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Magazine

#2 Spring 2021

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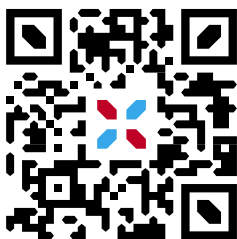
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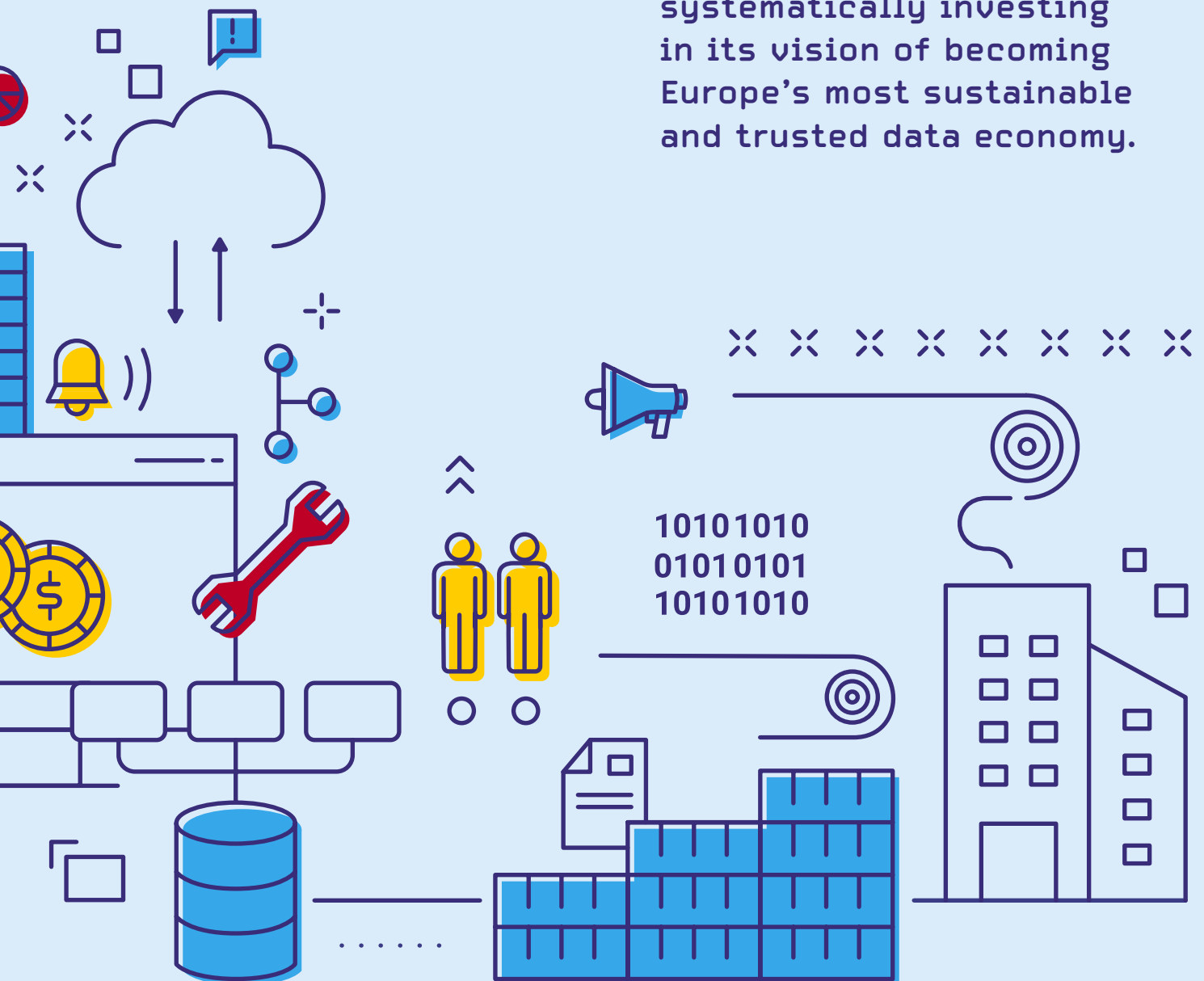
“Luxembourg has all it takes to become one of Europe’s most sustainable and trusted data economies. This edition of *Crossroads Magazine* will give you an insight into where we are today and what we plan for the future.”

Sasha Baillie, CEO of Luxinnovation

Turning data into value



As the saying goes, “data is the new oil” – an immensely valuable asset. Deriving its full value can be challenging, but Luxembourg is determined to succeed. Building on its track record of having built a global leading financial centre out of virtually nothing, the country is systematically investing in its vision of becoming Europe’s most sustainable and trusted data economy.



David Foy, Luxinnovation



Becoming Europe's most trusted data economy

Luxembourg pursues its ambition to become a leading data economy, capitalising on its entrepreneurial spirit and internationally recognised strengths in connectivity and security. The country provides a comprehensive, supportive ecosystem where all parties involved work hand in hand to make business flourish and ensure long-term sustainability.

While the world economy has been shaken by the COVID-19 pandemic, Luxembourg has addressed the crisis as an opportunity to renew and strengthen its commitment to becoming a leading, sustainable data economy. “We are convinced that embracing the digital transformation and the green transition towards climate neutrality in 2050 is central, both for relaunching our economy and for positioning Luxembourg in the future,” says Mario Grotz, Director General for Industry, New Technologies and Research at the Ministry of the Economy.

Planting the seeds of innovation

The basis for the country’s efforts is its holistic strategy for data-driven innovation. “Today, many companies have huge amounts of data, but only a few are using it to its full potential,” Mr Grotz points out. “We want to provide an environment that helps them succeed with all the necessary steps, from digitalising their processes to generating value from their data, and paves the way for entrepreneurs with innovative business models based on data use.”

Luxembourg’s digital infrastructure, which is already outstanding in terms of connectivity, cybersecurity expertise and secure data storage capacities, is being further boosted, by the business-oriented high performance computer (HPC) that opened its doors in spring 2021. Companies are encouraged to experiment and innovate with advanced digital technologies such as artificial intelligence and the internet of things via national and European support platforms, testbeds and regulatory sandboxes.

The government also aims to establish a strong regulatory, intellectual property, investment and financing environment. “We want to make sure that regulations keep pace with emerging digital opportunities, and ensure an innovative regulatory environment in the area of cybersecurity, in order to enable trusted data-driven services,” says Mr Grotz. “We also intend to complement current R&D and innovation incentives and public-private research partnerships with best-in-class digital investment funds and other financing mechanisms.”

Fertile ground for growth

The outcome of the efforts is a comprehensive data ecosystem that already provides a solid foundation for Luxembourg’s ambition to become Europe’s most trusted data hub. It includes all the most central components, such as a national cybersecurity centre, centralised data lakes, research institutes and world-class infrastructure, which are conducive to innovation. “The ecosystem has many individual strengths, but it is the unique way that Luxembourg combines these strengths that becomes our real value proposition,” says David Foy, Head of International Business Development – Data Economy at Luxinnovation, the national innovation agency, who likens the ecosystem to a tree. “Not all branches or twigs are relevant to everyone, but they are all intertwined to provide a seamless customer experience. Local companies are encouraged to explore digital transformation to address changing market dynamics, and foreign businesses find a fertile ground for their European market entry.”

Appetite for more

According to Mr Foy, Luxembourg’s appetite to remain on the cutting edge of innovation is key to the launch of new initiatives such as the government-initiated GovTech Lab, the Luxembourg Institute of Science and Technology’s research project aimed at creating a digital twin of the whole country or the HPC. Next comes the creation of a fully functioning data market.

“I’m convinced that if Luxembourg can render data from multiple sources accessible and usable whilst





guaranteeing data protection and personal privacy, we can offer businesses a real opportunity to generate value and build a new backbone of our economy,” says Sasha Baillie, CEO of Luxinnovation. “If we set up a national data exchange platform and carry out digital twin projects, Luxembourg could become the place where data solutions are developed and tested in a safe, secure environment with access to world-class technology.”

The national data exchange platform would ensure that data from various producers of data – public bodies, companies and research organisations – would be usable, interoperable, accessible, reliable and compliant with privacy regulations. The consumers of such data could be entrepreneurs and innovators, policy makers and research institutes. The platform would also guarantee proper data governance and help establish fair contracts between producers and consumers.

Luxembourg is also actively involved in GAIA-X, a European initiative aimed at developing common requirements for a European data infrastructure. “Joining GAIA-X offers Luxembourg’s cloud services providers, network providers and data infrastructure entities the opportunity to provide input to defining data infrastructure requirements,” explains Ms Baillie. “It is a way to ensure that their services and infrastructures will be interconnected and interoperable within a future European secure and federated data infrastructure.”

“Organisations interested in benefiting from the secure access to, as well as the sharing and combining of, data in different sectors can participate in the GAIA-X data domain working groups where they will be able to identify and prioritise use cases and align on common data standards required,” she continues. “They can possibly also build consortia to benefit from future opportunities as well as leverage national and European funding.”

