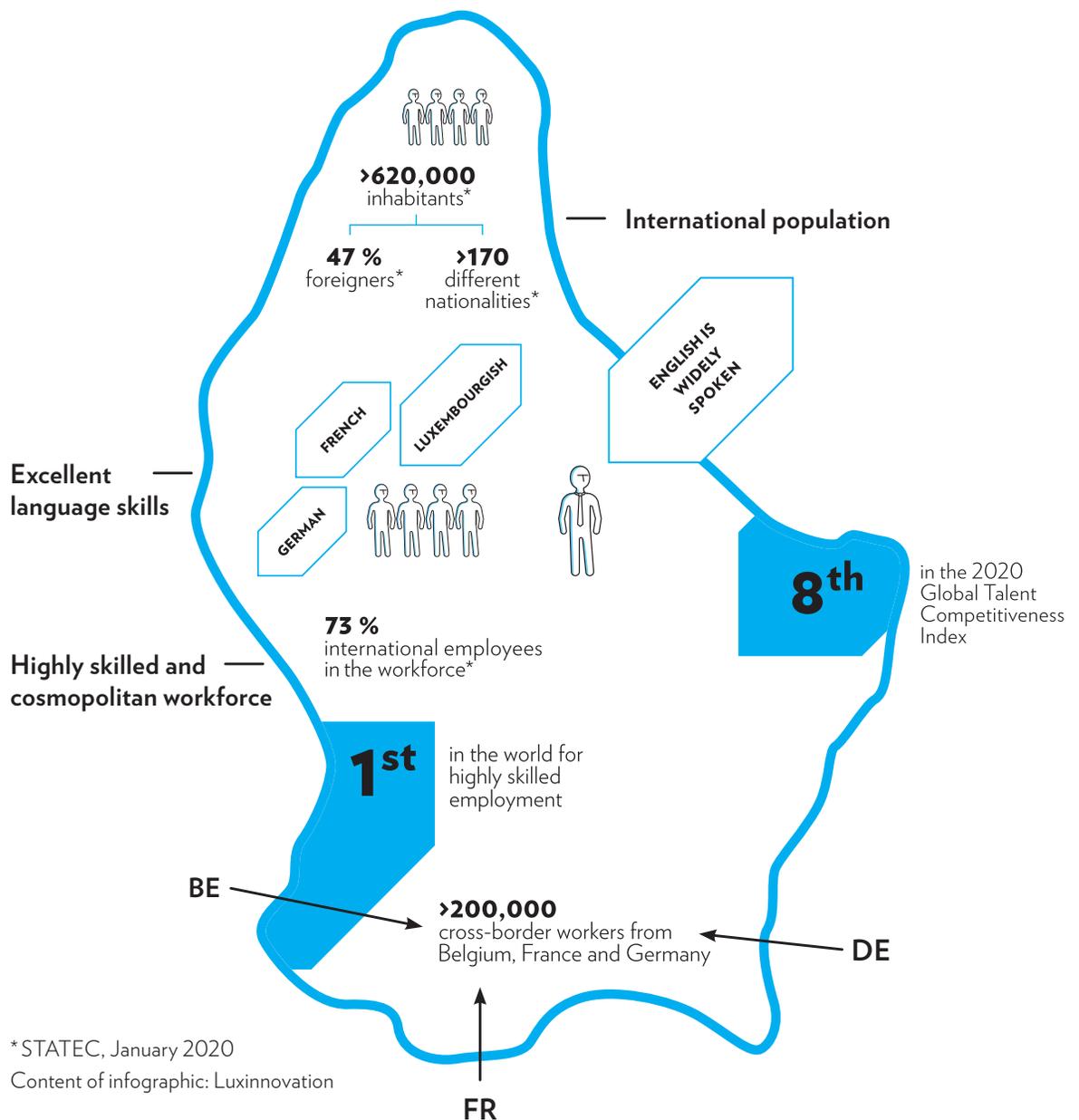




**7<sup>TH</sup>**

**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.



# HEALTHY ATTITUDE



9.

