



**LUXEMBOURG**  
CLEANTECH  
BUSINESS CENTRE

 **LUXEMBOURG**  
**TRADE & INVEST**

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# WELCOME TO LUXEMBOURG.

WHERE ROADS CROSS, IDEAS MULTIPLY AND INNOVATION ABOUNDS.

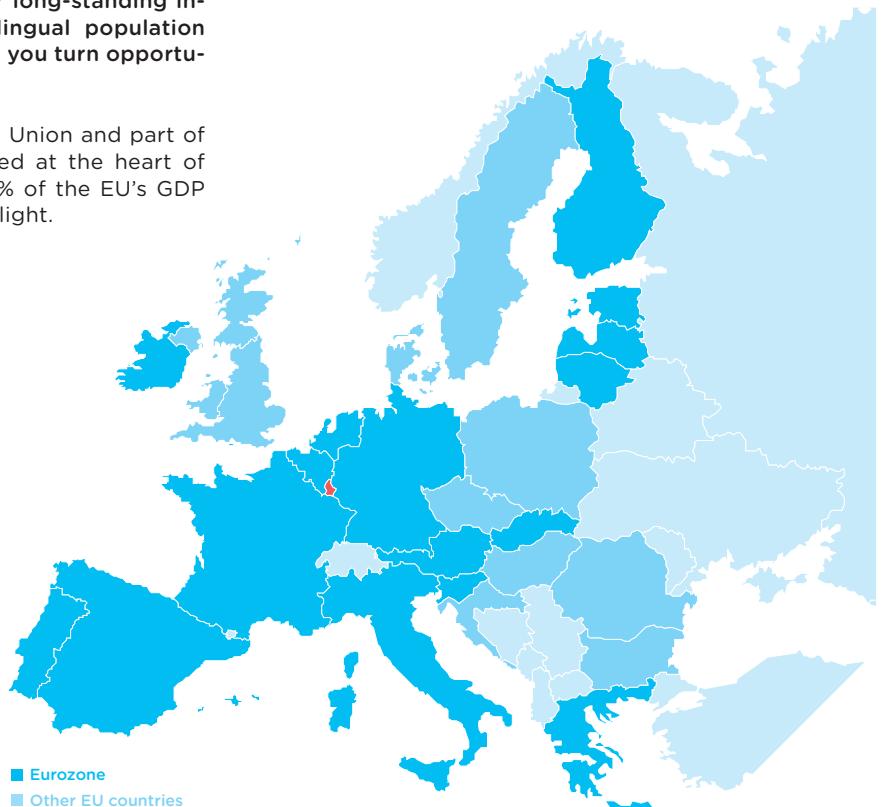
Are you looking for the ideal location to access the fast-growing European market for clean technologies and solutions? Luxembourg is the answer. With pioneering policies and massive domestic investments in cleantech under way, we offer you an excellent platform for showcasing your offer and reaching new clients in main European markets. Doing business across borders is easy from Luxembourg, whilst our long-standing international relationships and multilingual population will open new doors for you and help you turn opportunities into success.

A founding member of the European Union and part of the Eurozone, Luxembourg is situated at the heart of several major European markets. 60% of the EU's GDP can be reached by a mere one-hour flight.

## Distance from Luxembourg City to:

-----	Paris 380 km
-----	Frankfurt 250 km
-----	Brussels 200 km

- 1 market - 28 countries (GDP €14.8 trillion in 2016)
- 19 countries in the Eurozone (one currency - euro)
- Easy access to 500 million consumers
- Free mobility of capital, products, services and labour





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# CREATING OPPORTUNITIES

**Globally, the cleantech sector offers huge potential for development. In Luxembourg, innovation in clean technologies is driven by future-oriented governmental policies aiming to create a sustainable society, local authorities building smart cities and eco-friendly districts and companies considering clean technologies as the key to long-term competitiveness. As a result, the country offers cleantech firms a multitude of opportunities to implement, test and showcase their solutions.**