International businesses welcome

In order for Luxembourg to succeed with its data economy ambitions, the country needs both indigenous talent and international entrepreneurs. “On the international level, we primarily look for companies whose technologies are aligned to gaps in the local market or whose products could benefit from a Luxembourg base to serve the European

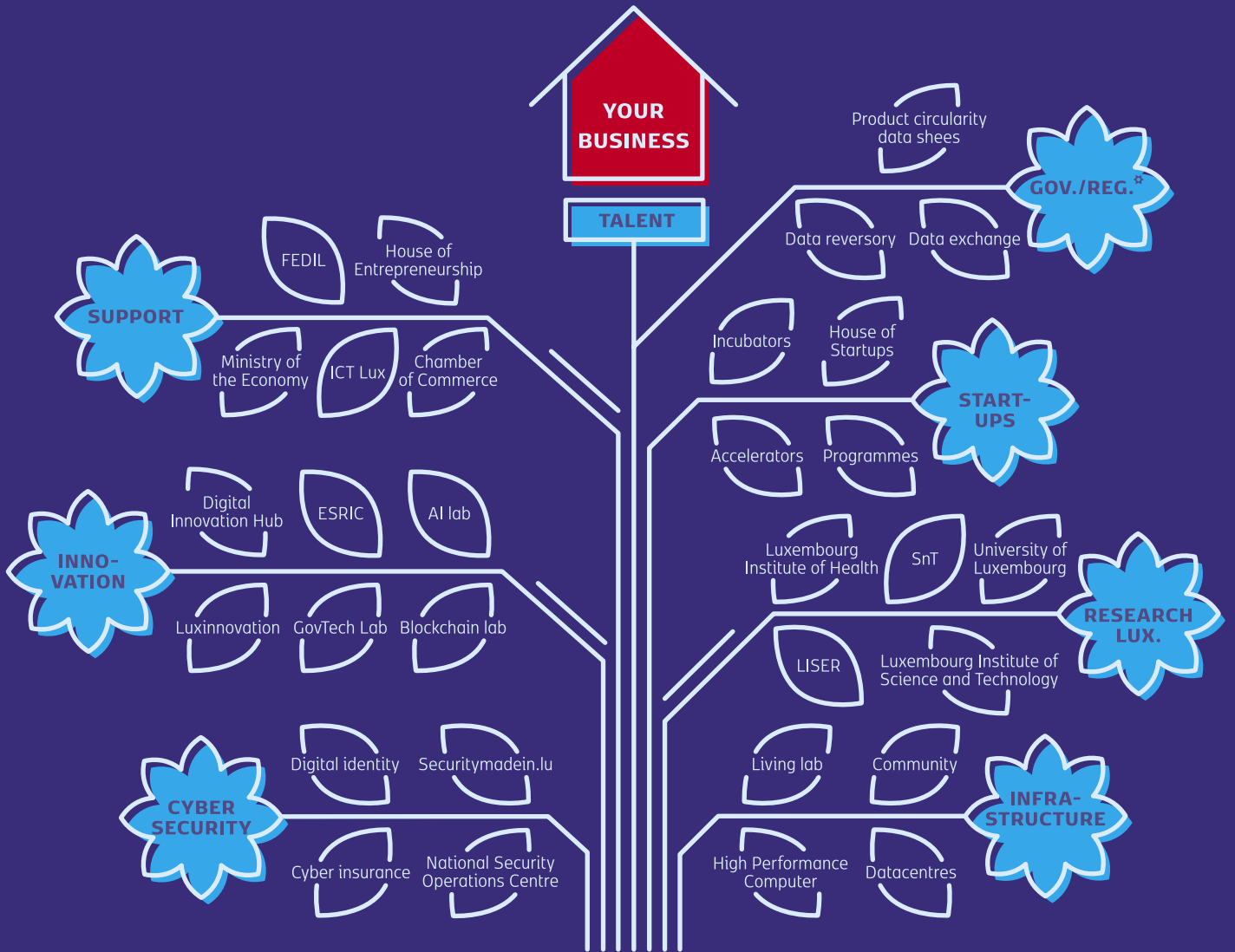
markets,” says Mr Foy. “Either way, they quickly find a legitimate place in the ecosystem. We introduce them to the ecosystem and help them start their local network, and they often highlight the access to decision makers as a business facilitator. The openness to cooperate is really a key value in Luxembourg and is often singled out as a refreshing approach to doing business.”

“The human side should not be ignored either,” adds Mr Grotz. “The multicultural make-up of Luxembourg fuels innovation and provides invaluable input and opportunities when working internationally.” He encourages anyone interested in knowing more about Luxembourg to get in touch. “The Luxembourg Trade and Investment Offices abroad are a first port of call, and Luxinnovation is an entry point to the data ecosystem for both local and international companies.”

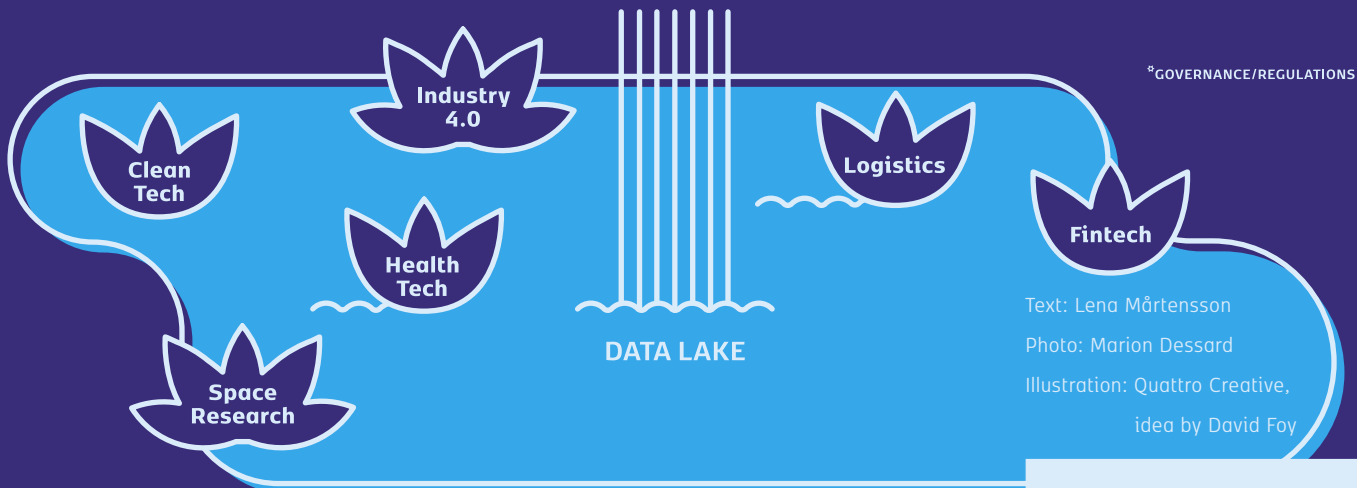


Mario Grotz, Ministry of the Economy

Tree of innovation



DATA DRIVEN INNOVATION STRATEGY



Text: Lena Mårtensson

Photo: Marion Dessard

Illustration: Quattro Creative,

idea by David Foy

Data-driven air cargo innovation



Lucas Fernandez, CHAMP

CHAMP is one of the global leaders in supplying integrated IT solutions to the airfreight community. Energised by Luxembourg's data economy ecosystem, the company is using cutting edge technologies to develop data-based, innovative cargo services.

“We are exploring machine learning in the field of customs management, for example to automate the labelling and declaration of goods.

With 15,000 system users and over 3,000 connected forwarders, CHAMP transmits an impressive 300 million electronic exchanges and 20 million shipments annually. “Our two main business areas are management systems for handling all air cargo operations and messaging systems for air cargo handling,” says Head of Innovation Lucas Fernandez. “We currently have a market share of 25% for management systems and 50% for messaging.” A spin-off from Europe’s biggest all-cargo airline Cargolux, the company, which was created in 2004, employs around 450 people.

Harnessing the power of data

CHAMP’s systems generate enormous amounts of data. “Every time an event occurs in the supply chain – for instance, when freight is loaded onto an aircraft – a message is logged in our system,” exemplifies Mr Fernandez. In the mid-2010s, the company started working on a brand new “open cargo platform” using innovative technologies to be able to better manage and process all this data. Developed at the Luxembourg headquarters, the project benefits from European R&D funding obtained with the help of the national innovation agency, Luxinnovation.

A data lake is also under creation. “Our idea is to centralise all data entering our system in one place so that we can improve the business intelligence services we provide to our clients. Benefiting from the ‘Luxembourg effect’ of a close-knit business community, we are working together with the local Microsoft office that is very supportive of our business.”

Over the past three years, the work to transform the data collected has intensified. “We are exploring machine learning in the field of customs management, for example to automate the labelling and declaration of goods for our customers,” explains Mr Fernandez. “We use artificial intelligence to recognise the type of goods concerned and to guide users through the procedures.”

Poor data quality sometimes blocks the supply chain automation. Machine learning is deployed to extract and clean up data from the huge quantities of paperwork that is still used in the cargo industry and digitise it as soon as it enters the supply chain. The solutions that CHAMP is currently developing will come to market soon.

Open for cooperation

CHAMP has an open innovation approach and works both with start-ups and academic institutions. A cooperation with the University of Luxembourg’s Centre for Logistics and Supply Chain Management, aimed at finding new ways to explore and treat data, is under discussion. A team of students from the Luxembourg branch of Sacred Heart University also works with the company each year to analyse how the available data could be used to create new products.

