



**LUXINNOVATION**

#MakingInnovationHappen

**2021**

**LUXINNOVATION  
ANNUAL REPORT**



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# EDITORIAL

**As Luxembourg's national innovation agency, Luxinnovation is a central player in our efforts to foster a competitive, resilient and sustainable national economy. With a strong focus on digital transformation and sustainable innovation, the agency provides support with a real impact on companies.**

We live in a world that evolves with breathtaking speed. Standing still does not mean keeping the status quo, but stagnating. Hence, innovation is not only pertinent for all types of companies and organisations – it is vital for their survival. This is why Luxinnovation has such an important role to play in strengthening our economy.

The government relies on Luxinnovation as a key partner for implementing a range of measures and initiatives supporting innovation. Examples from 2021 include, for instance, the Fit 4 Resilience programme and the R&D and innovation funding put in place in response to the COVID-19 crisis, as well as the Startup Luxembourg web platform, the Circular by Design Challenge and the first ever joint healthtech call for collaborative research proposals.

Luxinnovation also provides an essential contribution to achieving strategic objectives set up at the national, European and international levels. When drawing up its strategy for the coming four years, the agency took particular care to ensure that its own goals are aligned with the strategies and roadmaps of the Luxembourg government as well as of its private sector stakeholders: the Chamber of Commerce, the Chamber of Skilled Crafts and FEDIL – The Voice of Luxembourg's Industry. It also analysed a range of European strategies for digitalisation, data, industry and small and medium-sized enterprises (SMEs), notably including the European Digital Strategy and the Green Deal. This is essential for a successful strategy implementation.

I thank the Luxinnovation team for their commitment and hard work in 2021 as well as for the active contribution of all staff members to the strategy development. The next steps forward for the agency include setting up a Digital Transformation department, a Sustainability Innovation hub and a Knowledge hub for its studies and analyses. This lays the foundation for a performing organisation able to efficiently support Luxembourg companies in being at the forefront of the digital, data-driven and sustainable economy of tomorrow.

**Mario GROTZ,**  
Board Chair



**Empowering companies to innovate and supporting the development of a sustainable, competitive and digital economy are Luxinnovation's two main missions. With its interdisciplinary skills, holistic services offering and in-depth knowledge of the national economy, the agency is a key driver of Luxembourg's innovation ecosystem.**

The capacity to think ahead and innovate is an important success factor for any type of organisation, as well as for a country. We have clearly seen during the last two challenging years that companies able to react quickly to the pandemic and adapt their offering and modus operandi came out best. Regardless of the pandemic, the ability to innovate will remain important in the future.

Luxinnovation has a responsibility to fuel innovation in Luxembourg. We offer expertise that helps companies not only to carry out innovative projects but to fully embrace much broader future opportunities. Thanks to our close interaction with key economic and research players and the know-how our market intelligence team has gathered, we are able to provide unique insights into the Luxembourg economy and its players. Our sector mappings and market trend analyses provide essential information used to better assess forthcoming challenges and opportunities as well as to monitor relevant economic trends. This serves as a basis for well targeted policy initiatives.

2021 has been a pivotal year for Luxinnovation since we set out to develop a strategy for the innovation agency that would spell out clearly its vision, mission, core values and strategic objectives. Such a strategy is essential as a compass to guide all our activities and ensure that they efficiently contribute to the development of a sustainable and digital economy through innovation. Above all, the exercise has helped to engage all our staff in reflecting on how their respective activities contribute to the greater purpose that the agency seeks to achieve. This involvement is crucial not only to give our staff a real sense of ownership and purpose but also to help ensure that each one of us engages themselves personally to achieve the strategic objectives we have set out for 2025.

The strategy has also served to highlight the need for more internal expertise in the area of digital transformation and data economy, for greater focus on the know-how of sectoral cluster managers that help our companies and our economy function in a more sustainable manner, and for a knowledge hub that renders more accessible the innovation knowledge developed and available within Luxinnovation to interested external players.