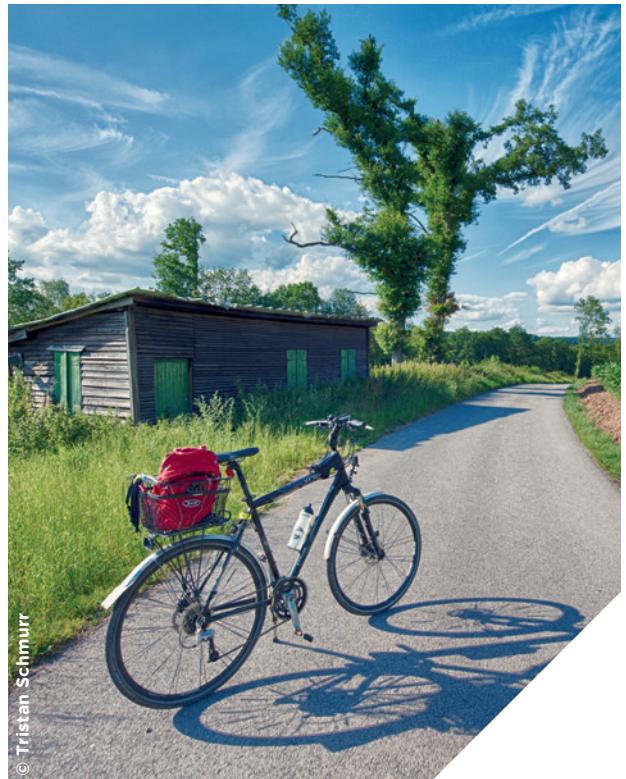
Luxembourg is home to cleantech companies working in energy storage, waste management, water and eco-construction. The sector is supported by a governmental action plan focusing on eco-technology products, cleaner and more efficient production and consumption systems, innovative materials and the rational use of natural resources. A multitude of initiatives and investments are currently opening doors for local as well as international cleantech firms that want to expand.

## Smart cities

The development of smart and sustainable cities, which collect and analyse electronic data provided by sensors to manage assets and resources efficiently, are high on the Luxembourg agenda. Digitalisation, interconnectivity and the capacity to process enormous amounts of data are central for the implementation of many such solutions.

Luxembourg has an outstanding information and communications technologies (ICT) infrastructure and benefits from specialised communication networks adapted to the needs of the Internet of Things. The country plays a leading role in a pan-European High Performance Computing initiative and a supercomputer with the power of one petaflop per second, which will be available for private sector use, is being set up in

2018. To meet the needs of its financial sector, Luxembourg has developed exceptionally high standards of cybersecurity that are available to all companies. The country is now established as a trusted “big data” hub, a fact that was confirmed by Estonia’s decision to set up the world’s first data embassy here in 2017.



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The country is also working to establish an intelligent and sustainable transport system, aiming for a completely emission-free mobility for passenger cars, public transport and last-mile logistics over the coming decades. Many towns already use electric or hybrid buses on their bus lines, and a nation-wide e-vehicle charging system is under development. 800 public charging stations will be available all over the country in 2020 to facilitate the increasing use of electric cars. Recognising Luxembourg's leading role in electromobility, Volvo Bus has set up its E-bus Competence Centre here.

Luxembourg's forward-thinking attitude regarding mobility can also be seen in the cross-border digital test site for autonomous and connected driving technologies that has recently been put in place. The site includes roads in Luxembourg as well as in neighbouring regions in France and Germany and will make it possible to test the performance of driverless vehicles when passing from one country to another.

### Smart buildings

Buildings generally consume large amounts of energy and can be responsible for considerable CO<sub>2</sub> emissions. Constructing zero energy or positive energy buildings and achieving circularity in the construction sector to eliminate waste is therefore a priority. Luxembourg recently adopted a law that stipulates the rigorous energy-efficiency AAA certification as standard for all new housing, which means that since January 2017, residential buildings must be passive with a reduced ecological footprint. A national certification for sustainable housing, LENOZ, has also been established. The use of wood, a local, environmentally friendly material, is being promoted. The construction sector is encouraged to work with life cycle analyses to determine the optimal way of building, the expected energy consumption of the building and how to deconstruct it and reuse the materials once the building is no longer needed.

Several eco-friendly districts are under construction in Luxembourg that will combine housing, offices, shops, public services and leisure facilities, and massive investments will be made in this field over the next few years. Some of these districts are reconversions of former industrial sites. The municipalities concerned are looking to implement innovative solutions for active mobility, smart parking, onsite energy production and so on in environments that also promote biodiversity.