“Our open attitude, which also extends to other IT solutions, makes us stand out from our competitors,” confirms Mr Fernandez. “We offer a range of APIs in order to help our customers better interconnect their IT systems. This enables stakeholders to make direct connections using their existing systems so that data can flow seamlessly across the air cargo supply chain.”

He welcomes Luxembourg’s investments into the data economy, such as the newly launched high performance computer. “This creates opportunities, and I’m right now exploring ideas for how we could benefit from it. One of the big advantages of being in Luxembourg is the support the government provides to companies, offering better and more dynamic resources to help businesses like CHAMP succeed. The government works to establish ecosystems including all the necessary elements for creating new products. This generates meaningful new business.”



Text: Lena Mårtensson

Photo: Marion Dessard

Illustrations: Quattro Creative



Data

ecosystem

building

blocks

Luxembourg's ecosystem supporting the data economy stands out for its completeness and the seamless interaction between its various components. A snapshot of some of the key initiatives.

Texts: Lena Mårtensson

Accelerating public sector innovation

Experiment, exchange, innovative: the goal of Luxembourg's GovTech Lab is to accelerate the development of digital public services in Luxembourg. Launched in 2020 by the Ministry for Digitalisation and the government's IT centre, the lab uses open innovation to co-create innovative solutions with start-ups, established companies, researchers, freelancers and students.

A first call for solutions, "Bye Bye Robots", welcomed innovative ideas on how to tell computers and human beings apart during online procedures with the Luxembourg state. During the second half of 2021, the GovTech Lab will launch its next call for solutions and open a physical innovation space that will enable it to work on another important mission: building a govtech community and becoming a place of reference for govtech in Luxembourg.

govtechlab.public.lu

Business-oriented high performance computer

Artificial intelligence, machine learning, industry 4.0: new technologies are opening a world of opportunities to companies. However, seizing them requires the ability to process and analyse huge amounts of data. Luxembourg's high-performance computer (HPC) MeluXina has been specifically designed to meet this need. While most HPCs are foreseen as pure research frameworks, 65% of MeluXina's capacity is available to start-ups, SMEs and large companies. Companies using MeluXina can also benefit from an ecosystem providing operational and financial support as well as complementary R&D capacities. To kick off operations, a competitive call offered companies the opportunity to run large-scale experiments and test their software on the HPC free of charge during May 2021.

"MeluXina is an important milestone for Luxembourg's digital economy," comments Roger Lampach, CEO of LuxProvide that manages MeluXina. "The national supercomputer will be ranked among the top 30 of the TOP500 supercomputers worldwide." luxprovide.lu

Data-oriented public research

Luxembourg's dynamic public research environment is widely recognised on the international level in fields including material sciences, health and biomedicine, data sciences and ICT. Key players include the University of Luxembourg, the Luxembourg Institute of Science and Technology (LIST), the Luxembourg Institute of Health (LIH) and the Luxembourg Institute of Socio-Economic Research (LISER). Together with the Luxembourg National Research Fund and Luxinnovation, the national innovation agency, they have set up a solid cooperation under the brand "Research Luxembourg".

"Our strength is that the different institutes act as one team and constantly cooperate with each other as well as industrial partners," says H el ene Jacuszin, Marketing & Communication Coordinator for Research Luxembourg. "Data is also at the heart of the national research and innovation strategy for the next 10 years. Priority areas include making Luxembourg a leading country in personalised data-driven digital medicine and supporting industrial and service transformation through data-driven modelling and simulation as well as a trusted data-driven economy and critical systems. Research efforts also focus on regulations and legal frameworks fostering the development of a data-driven and personalised healthcare environment."

researchluxembourg.lu

Creating a secure data market place

Data is at the heart of modern value creation models. Vast amounts stemming from diverse sources and sectors need to be analysed in order to extract value. "Data controllers are still reluctant to share their data as specialised infrastructures that ensure the necessary levels of trust, control and security of the data do not exist," says Fran ois Thill, Director Cyber Security and Digital Technologies at the Ministry of the Economy. "They need to ensure that privacy and intellectual property rules are respected, that no trade secrets are disclosed and that their data is legally, syntactically and semantically interoperable."

In order to make this possible, Luxembourg is analysing the opportunity to establish a national data exchange platform, which would assist data controllers in adopting data governance principles, implementing data interoperability standards, assessing the value of their data and identifying potential data partners. "The platform would also provide tools for data protection such as pseudonymisation and anonymization as well as controlled data access and algorithm usage," explains Mr Thill. "It should help all players, public and private, to become active and responsible participants of the data economy."

Cybersecurity centre of excellence

Luxembourg is among the front-runners in both Europe and the world for its cybersecurity commitment. The steadily growing national ecosystem offers solutions covering the whole risk management supply chain, with a leaning towards specialisation in risk identification and systems protection.

"We can be proud of the density of our ecosystem, which is quite remarkable for a small country," underlines Christophe Bianco, managing partner of cybersecurity consultancy and technology integration company Excellium Services. "And while there are ecosystems everywhere, the interactions here are boosted by public players that connect people to each other and make information circulate across the national market. We are constantly able to identify points of mutual interest."

The role played by the Ministry of the Economy, which considers cybersecurity not only as a defence issue but also as an economic success factor, makes Luxembourg a unique case in Europe. "With our 140 employees, we are on the same market as competitors with tens of thousands of staff," comments Mr Bianco. "The active government support helps us win business deals on the international level."

securitymadein.lu



A nation-wide digital twin

Digitalisation is key to building a smarter and more resilient Luxembourg. Researchers at the Luxembourg Institute of Science and Technology are working on the ambitious project of building a digital twin of the whole country.

Digital twins, or digital replicas of physical objects based on real-time data and other information, have become important tools for improving our understanding of complex systems and helping us make informed decisions. A digital twin can represent a car, a tunnel or an entire factory, for example, and be very useful for testing and predicting how these would perform under different conditions. The Luxembourg Institute of Science and Technology (LIST) is going one step further, and is working to create a digital twin of Luxembourg.

“We like to think of our whole country as a digital testbed,” confirms Thomas Kallstenius, CEO of LIST. “Luxembourg has several unique characteristics: it is located at the geographical, political and economic centre of Europe, its population of around 600,000 is increased by another 200,000 cross-border workers that travel in and out every day, and it has the capacity to be very fast and agile. It is small and flexible enough to become a fully-fledged living lab, digital testbed and policy sandbox all in one go.”

Preparing for the unexpected

On 9 August 2019, Luxembourg was hit by a tornado – a unique weather phenomenon that created much



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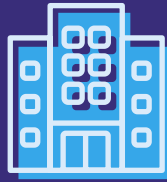
Benefits

Source: LIST



For researchers

A unique, open innovation platform



For companies

A testbed for digital services and products



For public authorities

A tool for taking better decisions



For citizens

An instrument to obtain a better quality of life

havoc in the south of the country. Coincidentally, on the same date, a major power outage in the UK resulted in 1 million people losing their connection to the energy grid, and in Holland, a malfunctioning of the refuelling system at Schiphol airport left planes stranded on the ground and blocked logistics and mobility operations.

The common denominator of these three unconnected events was that they were all completely unexpected and had severe consequences for society. “The question is: how can we build a digital, more resilient society that can mitigate events like this? A digital twin of Luxembourg would help us better understand the country as such and predict how it will behave during future crises,” says Dr Kallstenius.

Managing COVID-19

LIST is developing the digital twin in close cooperation with other Luxembourg research organisations, e.g. the Interdisciplinary Centre for Security, Reliability and Trust (SnT) at the University of Luxembourg and the Luxembourg Institute of Socio-Economic Research (LISER). As initial use cases, the centre was considering topics such as urban planning, resource management or mobility. However, the outbreak of the COVID-19 pandemic changed the priorities. The researchers speedily set up a visualisation board as a “window” to the digital twin in order to help manage the crisis. “We used it to visualise the impact of policy decisions – closing the schools, reopening the restaurants, maintaining the borders open, and so on – on the expected numbers of infections and hospitalisations as well as on different socio-economic variables,” explains Dr Kallstenius. “The technology actually served us very well.”

While this use of the twin still remains important, the time has now come to focus on other topics. Energy is high on the agenda. “The energy grid is currently going through a big transformation. With new ways of producing energy locally with solar and wind power for example, the grid is becoming bidirectional and more fragile as both the generation and the use of energy varies strongly. We use the digital twin to see how we can make the grid more secure and resilient.”

Explainable AI

A major challenge with the digital twin is to develop analytics methods capable of handling the enormous amount of data involved. “We are looking into a particular discipline of artificial intelligence (AI) called ‘explainable and trustworthy AI’,” says Dr Kallstenius. “We want to develop a technique that is highly accurate and detailed but whose outcomes can still be understood by decision makers. This is our objective, but we are not there yet – this is research, after all.”

The head of LIST is launching an invitation to international organisations interested in participating in the work on the digital twin. “Our long-term goal is to build a digital and resilient Europe, and we invite anyone interested to join us in our endeavour.”

Text: Lena Mårtensson

Photo: Marion Dessard

Illustration: Quattro Creative

Start-up corner

Focus on healthtech technologies

Health technology start-ups have recently begun participating in the Fit 4 Start acceleration programme. The success is there.