Last but not least, our strategy is fully aligned with the broader strategic goals of the Government to achieve a competitively sustainable and data-driven economy, the European Union's Green Deal and the United Nations Sustainable Development Goals. Through our purpose-driven activities carried out along the lines set out in the strategy, I am convinced that Luxinnovation can lead by example and have a significant positive impact in creating value in a sustainable manner for businesses, for the economy and for society.



**Sasha BAILLIE,**  
CEO

# ORGANISATION CHART



**Sasha BAILLIE**  
Chief Executive Officer



**Carole BUTTIGNOL**  
Executive Assistant



**Jean-Michel LUDWIG**  
Business Development



**Johnny BREBELS**  
Company Relations and  
Support



**Benjamin QUESTIER**  
R&D and Innovation  
Support



**Arnaud LAMBERT**  
Digital Transformation



**Arnaud SERVAIS**  
Administration & Finance



**Marco EISCHEN**  
Marketing &  
Communication



**Sara BOUCHON**  
Market Intelligence

# OUR STAFF

AS OF 29 MARCH 2022

## CEO

Sasha BAILLIE

## EXECUTIVE ASSISTANT

Carole BUTTIGNOL

## ADMINISTRATION & FINANCE

Arnaud SERVAIS

## ADMINISTRATION

Sylviane BISQUERT  
Andreia PIRES  
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## BUDGET & ACCOUNTING

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## DATA ANALYTICS

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Virginie GODAR  
Clément LAVAL

## HR & TALENT DEVELOPMENT

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Virginie ERODIADES  
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Antoine THOMAS

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## COMPANY RELATIONS AND SUPPORT

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## CLUSTERS/SECTORAL RELATIONSHIP MANAGEMENT

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Anthony AUERT  
Charles-Albert FLORENTIN  
Anne HOMAN  
Ralf KÖHLER  
Marc LIS  
Anne MEUNIER  
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Georges SCHAAF

## FLAGSHIP PROJECTS

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Anja HÖTHKER

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Mohamed TOUMI

## MARKETING & COMMUNICATION

Marco EISCHEN

## CONTENT & EVENTS

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René GARCIA  
Lena MÄRTENSSON  
Nathalie RAHMÉ

## DIGITAL

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Laura FICHTNER  
Sue HEWITT  
Romane MARQUET  
Marine MOMBELLI

## R&D AND INNOVATION SUPPORT

Benjamin QUESTIER

## CORPORATE RDI SUPPORT

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Elisabeth FRISCH  
Isabelle HENNEQUIN  
Eric LAUER  
Alexander LINK  
Maximilian PRZYBYL

## EUROPEAN RDI SUPPORT

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Sanna ALARANTA  
Charles BETZ  
Rébecca DAMOTTE  
Géraud GUILLOUD  
Francisco MELO  
Inna PEREPELYTSYA  
François SPRUMONT

# EMPOWERING COMPANIES TO INNOVATE

**Empowering companies to innovate today so that they can be prepared for and successfully navigate the challenges of tomorrow is one of Luxinnovation's main priorities. This includes raising companies' awareness of innovation, identifying and analysing their innovation needs, helping them find the most suitable tools to facilitate their innovation journey and support and following up their innovation projects.**

Luxinnovation's ambition is to be the first port of call for companies that want to innovate, enhance their performance and boost their competitiveness. The agency also works with public research organisations to support their R&D and innovation efforts.

## THE POWER OF INNOVATION

Innovation is still far too often considered as an activity that is only relevant for a selected few – high-tech start-ups or large international groups, for example. One of Luxinnovation's priorities is to spread the word that any business can innovate.

Throughout the year, the agency regularly published articles and videos that testify to the power of innovation for any type of business. Use cases and testimonials given by companies themselves were presented along with Luxinnovation's services and awareness-raising campaigns on topics such as industry 4.0 or high performance computing. They were disseminated through the agency's websites, newsletters and social media channels. Luxinnovation also organised close to 70 events, most of which took place online.

Luxinnovation was frequently featured in media with over 290 mentions in 2021. In addition to news articles, the agency placed content through sponsored campaigns in several of Luxembourg's leading media to inform about its services and areas of expertise.