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## Smart energy

Optimising energy consumption and promoting the production and use of renewable energy are key ambitions. Over the next few years, massive investments are planned that will transform Luxembourg's national energy network into a "smart grid" capable of monitoring and distributing energy produced at multiple locations, such as wind turbine or solar panel parks. Managed by one main operator, Creos Luxembourg, the smart grid will also be able to better handle the balance between energy supply and demand. Smart meters will

be installed in all households by 2020, enabling consumers to monitor their consumption of electricity, heat and water at any time and make savings by changing their consumption behaviour.

A new legal framework encourages citizens to invest in their own energy-producing infrastructures such as solar panels, in particular through consumer cooperatives. With additional legislation facilitating the deployment of large solar panel installations, the demand in this field is expected to increase rapidly.



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## THE THIRD INDUSTRIAL REVOLUTION

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# TOWARDS A SUSTAINABLE AND RESILIENT ECONOMY

Luxembourg is the first country in the world to embrace American economist Jeremy Rifkin's blueprint for a "third industrial revolution" designed to ensure a resilient and sustainable economy by 2050. The objective is to develop a fully interconnected ecosystem encompassing intelligent transport, renewable energy and new communication technologies that will open up economic opportunities and long-term sustainability.

The on-going digitalisation of the economy will have a huge impact on our society and disrupt the working of virtually every industry. It will make it possible to develop intelligent systems for communication, transportation and energy that are more efficient and accurate than in the past and have a significantly reduced negative environmental impact. Aiming to be at the forefront of this development, Luxembourg has recently launched a third industrial revolution strategy to foster a sustainable socio-economic model for the benefit of present and future generations and pursue the 17 goals for sustainable development set up by the United Nations.

This strategy is based on a participative approach and includes ambitious objectives in six topical fields – energy, mobility, construction, food, industry and finance – as well as in three transversal areas: the smart economy, the circular economy, and the prosumers and social model. Various measures and pilot projects are now being implemented and the government is exploring legal and regulatory adaptations that will be needed to succeed with this economic and societal transformation.

More information on [www.thirdindustrialrevolution.lu](http://www.thirdindustrialrevolution.lu)

# #1

**Luxembourg is  
the first country in the world  
to implement a  
“third industrial revolution”  
strategy at national level**



## Smart water

The sustainable management of water – one of our most precious resources – is crucial. The costs for water treatment are a major expense for cities and smart, efficient solutions can have a very positive impact. Public authorities in Luxembourg are a driving force in sustainable water management and undertake considerable investments in high-end water and wastewater infrastructures. Specialised Luxembourg companies have high-level expertise in water treatment and develop innovative wastewater treatment systems as well as artificial intelligence software for water management.

## Circular economy

An increasing number of Luxembourg companies are beginning to abandon the “take, make and dispose” model in favour of the circular economy paradigm and make their products restorative and regenerative by design. Luxembourg’s creative industries community has skills in eco-design that are needed to align products with the cradle-to-cradle thinking found at the heart of the circular economy. The possibilities to replace fuel and carbon-based materials with bio-based materials such as cellulose are also increasingly being explored.

Authorities are integrating the principles of the circular economy into public policies through different working groups focused on legal, finance and tax matters as well as new business models, public procurement and education. Large-scale pilot projects in public procurement are just one example of Luxembourg’s commitment to be a front-runner and to create a thriving ecosystem for the circular economy.

# #1

## Luxembourg is a leading early adopter in:

- Implementing a national “smart metering” system for energy consumption
- Setting up a nation-wide e-vehicle charging system
- Establishing AAA certification for passive housing as a standard for all new buildings

Luxembourg’s second largest city, Esch-sur-Alzette, has been officially named the European Capital of Culture in 2022. With a strong focus on European values and multiculturalism, the city is welcoming smart and circular solutions as well as projects combining culture and new technologies.



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# YOUR GATEWAY TO CLEANTECH BUSINESS IN EUROPE

**Luxembourg is an excellent gateway for the dissemination of products and services in Europe and well beyond. Multicultural and diversified, yet relatively small in size, Luxembourg can be used as an ideal test market to develop and showcase new cleantech products and solutions. With easy access to all European markets and a stable and business-friendly environment, the most multilingual country in Europe has indeed much to offer.**

As a leading financial centre specialised in global and European cross-border activities, Luxembourg has a well-developed legal and regulatory framework for international trade and is quick to implement EU legislation. Its economy is strongly export-oriented with a first-rate logistics infrastructure. Many companies also find that Luxembourg's well-known commercial and political neutrality helps to facilitate good international business relationships.