Initiated in 2015 by the Ministry of the Economy and managed by the national innovation agency Luxinnovation, the Fit 4 Start acceleration programme has established itself, within a few years, as a not to be missed programme for any start-up wishing to develop and grow further.

"The programme has accomplished a two-fold objective: to attract international start-ups to Luxembourg and to be a springboard for Luxembourg start-ups going international," comments Sasha Baillie, CEO of Luxinnovation. "Fit 4 Start facilitates a real exchange and cooperation between participants."

Initially devoted to start-ups active in the ICT sector, the programme has since been extended to the space



and health technology sectors – both essential for the diversification of the Luxembourg economy.

"In a very short time, the healthtech component has established itself within this programme as one of its pillars in the same way as ICT," says Jean-Philippe Arié, manager of the Luxembourg HealthTech Cluster at Luxinnovation.

"The COVID crisis has shown how resilient these companies can be and how they can strengthen their long-term sustainability. They did this notably by investing in the digitalisation of their activities and by product and/or service innovation."

More than 100 healthtech start-ups have applied to the last three editions. Five of them are currently completing the Fit 4 Start #10 edition.

New incubator

Texts: Jean-Michel Gaudron
Illustrations: Quattro Creative

Luxembourg's new business health technologies incubator just opened. Hosted at the House of Biohealth, it offers 350 m² of laboratory space to start-ups and spin-offs during their first 2-3 years of operation.

“Offering suitable infrastructure for hosting relevant companies in the healthtech sector is an asset in terms of attractiveness and sustainability for the national economy,” explains Minister of the Economy Franz Fayot.

The health technologies incubator will contribute to accelerating the economic impact of investments made to develop public research in biomedicine in Luxembourg. In addition to fully equipped laboratories, hosted companies will also be able to benefit from professional support in the field of business development.

The incubator is part of the House of Biohealth (HoB), a hosting facility with office and lab space for both established companies and start-ups in the fields of biotech, cleantech and ICT.

HoB currently hosts nine companies and two public research laboratories that are part of the Luxembourg Institute of Health (LIH) and the Luxembourg Centre for Systems Biomedicine (LCSB). Around 450 people work in various areas such as diagnostics, medical devices and digital health.

“The House of Biohealth will be able to respond even better to the specific needs of start-ups and spin-offs, which can benefit from specific support to move successfully from the world of research to the world of business,” the minister points out.

Public-private opportunities

In order to facilitate and to stimulate collaborative R&D projects through public-private partnerships, the Ministry of the Economy and the Luxembourg National Research Fund (FNR) launched a joint call for projects in the field of health technologies. It is open to companies as well as research and healthcare organisations.

“We want to bring together public research institutions, companies and health sector players around research and innovation projects designed to accelerate the digital transformation in the health sector,” explained Marc Schiltz, Secretary General of the FNR.

“Thanks to this platform, we will help researchers and clinicians gain better knowledge of all the innovations in digital health developed by private companies,” said Sasha Baillie, CEO of Luxinnovation.

www.collaboration-research.lu

The House of Biohealth will be able to respond even better to the specific needs of start-ups and spin-offs.

Minister of the Economy Franz Fayot



News

CIRCULAR ECONOMY New Luxembourg strategy



© Laura Penwell

On February 2021, the Luxembourg government presented a new strategy for promoting and developing the circular economy in the Grand Duchy. Its objectives are to accelerate the implementation of the circular economy and to position the country internationally as a centre of expertise in this field.

Adopting such a circular approach, where goods and services are produced and exchanged based on a circular management of materials that take into account the limits and regenerative capacities of the planet, is crucial in view of the country's limited resources.

The strategy aims to take the circular economy in Luxembourg to the next level. It identifies proven regulatory, financial and information management methods and tools for boosting circular initiatives, and proposes a methodology for using them in a number of key economic sectors. It provides a common vision for the implementation of a circular economy in Luxembourg and offers practical guidelines to citizens, businesses, municipalities and state administrations.

“Ever since we carried out a first study in 2014, many initiatives have emerged and the circular economy has become a government priority,” confirms Franz Fayot, the Minister of the Economy. “The objective of the strategy and its planned actions is two-fold: firstly, to accelerate the deployment of the circular economy on the national and regional level, and secondly, to position Luxembourg as a centre of expertise and an international leader in the field.”

For Carole Dieschbourg, Minister for the Environment, Climate and Sustainable Development, the circular economy is an essential link in the sustainable development value chain: “The rapid expansion of the circular economy is a necessary condition for succeeding with our national strategic efforts to fight the climate crisis, protect resources and promote sustainable finance.”

The government has far-reaching ambitions in the field. “This national strategy will make our society more sustainable by rethinking our entire economy from A to Z,” says Minister for Energy Claude Turmes. “It will provide Luxembourg's key sectors with a toolbox to bring together public and private players and to develop the vision through concrete projects.”

Texts: Jean-Michel Gaudron

CREATIVE INDUSTRIES**Circular by Design Challenge
to go international**

With resources dwindling faster than ever, there is a great need to return to a more sustainable society. Luxembourg's Circular by Design Challenge invites creatives to be part of finding the solution. Start-ups as well as established designers can compete for a place on a 12-week coaching programme and the opportunity to implement their circular service or product ideas together with industrial partners.

After a first successful edition, the initiative will open to international creatives and partner companies in autumn 2021. "The strength of the programme is the win-win situation it has created: the creatives obtain support to transform their ideas into business, and the companies get a wave of creativity from the outside," says Sasha Baillie, CEO of Luxinnovation.

GREEN ENERGY**New chair in Energy Process Engineering**

Paul Wurth, a leading player in the design and supply of the full-range of technological solutions for the primary stage of integrated steelmaking, has entered into a 5-year agreement with the University of Luxembourg to create and finance the Paul Wurth Chair in Energy Process Engineering.

The chair aims to conduct cutting-edge research in the field of hydrogen processing and related aspects of carbon-neutral industrial processes. In addition, it will participate in outreach activities to stimulate interest in key challenges in the field of engineering.

The partnership supports Luxembourg's ambition to develop a centre of excellence in fields surrounding the emerging hydrogen economy. This chemical substance is considered as a crucial factor in future energy systems and energy transformation and in the transition to greener energy sources.

INTERNATIONAL PARTNERSHIP**Luxinnovation and Invest India
join forces**

The Luxembourg national innovation agency Luxinnovation signed last November a Memorandum of Understanding with Invest India, India's national investment promotion and facilitation agency. This cooperation aims to increase inbound investment in India and Luxembourg by supporting and developing cooperation between companies in the two countries.

"As our bilateral relations have deepened considerably, among others in the fields of steel, satellites, finance, industrial manufacturing and automotive industry, ICT, fintech and start-ups, this new partnership will be an excellent opportunity to strengthen certain ties, create new cooperation or launch new initiatives," explains H.E. Jean-Claude Kugener, Luxembourg's Ambassador to India.

HIGH PERFORMANCE COMPUTING**EuroCC in operation**

Luxinnovation, together with the University of Luxembourg and LuxProvide, the company hosting the supercomputer MeluXina, is actively participating in the EuroCC project. Financed through the EU's research and innovation programme Horizon 2020, this European collaborative project is aimed at establishing national HPC competence centres (NCCs) in each of the 33 participating countries.

The ambition of these NCCs is to audit the available expertise and identify the knowledge gaps in their respective countries in the field of high-performance computing (HPC), i.e. high performance data analytics or HPC-based artificial intelligence.

The NCCs are also the gateway to a European network of NCCs for spurring interaction and exchange of expertise to meet the needs of HPC users in the best way possible at home and around Europe.



PRECISION MEDICINE

Korean biotech MBD comes to Luxembourg to set up a joint research laboratory



South Korean company Medical & Bio Decision is setting up a joint laboratory with two Luxembourg research institutes, focusing on precision medicine for cancer patients.

South Korean company Medical & Bio Decision (MBD), which provides a 3D cell culture platform specialised in anticancer drug sensitivity, is setting up a joint laboratory with the Luxembourg Institute of Health (LIH) and the Integrated Biobank of Luxembourg (IBBL). This laboratory will focus on performing translational oncology research for cancer patients.

“MBD initially considered locating its European office in France or Germany since it has several customers there,” explains Younhee Kim, Executive Director of the Luxembourg Trade and Investment Office (LTIO) in Seoul, who has supported the company throughout the process. “However, the contacts with the CEO of LIH and Dr Yong-Jun Kwon, who heads the Early Drug Discovery Platform of

the Personalized Drug Discovery research group at the LIH Department of Oncology, were instrumental in increasing the company interest to set up an office in Luxembourg.”

The lab will use samples from cancer patients across Europe and will leverage IBBL’s state-of-the-art biological sample storage facilities. “Our collaboration will advance precision oncology for the benefit of patients in Luxembourg, Europe and worldwide”, explains Dr Kwon.

MBD will also use its new base in Luxembourg to expand its business in Europe, as the company considers the Grand Duchy as an ideal place to grow. “Luxembourg has a favourable business environment and is geographically in the centre of Europe,” comments MBD’s CEO Bosung Ku. “I think it is a very good location for attracting highly skilled staff from France and Germany.”

With the MBD-LIH joint lab up and running, the company is now also planning to benefit from its Luxembourg branch to increase its business reach. “We would like to expand our promotion and network throughout Europe and well beyond,” says Mr Ku.