## GETTING PROJECTS OFF THE GROUND

Companies that want to analyse their innovation needs and identify the best way forward for their innovation activities can count on Luxinnovation as their discussion partner. For many of them, the sector experts who manage the Luxembourg AutoMobility, CleanTech, Creative Industries, HealthTech, Materials & Manufacturing and Wood Clusters are their first point of contact. The cluster team supported close to 500 businesses in 2021. The Digital Transformation team helped industrial companies identify how they could best benefit from digital transformation, and the Start-up Acceleration team met with and advised over 500 start-ups and entrepreneurs on their business launch and growth activities.

In order to help its clients launch innovation activities, Luxinnovation supports them in finding the most appropriate tools and programmes. One central instrument is the funding measures offered by the Ministry of the Economy. Led by its Corporate RDI team, the agency helps companies determine whether their innovation and research projects are eligible for State aid, provides explanations on how to prepare high-quality funding applications and offers guidance in setting up public-private partnerships. In addition to the usual aid measures for R&D, innovation and environmental protection, the agency supported companies with their applications for the specific subsidies put in place in the context of the pandemic: COVID R&D, COVID INVEST and Neistart.



## Circular by Design Challenge

### A NEW COACHING PROGRAMME FOR CREATIVES

The Circular by Design Challenge combines two of Luxinnovation's main ambitions: supporting innovative entrepreneurs and fostering a sustainable economy. Initiated by the Luxembourg Creative Industries Cluster with the support of the Ministry of the Economy, the programme offers creatives with circular, innovative ideas and business models the opportunity to participate in a 12-week coaching programme to develop their ideas in fields such as mobility, industry 4.0 and fashion design. At the end, the most promising participants are awarded with partnership deals with the programme's industrial partners in order to jointly implement their ideas and put them into practice.

10 Luxembourg creatives participated in the first edition of the Circular by Design Challenge in 2021. The Challenge winners worked on circular workspace systems, sustainable maternity clothes rental, a sustainable coffee fertilizer, circular trainers and Kombucha leather. The call for applications for the second edition, which is also open to participants from other European countries, was launched towards the end of the year.





## HELPING OUR COMPANY TO GROW

**Davide MARTUCCI,**  
CEO and co-founder,  
Next Gate Tech



Watch the video

Another key tool is European funding, provided in particular through the EU's Horizon Europe programme. In its role as national contact point, Luxinnovation supports public and private organisations in aligning their strategies with EU calls for proposals, finding potential partners abroad, reviewing proposals and providing legal and financial support. In 2021, it also organised dedicated training sessions for public research organisations and helped Luxembourg players transition between Horizon Europe and its predecessor Horizon 2020. Luxembourg participants had the highest success rate in Europe for the EIC Pathfinder instrument (15.38%, compared to an EU average of 6.31%).

25 of the total of 55 Luxembourg participations in European projects in 2021 were from private companies that together obtained €8.2 million of EU funding (out of the €17.5 million obtained in total by Luxembourg organisations). Luxinnovation also provided specific support to organisations interested in hosting a qualified and fully funded researcher through the prestigious Marie Skłodowska-Curie Actions Postdoctoral Fellowships. 74 expressions of interest were received (44% from private companies) and 59 proposals were submitted.

The European projects provided participating companies with an opportunity to cooperate with entities from all over Europe, in particular from Germany, Spain, Italy, France and the United Kingdom. Companies looking for international partners for technology cooperation could also call on the services provided by Luxinnovation in its role as Luxembourg partner of the Europe Enterprise Network (EEN) together with the Chamber of Commerce and the Chamber of Skilled Crafts. In 2021, the agency prepared 6 profiles for companies looking for partnerships. One cooperation agreement was concluded.

## PERFORMANCE PROGRAMMES AND START-UP ACCELERATION

Many small and medium-sized companies active in all sectors choose to enhance their innovation activities and performance through the “Fit 4” programmes managed by Luxinnovation with support from the Ministry of the Economy and the House of Entrepreneurship. Over 340 SMEs joined Fit 4 Digital, Fit 4 Digital Packages, Fit 4 Innovation, Fit 4 Resilience and Fit 4 Service in 2021 and thereby benefitted from external private sector expertise to identify their potential for improvement and set up clear action plans before launching projects.