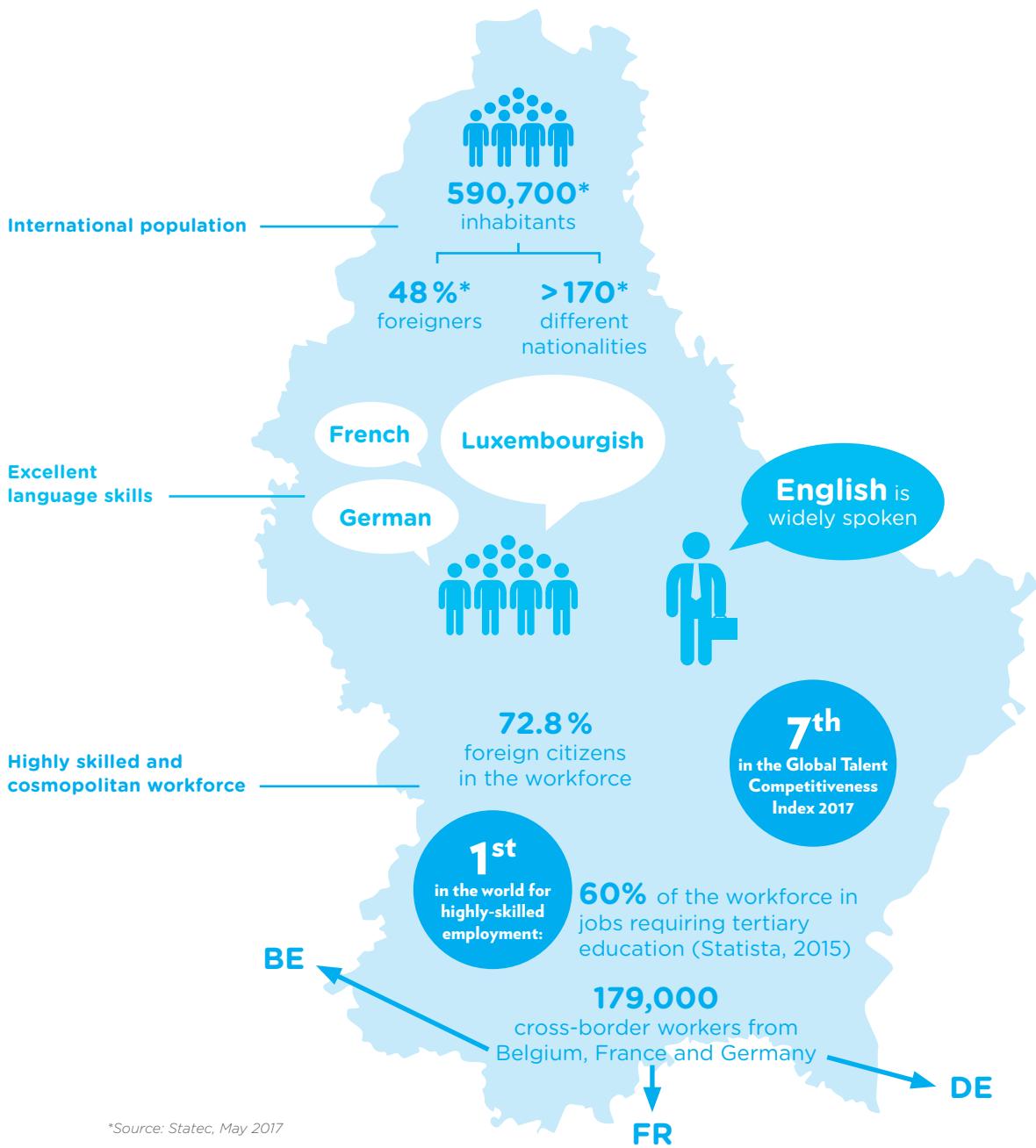
## **An ideal testbed**

Luxembourg is a perfect test bed for cleantech companies for three main reasons: its central European location, size and agility. The rapidly increasing demand for clean technologies means that larger cities as well as smaller towns are interested in implementing and testing innovative solutions. Due to Luxembourg's geographical proximity to major European markets, pilot installations and show houses here are easy to reach for on-site visits and could be excellent user cases to show to potential clients from other countries.