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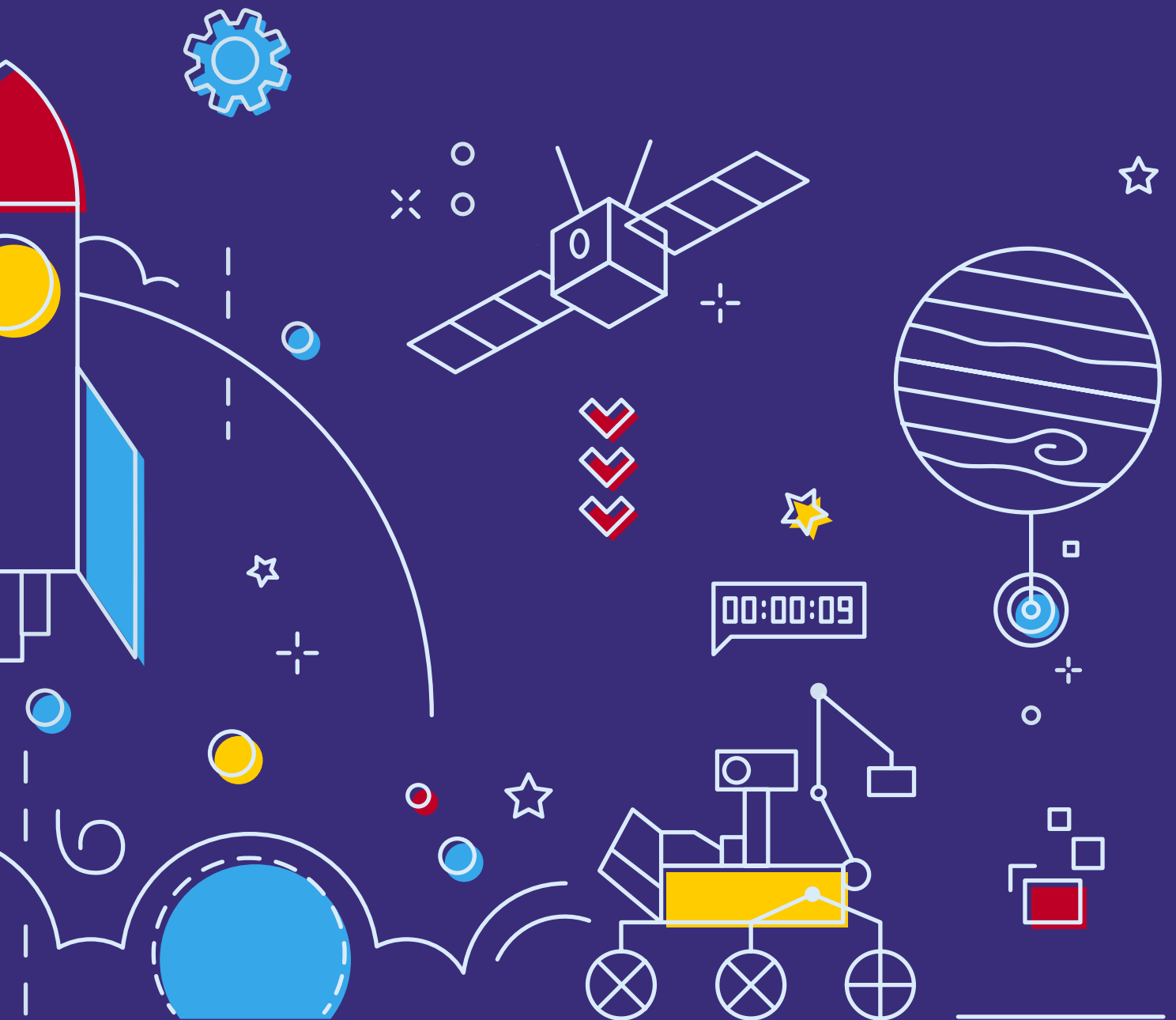


A launchpad for business in space



In just one decade, the number of space companies established in Luxembourg has exploded and increased by almost 200%. The country took centre stage in 2016 with setting up a business-oriented space agency

and launching a pioneering initiative in the field of space resources exploration and utilisation. Though small on the surface of the Earth, Luxembourg is today punching well above its weight in commercial space activities.





Text: Lena Mårtensson

Photo: Marion Dessard

“
We have a record number of new businesses that have incorporated in Luxembourg over the past few years, and our community now exceeds 50 companies

Marc Serres, Luxembourg Space Agency



Commercial space hub for Europe

Space is high on the agenda in Luxembourg. Five years after launching the SpaceResources.lu initiative aimed at promoting the exploration and utilisation of space resources, the country has become a confirmed hub for commercial space activities where business can flourish and benefits spill over to other sectors.

Luxembourg has a history of being a space visionary. Launching SpaceResources.lu in 2016 and becoming the first country in Europe and the second one in the world to adopt a legal framework for the exploration and use of space resources was a natural continuation of its decade-long position at the forefront of the commercial satellite communications industry. And the efforts are paying off. “We have a record number of new businesses that have incorporated in Luxembourg over the past few years, and our community now exceeds 50 companies,” says Marc Serres, CEO of the Luxembourg Space Agency (LSA).

The Luxembourg space sector remains diversified with companies covering the whole value chain, from hardware development to the services segment. “Around 10% specialise in the space resources field, but the majority focus on other areas. They are drawn here by the firm commitment to supporting the sector demonstrated by SpaceResources.lu.” The recently inaugurated European Space Resources Innovation Centre (ESRIC), which is hosted by the Luxembourg Institute of Science and Technology, is yet another proof of the country’s determination to become a new space leader.

Business-driven, strong government support

Unlike most other space agencies that are largely research-driven, LSA’s main priority is developing the business community. “The increasingly active presence of private players in the new space field fosters the development of commercial space activities and of a dynamic and innovative economic sector,” states Minister of the Economy Franz Fayot. “Space companies in Luxembourg with strong business ideas benefit from a complete range of support: funding, premises, research resources and a network of international contacts and





potential partners. Ever since the launch of SES (Société Européenne des Satellites) in the 1980s, Luxembourg has been a pioneer in commercial space activities. By positioning the Grand Duchy as a European hub for space resources utilisation, Luxembourg shows, once again, that it is firmly orientated towards the future.”

In addition to formulating and implementing a national legal framework ensuring that private operators can be confident about their rights to resources they extract in space, Luxembourg works extensively to raise the question at the international level and is involved in inter-governmental forums as well as UN working groups. It is also a full member of the European Space Agency (ESA) since 2005.

Most space companies come to Luxembourg to develop their R&D activities. “We work with them to support their efforts,” Mr Serres points out. “In addition, they wish to be part of our dynamic ecosystem, and are attracted by Luxembourg’s central location and the closeness to suppliers from other sectors. The political support available is also attractive. A lot of countries are interested in space, but not many put it as high on the political agenda as we do.”

In-space economy for benefits on Earth

With thousands of commercial satellites orbiting the Earth, the “in-space economy” is today a huge sector that provides services for everyday use and generates massive revenues for companies. “Businesses use satellites to provide telecommunications, TV broadcasting and connectivity,” Mr Serres exemplifies. “We can also see significant growth in applications using Earth observation data. Companies combine satellite-generated images with other data and integrate artificial intelligence to process them to provide a wide range of location-based services.”

LSA keeps the business perspective in mind when working with all companies, also those orientated towards the space resources field where commercial viability may be some 10-15 years away. The agency encourages the development of business models with a dual space/ Earth perspective. “One strong argument for us to help a company develop from Luxembourg and co-finance its R&D and innovation activities is the robustness of its business plan. This means that they need clients on Earth to whom they can sell products and services already today in a

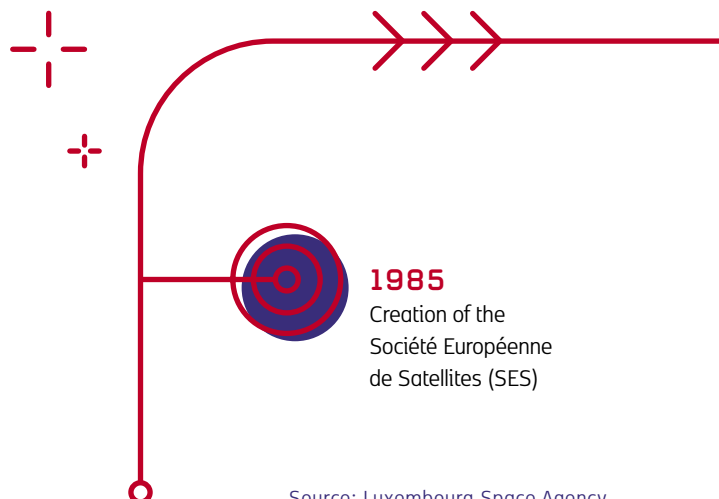
sustainable way. We push them to commercialise what they are doing in space on other markets, and have quite a few cases where technologies developed for space end up generating more revenues from their Earth application.”

In addition to commercially driven services, the space sector also brings other socio-economic benefits. ESA member countries are determined that society in general should reap concrete benefits from investments made in space, and the United Nations is extensively using space infrastructure and data to monitor the progress of its Sustainable Development Goals. LSA is also taking ethical aspects into consideration in its work. The SpaceResources.lu initiative is fully aligned with the international treaties regulating all space activity that are all orientated towards providing

Luxembourg space sector

Approximately 60 companies and research labs.