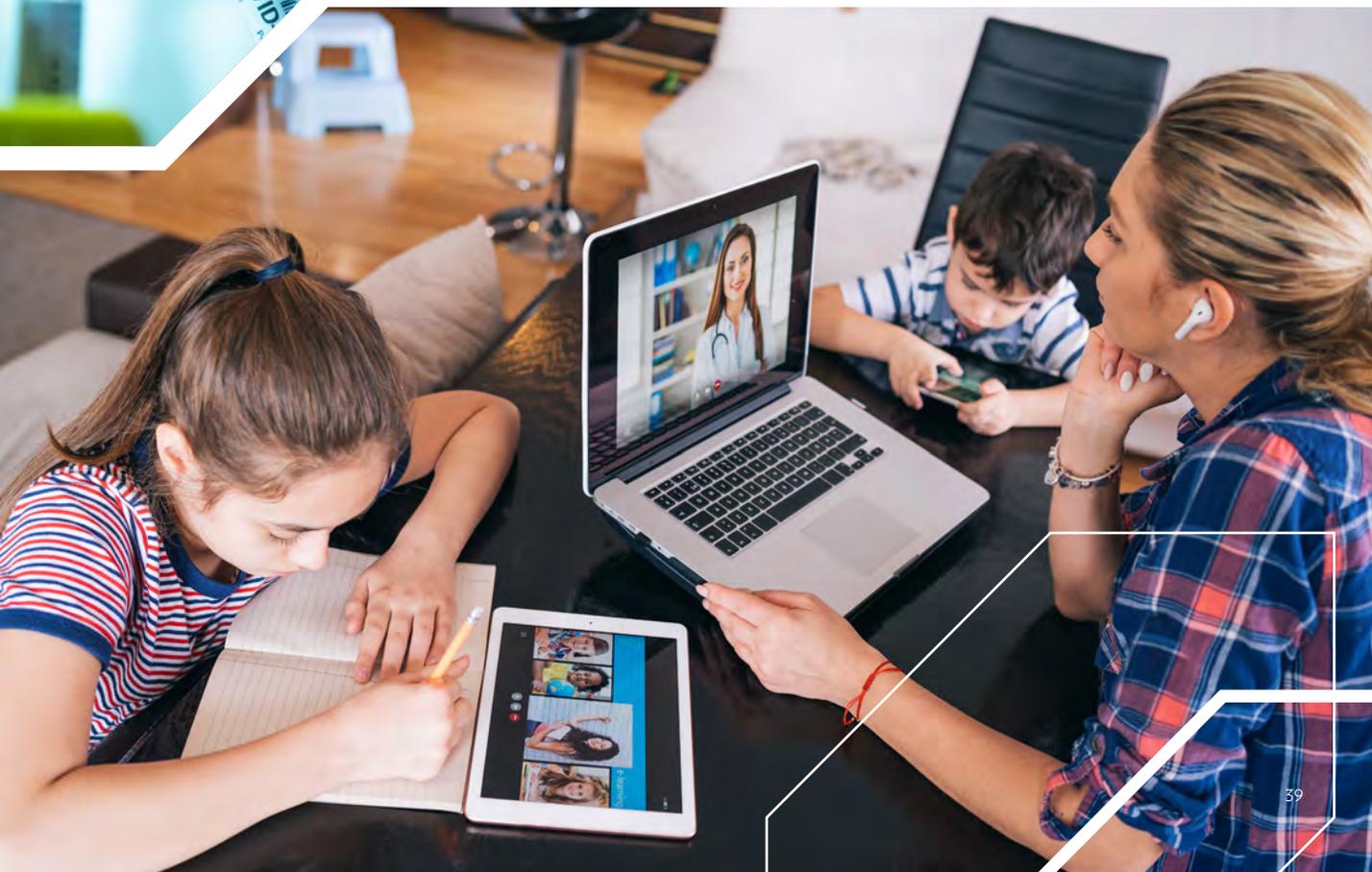


## HEALTHCARE AND SOCIAL SECURITY ARE CONSISTENTLY RATED AMONG THE BEST IN THE WORLD

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.**



ENJOYING THE     
GOOD LIFE  



10.



Philharmonie Luxembourg



### 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.**

3×

**EUROPEAN CAPITAL OF CULTURE**

**LUXEMBOURG 1995 & 2007  
ESCH 2022**





**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://www.en.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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