Luxembourg also offers a wide range of population segments and physical environments available in a small and convenient geographical area. The ease of access to politicians, key decision makers and peer CEOs is coupled with a strong determination to keep Luxembourg at the cutting edge of new technological advances. These factors make the country very open to testing innovative solutions and implementing necessary regulatory and practical adaptations. Public research organisations are very keen to collaborate with companies on product development and testing, and there are attractive public grants for R&D and innovation projects. A variety of business incubators and accelerators can provide you with a base and help you develop your activity in short time.

## **Multicultural, multilingual, highly skilled**

Luxembourg is highly multicultural and the language skills of the population are outstanding: fluency in three or more languages is the norm rather than the exception. This means that you can easily find staff who are able to communicate with your international clients in their own language and understand their culture and needs effortlessly. A true knowledge economy, Luxembourg has an exceptionally skilled workforce and attracts the best talent from neighbouring countries and well beyond. Expatriates settle quickly in Luxembourg and simplified work permit procedures for qualified personnel from outside the EU have been put in place.



\*Source: Statec, May 2017

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# A FAVOURABLE BUSINESS CLIMATE



## Political and economic stability

- Open, diversified and stable economy
- Top GDP performance
- Sound macroeconomic fundamentals – AAA-rated country
- Second-lowest government debt ratio in the EU (21% of GDP in 2016)
- 8<sup>th</sup> most competitive economy in the world (IMD World Competitiveness Yearbook 2017)
- Constitutional monarchy, parliamentary democracy
- World's highest labour productivity (GDP generated per hour worked 2015, OECD)



## Business-oriented regulations

- Easy access to government officials
- Streamlined and transparent administrative procedures
- Competitive corporate tax rate
- Extensive network of double tax treaties
- Favourable indirect labour costs
- Advantageous import and export regulations



## Easy business creation process

- Vibrant start-up ecosystem with numerous support measures for start-ups from incubation to success and acceleration
- Easy access to professional support and advice from the House of Entrepreneurship; a one-stop-shop for project initiators and established entrepreneurs services
- English can be used for all incorporation-related documents (with a French/German translation)



### Access to capital

- Excellent access to private financing: banks, business angels, venture capital
- The Luxembourg Green Stock Exchange is the leading venue for investment vehicles using their proceeds to finance green projects and lists over 125 Green Bonds
- The independent and international Luxembourg Finance Labelling Agency awards a recognisable Responsible Investment label to investment vehicles
- State investment bank SNCI specialises in medium and long term financing of Luxembourg-based companies and their projects
- Luxembourg Future Fund invests in early and late stage innovative European technology SMEs
- Luxembourg Export Credit Agency (Office du Ducroire) offers support for Luxembourg-based companies when trading abroad



### Premises

- The national incubator Technoport offers 16,000 m<sup>2</sup> of facilities – office space, co-working space and industrial workshops suitable for cleantech firms – to start-ups and international companies looking for their first premises in Luxembourg. Its FabLab offer access to tools such as 3D printers, CNC milling machines and laser cutters
- Large number of private co-working spaces, incubators and accelerators, of which several particularly target clean technology companies
- Land and office space are available



### R&D capabilities

- The research-driven University of Luxembourg conducts high-level research in fields including photovoltaics, energy materials and advanced materials
- The Environmental Research and Innovation (ERIN) department of the Luxembourg Institute of Science and Technology (LIST) specialises in water security and safety, plant sciences and biotechnologies, life cycle sustainability and risk assessment, and e-science
- LIST's Materials Characterisation and Testing Platform notably studies intelligent and sustainable materials
- Biocomposites are one of the specialities of the National Composite Centre – Luxembourg (NCC-L)



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# YOUR EUROPEAN HOME FROM HOME

The extensive expat community has found out that it is easy to feel at home in Luxembourg and use this multicultural melting pot as a basis for building a European career – as well as for travelling, enjoying life and raising a family. To cater for the needs of its population, Luxembourg offers both French and English-speaking private schools in addition to the excellent multilingual national school system.