Key dates



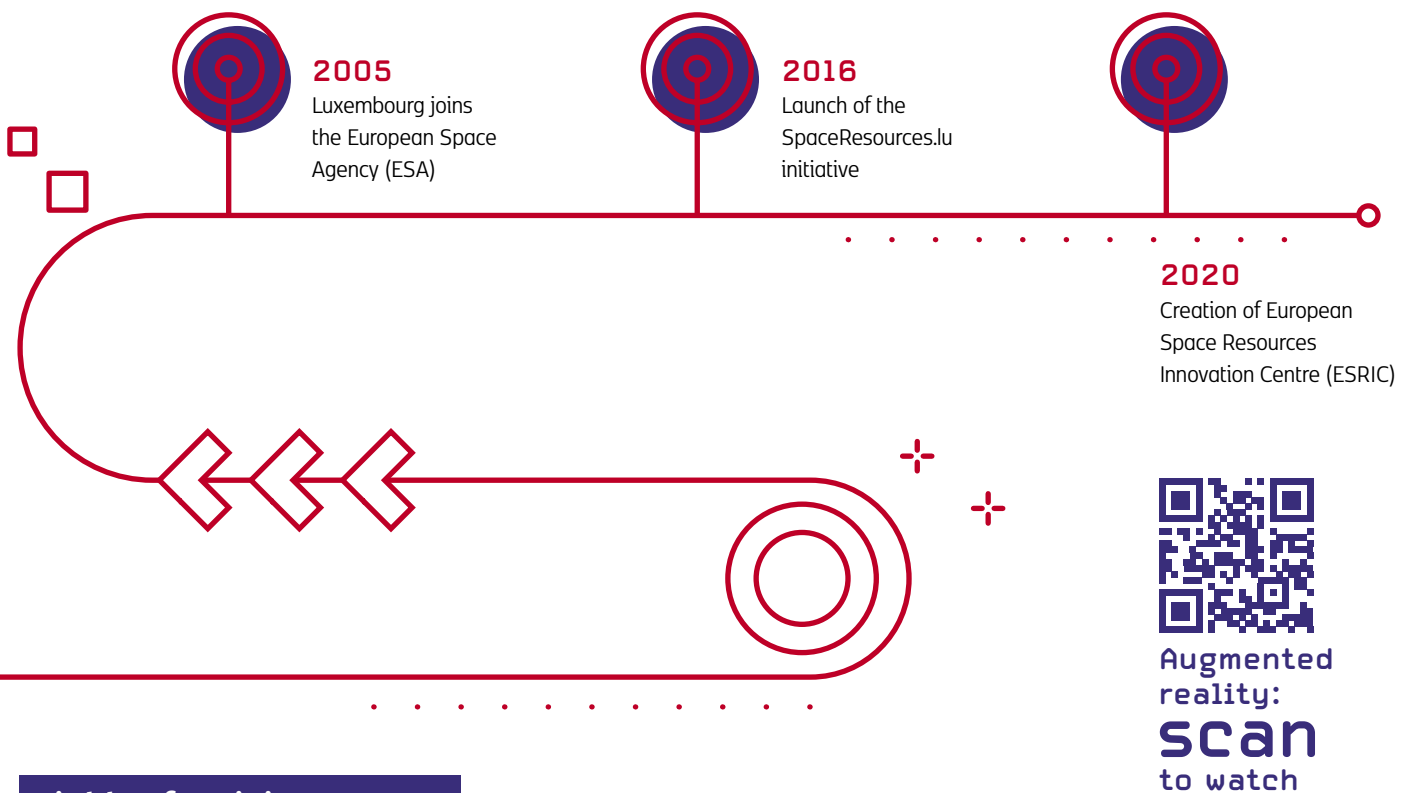
benefits for humankind, and the agency is in the process of further formalising its commitment to an ethical approach.

Generating dreams

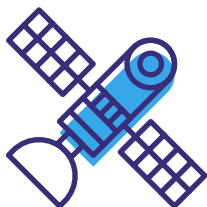
Talent development is one of the cornerstones in Luxembourg’s drive to ensure the long-term sustainability of its space sector. Initiatives span from making materials from ESA’s education programme available for primary and secondary school teachers to launching an interdisciplinary space Master, which the University of Luxembourg did in 2019 in collaboration with LSA. The aim of the programme is to generate a talent pool of highly skilled engineers and innovative entrepreneurs who will be able to create and manage leading commercial space enterprises. LSA also runs the Luxembourg Young Graduate

Trainee programme, which offers students transitioning from education to full-time employment in the space industry the opportunity to carry out internships at ESA.

While the primary objective of these initiatives is to ensure a home-grown talent pool for space companies, the ambitions go further than this one sector. “There is a general lack of people interested in pursuing more scientific and technical careers in Europe, and we need to inspire our youth to explore science and technology further,” says Mr Serres. “Space is a good stimulus: it generates dreams and aspirations. We hope that what we are doing today for the space sector will have a lasting impact on our economy in the years to come.”



Fields of activity



Space segment



Ground segment



Service segment



Space challenges and solutions for Earth

Peter Platzer



Spire

Challenge: Collecting space data for a better world

Spire has the ambitious objective of collecting and analysing data to help make the world a better place. “We believe that by using insights and information from the ultimate vantage point – space – and placing previously unavailable knowledge about Earth into the hands of decision makers, they can lead, act and plan with confidence,” says CEO Peter Platzer.

Solution: A vast network of affordable nanosatellites

With over 100 nanosatellites in orbit, Spire has the world’s largest constellation of radio frequency-listening satellites in orbit just above the Earth’s atmosphere. They collect rich, granular data used to track ships, planes and weather phenomena in the most remote regions of the planet.

Earth application: Enabling strategic decision making

The company, which established its European HQ in Luxembourg in 2018, provides high-value data analysis and forecasts to governmental and commercial clients all over the world. “Our comprehensive data and analytics help clients make informed decisions with high impact on fields such as the environment, global logistics and economic stability.”

spire.com

Joost van Oorschot



Maana Electric

Challenge: Building power infrastructure in space

Maana Electric was born out of the space industry’s need for energy. “Besides launch costs, power is the biggest limitation to the growth of activities in space,” says Joost van Oorschot, founder and CEO of the company that was set up in Luxembourg in 2018.

Solution: In-situ production of solar panels

The company has developed in-site resource utilisation technologies that make it possible to produce solar panels with only sand (or lunar regolith) and electricity as input. With this simple raw material as the only necessary resource, solar panels can be produced anywhere in the solar system.

Earth application: Cost-effective, locally produced, emission-free solar energy

Maana’s technology is also relevant for the production of clean, renewable energy on Earth. “Our technology is ideal for large-scale solar panel installations in the desert – in the Middle East, the US and Asia, for example – where land is cheap, sand resources are available and there is a lot of sun. Panels can be produced as they are needed, which is much more flexible than buying them in bulk.” While the traditional photovoltaics production process of solar panels produces significant amounts of greenhouse gases, Maana’s production is also completely emission-free.

maanaelectric.com



Edgar Milic



LuxSpace

Challenge: Enabling space missions

Founded in 2006, LuxSpace is a pioneer in the Luxembourg space sector. “It used to be scientists and engineers dreaming about space – today it is entrepreneurs,” says Managing Director Edgar Milic. “We enable the space ambitions of business leaders and institutions.”

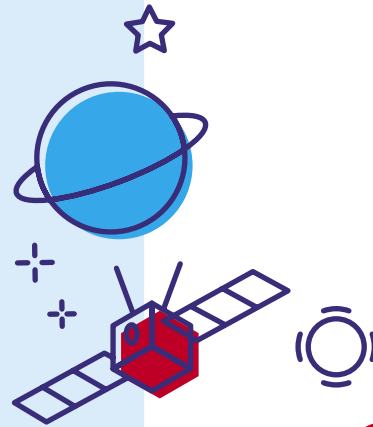
Solution: Best-in-class microsattelites and integrated services

LuxSpace is Luxembourg’s only prime contractor and developer of microsattelites, including the new highly scalable Triton-X platform. The company also offers integrated application and data services, bundled together with its platforms upon customer request. In September 2020 it launched its ground-breaking ESAIL satellite, developed in partnership with the European Space Agency, the Luxembourg Space Agency and ESAIL customer exactEarth to improve the next generation of satellite-based services for the maritime sector. exactEarth called it “the best automatic identification system (AIS) satellite ever built”.

Earth application: Making the sea safer

ESAIL is used by exactEarth for monitoring ships using AIS. “ESAIL captured 2 million AIS messages from 70,000 different ships in one single day,” says Mr Milic. “This is exceptional in terms of satellite capability. Together with our application and data services, these capabilities enable institutions and commercial maritime traffic to transport their goods safely.”

luxspace.lu



Jaroslav Jaworski



Made in Space

Challenge: Facilitate the industrialisation of space

Founded in Luxembourg in 2019 and a sister company of Made in Space, Inc. (US), Made in Space Europe focuses on providing space-capable robotic systems to the global space industry using technologies that deliver unprecedented capabilities.