Luxinnovation also manages Fit 4 Start, the start-up acceleration programme initiated by the Ministry of the Economy. 35 start-ups active in the fields of ICT, healthtech and space participated in the 10<sup>th</sup> and 11<sup>th</sup> editions of Fit 4 Start in 2021. 20 start-ups were also selected for participation in edition #12 that will run during the first half of 2022.

## EXPANDING THE RANGE

Luxinnovation is constantly looking to adapt and develop its support portfolio according to the evolving needs of its clients as new opportunities emerge. When meeting with international companies interested in Luxembourg as a potential new location, for example, the International Business Development team consistently promotes innovation opportunities here and introduces the companies to Luxembourg research centres in order to facilitate cooperation.

An interdisciplinary team including experts in Corporate RDI, Marketing & Communication, SME Performance and Clusters worked on the topic of business model innovation in order to define support that could be provided to help companies become more resilient and performant in a constantly evolving environment where innovation is key to remain competitive. The pilot study carried out in 2021 covered awareness raising, training, support and funding aspects. Luxinnovation also launched a brand new coaching programme for creative companies, the Circular by Design Challenge.

### ELIGIBILITY FOR STATE AID: A VIDEO USER GUIDE

**Companies that want to apply for R&D and innovation subsidies from the Ministry of the Economy can turn to Luxinnovation in order to get help with identifying the most appropriate aid scheme. The agency can also review their applications before submission.**

**The ministry’s financial support is awarded under the law of 17 May 2017 on the promotion of research, development and innovation, which provides companies with a number of state aids depending on their size and the nature of their R&D and innovation activities. Companies frequently ask whether they are eligible for receiving such subsidies. In order to provide answers in a quick and engaging manner, Luxinnovation produced a brief video illustrating the main eligibility criteria that firms and their projects need to fulfil in order to access aid.**

# SUPPORTING THE DEVELOPMENT OF A SUSTAINABLE, COMPETITIVE AND DIGITAL ECONOMY

**Identifying innovation opportunities and fostering collaborative innovation projects that stimulate the development of a sustainable, competitive and digital economy is another of Luxembourg's key missions. Benefitting from the expertise of companies, research organisations and public bodies, the agency turns ideas into viable collaborative projects, creates and disseminates knowledge, attracts foreign companies that fit our economy and supports an ecosystem where start-ups can thrive.**

The ultimate goal of all of Luxinnovation's activities is to stimulate the Luxembourg economy. Both through its support to individual companies and through projects and initiatives with larger target groups, the agency aims to have a positive impact on the country's economic development.

## SUPPORTING KEY SECTORS

During 2021, Luxinnovation implemented a range of activities targeting economic sectors. The agency supported the first-ever joint call for projects by the Ministry of the Economy and the National Research Fund which funded public-private cooperation in the digital health technologies field. The innovation capacities of the creative industries sector were at the centre of two major initiatives: the Circular by Design Challenge and its coaching programme, as well as the "Meet the Zebras" event that featured over 170 speakers highlighting the key role played by the creative industries in the national economy and its synergies with other sectors. Together with the Chamber of Skilled Crafts, the agency also organised three Club Inno events aimed at stimulating the innovation and digitalisation efforts of skilled crafts companies.