## Multilingual education

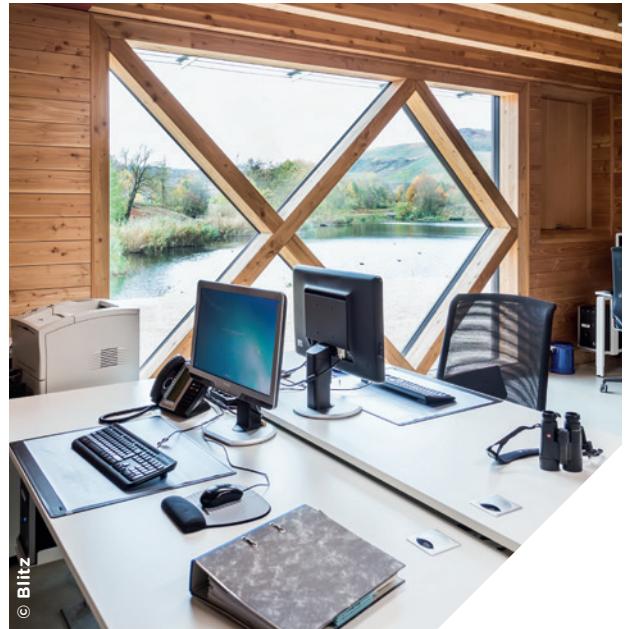
Luxembourg's cosmopolitan society is well reflected in the school system. High-quality public schools offer studies in Luxembourgish, German and French, and some state schools offer a free curriculum in English for the International Baccalaureate and for A-levels. There are also several well-respected international schools, most notably the European School, the International School of Luxembourg, St. George's International School and the French "Vauban – École et Lycée Français de Luxembourg".

The University of Luxembourg has a distinctly international, multilingual and interdisciplinary character. In line with Luxembourg's vision as a country that invests in knowledge, research and innovation, the University fosters the cross-fertilisation of research and teaching and is an innovative model for contemporary European higher education. The University of Luxembourg was recently placed second in a world ranking for the most international universities.

## Safe with a high quality of life

Luxembourg has one of Europe's most attractive social security systems that notably includes family benefits, unemployment insurance, healthcare, and disability and retirement pensions. It is considered as one of the safest countries in the world for expats.

The varied and beautiful countryside is never far away in Luxembourg, and residents have access to a wide range of leisure and sports activities. Its central location makes it an excellent basis for discovering more of Europe, and neighbouring countries are less than half an hour away from the capital by train or car. The country as a vibrant cultural life and several UNESCO world heritage sites, and is renowned for its gastronomy.



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# HOW WE CAN HELP YOU

Would you like to find out more about the opportunities that Luxembourg could offer your company? We have extensive experience in supporting international companies and can provide you with relevant information and customised assistance.

## In-depth information

Please contact us for fast, reliable information on all aspects of doing business in Luxembourg.

## Start-ups

Luxembourg has a vibrant and growing start-up ecosystem with numerous support measures for start-ups from incubation to success and acceleration and we can help to determine and provide the best support for you.

## Tailor-made Luxembourg visits

We can design tailor-made visits that in just 2 days will enable you to meet all relevant contacts – government officials, service providers and potential partners. You will particularly appreciate the availability of authorities and their willingness to collaborate.

## Introduction to key networks

Our sector specialists will help you identify and introduce you to business, innovation and R&D partners.

## Company set-up support

In partnership with the House of Entrepreneurship, we can assist with setting up a company in Luxembourg and show you how to achieve fast and reliable progress.



Contact  
us

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## Luxinnovation

### Georges Schaaf

Head of Sector Development -  
CleanTech & Manufacturing Industry

Phone +352 43 62 63 655

E-mail [georges.schaaf@luxinnovation.lu](mailto:georges.schaaf@luxinnovation.lu)

[www.luxinnovation.lu](http://www.luxinnovation.lu)

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## Ministry of the Economy

### Christian Tock

Director Sustainable Technologies

Phone +352 247-88413

E-mail [christian.tock@eco.etat.lu](mailto:christian.tock@eco.etat.lu)

[www.gouvernement.lu/meco](http://www.gouvernement.lu/meco)

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