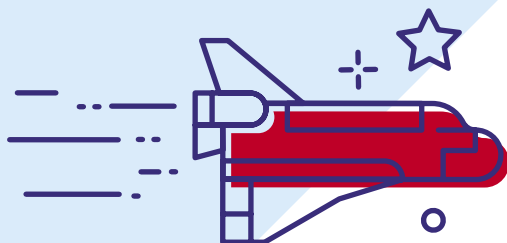
Solution: Versatile robotic arms

Made in Space Europe develops robotic arms that can be attached to lunar landers and rovers and used for drilling, prospecting, instrument pointing, mobility and cargo management. The company also provides robotic arms for orbital and free-flying missions, to support and enable activities such as satellite servicing and refuelling, in-space manufacturing, debris capture and payload management. “While previously the robotic arms for space missions had to be fully custom designs that were started from scratch, we have taken a much more versatile route that allows us to offer solutions that can be quickly adapted to specific mission requirements,” says General Manager Jaroslav Jaworski. “This significantly accelerates project completion and keeps the engineering overhead down.”

Earth application: Use in extreme terrestrial environments

The robotic arm is also optimised for operation or for working autonomously in harsh terrestrial environments where the use of ordinary industrial arms is not possible. Niche markets include nuclear waste management in highly radiative environments, the replacement of fire fighters in extremely high temperatures, undersea welding and the replacement of human beings in deep mines.

madeinspaceeurope.com



Text: Lena Mårtensson

Illustrations: Quattro Creative

Europe's premier space resources innovation centre

As of November 2020, Luxembourg is home to the European Space Resources Innovation Centre (ESRIC) – the only innovation centre in the world exclusively focused on space resources utilisation. Fully aligned with the country's global space policy, the centre stands out for its strong orientation towards industry cooperation.

Luxembourg joined the European Space Agency (ESA) as a full member in 2005. The launch of the [SpaceResources.lu](https://www.spaceresources.lu) initiative in February 2016 further intensified cooperation and paved the way for ESA's publication of a space resources strategy in 2019. However, both sides felt that there was a need to go further.

"The space resources field is moving ahead exceptionally fast, not least in the US and China," says Mathias Link, Director – International Affairs & SpaceResources.lu at the Luxembourg Space Agency (LSA) and Acting Director of ESRIC. "We need to make sure that Europe in general and Luxembourg in particular keep our first mover advantage."

Cutting-edge research

The solution was to set up ESRIC, a joint creation of ESA, LSA and the Luxembourg Institute of Science and Technology (LIST) that hosts the young centre. A first step currently underway is to transfer space resources utilisation research equipment developed by ESA to ESRIC and launch research activities there.

"ESRIC is the one of the few centres in the world that is completely devoted to research on the use of

space resources," comments Dr Link. "One of our first research areas is to demonstrate how the extraction of oxygen and metals from lunar regolith could be used to generate life support for astronauts and in-space manufacturing of equipment. We are also planning research on other parts of the value chain for space resources utilisation together with European partners."

Stimulating business: a priority

Involving companies in ESRIC's activities from the very start is essential. "Our industry-oriented approach is quite unique and the response from the business community has been extremely enthusiastic. Companies specialised in space resources – Luxembourg-based iSpace, Made in Space and Blue Horizon, for example – are of course eager to work with us. Space technology leaders such as Europe's large space system integrators are interested as well. We are also in touch with companies in relevant terrestrial sectors: mining, oil and gas, and construction, for instance."

Dr Link hopes that ESRIC will stimulate new commercial partnerships related to both the space and the terrestrial economy, and boost the development of space resources start-ups. The centre will set up a programme aimed at

Mathias Link, ESRIC

supporting early-stage start-ups in the field and even incubate promising young ventures at its premises.

Although research related to space resources might still seem like science fiction to the uninitiated, and is a rather long-term activity, its outcomes could be applied to the existing terrestrial and space markets in the near term. “A permanent human presence on the Moon might not be that far away,” muses Dr Link. “Scientists stationed there would have to rely extensively on robotics and autonomous systems, for example, and have solutions for how to access energy. Any breakthroughs in these fields would also be very useful on Earth. Our objective is to focus on the commonalities between existing terrestrial and future space value chains in order to spin in and spin off various technologies.”

International ambitions

The current ESRIC team of 6 expects to be 12 at the end of the year and grow to around 30 by 2024. It might even spin off from LIST one day and become a completely independent centre. The centre might also well develop partnerships that go beyond Europe.

“We already have discussions with China and the US. NASA is very enthusiastic about the launch of ESRIC,” says Dr Link and mentions that Luxembourg is one of the signatories of the Artemis Accords, an international agreement between governments of participating nations in the NASA-led Artemis programme which aims to bring the next man and the first woman to the moon in the next few years. “Our ambition is clearly to play a role at the international level.”

Text: Lena Mårtensson

Photo: Marion Dessard



Space opportunities: An investor's point of view



Venture capitalists looking for promising investment opportunities are increasingly turning their attention to the new space industry. Pierre Festal, Partner at Promus Ventures, spots the trends and points to opportunities in the field.

What main trends do you see in the space sector that makes it attractive for investors?

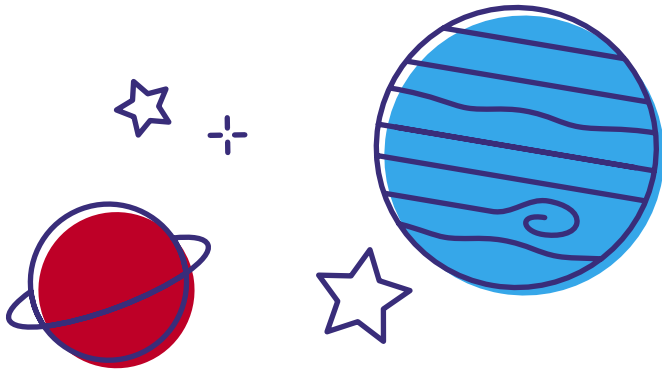
Pierre Festal: I see two: firstly, the privatisation of what was, up to 15-20 years ago, a primarily government-driven endeavour. It has made the sector much more open to innovation and entrepreneurial ventures.

Secondly, the radical decrease of the cost for launching payloads into space. The result is an explosion of companies looking into sending new payloads and satellites with new capabilities into orbit. These constellations will make a lot of things possible, particularly in the fields of Earth observation and remote sensing, which have tremendous value and a wealth of terrestrial applications.

In what geographical areas do you see most investment opportunities arise?

Space skills and interesting companies tend to come from the main established technology hubs: Silicon Valley, the US East Coast, the UK, India, China and so on. In Europe, we find Germany, the Nordic countries, France, Switzerland and also Eastern Europe particularly interesting. Promus Ventures has been doing early-stage deep-tech investing since the early 2010s, primarily in the US but also across the globe with an increasing focus on Europe. I joined the company in 2020 to head up our new European office located in Luxembourg.

Luxembourg is punching way above its weight, in space as well as in other technology sectors. The country has done everything to attract companies and talent and build a very robust and international space ecosystem, and it is working. There is definitely a case to be made for Luxembourg as an attractive destination for space companies. We have already invested in one of the companies in the Luxembourg space community, Spire.



What return on investment can investors expect from the space sector?

The time frame depends on what part of the value chain and the ecosystem you are considering. We have a typical venture stage return horizon on 5-8 years, and you can definitely find technology with a relatively short-term return on investment of 5-10 years.

The more exotic space endeavours – space tourism, deep-space exploration, space colonisation, space mining, micro-gravity manufacturing, and so on – hold tremendous economic potential but tend to be much longer term of 10-15 years or more. For private investors this might not really make sense, but it is still interesting for governments or institutions wanting to make investments that will pay dividends in a distant, but not too distant, future.

Promus Ventures is one of the stakeholders of Orbital Ventures, an investment fund backed by the Luxembourg government. What is the objective of this fund?

Orbital Ventures is a public-private cooperation that backs new space entrepreneurs and early stage start-ups with disruptive technologies, products and services across Europe and globally. We are investing in companies active in the broad space economy. The fund is yet another crucial building block for consolidating Luxembourg as a leader in the new space economy.



“Luxembourg is punching way above its weight, in space as well as in other technology sectors.”

Text: Lena Mårtensson

Illustrations: Quattro Creative



Innovative cold chain solutions

Luxembourg-based healthtech company **B Medical Systems** specialises in vaccine cold chain solutions and medical refrigeration. With recent innovations making its vaccine freezers more flexible and resilient, the company is playing a key role in the fight against COVID-19.



Augmented
reality:
scan
to watch

B Medical Systems manufactures and distributes medical refrigeration systems. The company works in two main segments: vaccine cold chain and medical refrigeration for blood and biological samples.

“We usually work a lot with countries across the world that carry out big infectious disease vaccination campaigns,” says COO Mario Treinen. “In Luxembourg, we can rely on a range of logistics companies for shipping our products. We have easy access to transportation by air, train and multimodal solutions, and can quite quickly reach the ports in Antwerp (Belgium) or Rotterdam (Netherlands).”

Innovations for COVID-19 vaccine storage

The large vaccination campaigns against COVID-19 have created a huge surge in the demand for B Medical System’s cold chain storage devices. The company’s most substantial competitive advantage is its wide range of products as well as its innovation capacities. “Most vaccines have to be stored in normal refrigeration – around 4°C – but some COVID-19 vaccines have to be kept in more extreme temperatures: -20°C, or even -80°C. Our company is one of the few providing solutions for all these cases,” explains Mr Treinen.

In order to meet the new needs, B Medical System’s in-house R&D team expanded the temperature ranges of its ultralow freezers, which can now be set at a range of -20°C to -86°C. “With these flexible freezers, even if at the very last minute one vaccine has to be replaced by another, the cold chain can still be ensured with the same equipment.”

The freezers are also flexible in terms of energy sources. They can be connected to energy grids of 50 as well as 60 Hz and run on solar generators. A wide range voltage stabiliser makes it possible to maintain the cold chain

even when the electricity supply is unreliable. A crucial innovation to preserve vaccines in many low- and medium-income countries where power cuts are frequent.

Expanding production capacity

The company is also working on improving the traceability of its devices. “A fridge with a volume of 700 litres can contain 280,000 doses of COVID vaccine, so ensuring that the temperature stays right at all times is of utmost importance. We have developed a remote temperature logger that stores real-time information about temperatures, lid openings and the freezer’s GPS position.”

B Medical System’s staff has grown considerably to meet the increased demand caused by the pandemic, and it is expanding its production capacity with a new hall expected to create an additional 150 jobs. “Luxembourg is not a low-cost production country, but when you look at the cost/quality/efficiency ratio, it is still an interesting country for manufacturing companies,” Mr Treinen points out. “It can be challenging to find the right profiles, but Luxembourg is so international and when we recruit from abroad, people are happy to come here.”

A great place to invest

The Ministry of the Economy is supporting the company’s expansion and innovation efforts. “I have worked in several industrial companies here, and the entrepreneurial relationship with the ministry has always been excellent,” says Mr Treinen. “Luxembourg is a very nice place to invest. If I had my own company, I would definitely do it!”

Text: Lena Mårtensson

Photo: Marion Dessard

A magic place

Mirjam Bamberger

**CEO of AXA Luxembourg
and CEO of AXA Wealth Europe
Living in Luxembourg since 2020**

Mirjam Bamberger, a Swiss and German national, describes herself as a "European citizen". She has already lived in eight different countries and considers Luxembourg to be "one of the most beautiful".

"There are picturesque landscapes and forests and fantastic roads for cycling." Whether it is to the Mullerthal (also called "Little Switzerland"), the Valley of the Seven Castles in the west or along the Moselle in the east, she always finds places to fulfil her passion for cycling.

There are also other routes, shorter ones, that she enjoys in Luxembourg in a professional context: "There is a very close relationship between the private sector and the political sphere. Access to ministers or key decision makers is very easy. Added to this is the extraordinary multicultural character of a country with almost 635,000 inhabitants representing more than 170 nationalities."

When she is not riding her bike around the country, Mirjam Bamberger loves to visit the Musée d'Art Moderne Grand-Duc Jean, also called the MUDAM. "It is a work of art in itself, with such a special and unique architecture."



Augmented
reality:
scan
to watch



Text: Jean-Michel Gaudron
Photo: Marion Dessard

A walk to remember

Hiking is one of the most popular activities in Luxembourg. 5,000 km of signposted trails criss-cross the country and take locals and tourists from the hills of the Ardennes in the north to the Red Rock region in the south. Walkers can explore the forests, canyons and towering rock formations of the Mullerthal Region – Luxembourg’s “Little Switzerland” – or follow the Moselle river that makes up a natural border with Germany. Enthusiasm peaked at an all-time high in 2020: for example, the iconic Mullerthal Trail was visited by over 160,000 hikers during the year.

[visitluxembourg.com](https://www.visitluxembourg.com)

Text: Lena Mårtensson

Photo: Alfonso Salgueiro

Illustrations: Quattro Creative

Don't miss!



Mullerthal Trail

112 km through the natural unique terrain of Little Switzerland



Escapardenne Lee Trail & Eislek Trail

158 km across the Belgian-Luxembourgish Ardennes



NaturWanderParkdelux

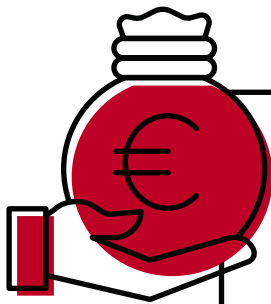
170 km along the rivers Sûre and Our including 9 cross-border routes between Germany and Luxembourg

Luxembourg in figures



6.1%

Unemployment rate (mid-2021)



2nd lowest in the EU

Government Debt (2020)

At the end of 2020, Luxembourg has the second lowest ratio of government debt to GDP (24.9%) in the EU, after Estonia (18.2%). The average euro area government debt rate amounts to 98% and EU 90.7% of GDP.



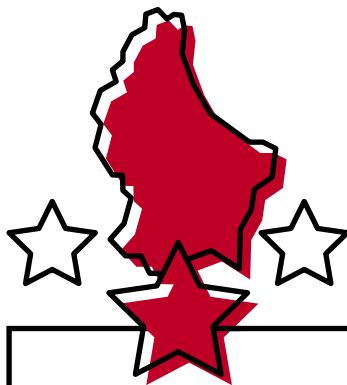
+4.0%

GDP growth 2021 (forecast)

259

GDP per inhabitant 2019

(in Purchasing Power Standards; Index 100 = EU-27)



AAA

Credit rating

According to credit rating agency Moody's, Luxembourg's solid economic structure has enabled the country to weather the economic consequences of the coronavirus pandemic. The country is rated AAA with a robust financial situation, a low level of debt, a forward-looking economic policy and a stable political environment.

Text: Jean-Michel Gaudron
Illustrations: Quattro Creative

Text: Patrick Heck, Lena Mårtensson



Business info Luxembourg

Luxembourg's diplomatic network: At your service

Through its network of embassies and consular offices, the Grand Duchy of Luxembourg is represented in many countries and international organisations around the world. The diplomatic staff of the Ministry of Foreign and European Affairs can help you when setting up a business or investing in Luxembourg and assist Luxembourg companies in their internationalisation efforts.

Our diplomatic network is well versed in international economic relations.

Our career diplomats – men and women – are experienced negotiators and experts in fields spanning from global trade rules, international economic standards and norms, to export control regulations and individual personalised business-to-business promotion and marketing contacts.

We have a multi-skilled workforce.

As specialists in law, political science, international relations or economic affairs, diplomats are trained to quickly gain key insights into various subjects. With this versatility, they can help you identify business opportunities, public or private partners and government interlocutors in Luxembourg.

Contact our international network



The international network of Luxembourg Trade & Invest is fully committed to assisting you with the expansion of your business to Luxembourg and your entrance into the European markets.

LTIO Abu Dhabi investinluxembourg.ae

LTIO Casablanca tradeinvestluxembourg.ma

LTIO New York new-york.investinluxembourg.us

LTIO San Francisco san-francisco.investinluxembourg.us

LTIO Seoul investinluxembourg.kr

LTIO Shanghai investinluxembourg-china.com

LTIO Taipei investinluxembourg.tw

LTIO Tel Aviv investinluxembourg.co.il

LTIO Tokyo investinluxembourg.jp

Find contacts in the diplomatic network and more information about the support available for international companies considering coming to Luxembourg at tradeandinvest.lu/how-we-help

We specialise in inter-personal relations and communication.

Negotiations, problem solving, conflict handling and critical thinking: our diplomatic skills and extensive experience in interacting with people from various backgrounds and positions can be beneficial to your interest in doing business in or with Luxembourg.

Our diplomatic skills can work for your business.

Companies wishing to establish a presence in Luxembourg can draw on our diplomatic skills. Diplomatic abilities include situational and emotional intelligence in understanding needs, discretion and confidentiality. We are fully committed

to assisting you in expanding your activities, developing relationships and identifying public and private partners.

Our embassies and consular offices can be your first point of entry to Luxembourg.

Our well-developed network of 40 embassies, general consulates and permanent representations, 161 honorary consuls and 14 foreign trade advisors is present in over 70 countries, with more diplomatic offices to open in the future. We are available to foreign and domestic entrepreneurs and can help set up contacts and meetings with senior decision makers in Luxembourg.



Scan
for more detailed
information

Reaching the whole European market



Younhee Kim,
LTIO Seoul

Several Korean companies, such as biotech Medical & Bio Decision (MBD) and AI specialist INFINIQ, have recently opened offices in Luxembourg. *Crossroads Magazine* asked Younhee Kim, Executive Director of LTIO Seoul, about what attracted them to Luxembourg.

“Many Korean companies planning to open a European office automatically think of France, Germany or the UK. While these countries certainly offer interesting business opportunities, I encourage those wishing to access the whole European market to think again.

The companies that choose Luxembourg opt to be at the geographical centre of Europe, from where it is easy to travel and network with customers across the continent.

The EU consists of 27 countries with 24 official languages, and providing services to clients in their own language is crucial for sales. I have myself worked in Luxembourg and seen that you can easily set up multilingual teams with this capacity and attract excellent staff from Germany and France. When you want to conduct truly European business, Luxembourg is the place to be.”

You have not been able to visit Luxembourg during the last year. Is there anything in particular that you miss?

“I love the green nature in Luxembourg, and walking in the Petrusse valley and the beautiful parks in the city centre. When I first visited Luxembourg in 1999, I thought: this is paradise!”

Impressum



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Special thanks to Mudam for the access to the museum (p. 36-37).

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