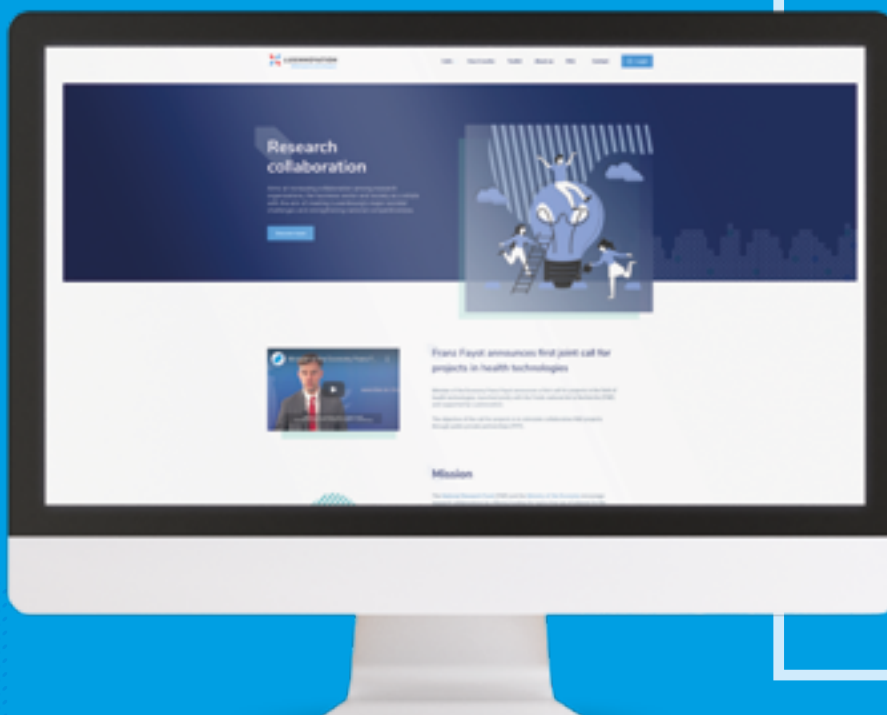
In order to enhance the knowledge of key sectors and provide a foundation for fully informed decisions about support initiatives and measures, Luxinnovation published mappings of the manufacturing, start-up and creative industries as well as updates to mappings of the healthtech and cybersecurity ecosystems. In the context of the EU's Horizon Europe programme, the agency also represented and promoted the interest of Luxembourg organisations and sectors in Programming Committee meetings with the European Commission.

## FROM IDEAS TO FLAGSHIP PROJECTS

Luxinnovation's Cluster team regularly gathers in-depth information regarding the needs and ideas of the ecosystem and helps to transform them into concrete projects that can benefit whole groups of companies. One such project focused on the construction sector supply chain. The agency mandated the Luxembourg Institute of Science and Technology (LIST) and the University of Luxembourg to conduct a study on the shortage of raw materials for the sector caused by the COVID-19 pandemic and suggest key actions to be deployed in Luxembourg and the Greater Region that could potentially mitigate the risks and the impacts of supply chain problems. The next step will be to develop an action plan together with all partners concerned.

Another insight provided by the pandemic was the need to further promote sustainable food value chains. A cross-disciplinary working group engaged with a number of key Luxembourg companies in the food sector in order to identify their problems, needs and projects. The agency helped to set up and coordinate an inter-ministerial committee focusing on this topic that has great potential. Luxinnovation has also become a strategic partner of the Interreg project on aquaponics combining the production of fish and vegetables, thus addressing the topic with regional partners beyond the borders of the country.

Luxinnovation worked on a range of projects related to sustainability in the construction sector, notably focusing on deconstruction, concrete recycling, the reuse of windows and the recycling of mixed plastics, and pursued the development of the e-Holzhaft platform, a digital marketplace for the wood sector.



## A PLATFORM FOR PUBLIC-PRIVATE R&D PARTNERSHIPS

In April 2021, the Ministry of the Economy and the National Research Fund (FNR) launched Luxembourg's first joint call for proposals for public-private collaborations. Luxinnovation supported the call and facilitated the initiative by providing a digital platform to facilitate the matchmaking between public research organisations and companies.

The development of digital tools in health technologies is essential for the Luxembourg economy. With this joint call, the Ministry of the Economy and the FNR joined forces to fund projects that would bring together public research institutions, companies and health sector players in common research projects aimed at demonstrating the performance and safety of digital health tools.

To support the process of preparing joint projects, Luxinnovation set up the [www.research-collaboration.lu](http://www.research-collaboration.lu) platform where companies, public research organisations, hospitals and healthcare providers could submit project ideas. The agency followed up on the ideas, in particular by bringing together public and private partners interested in participating, and facilitated over 100 matches between potential project partners. It also organised two webinars presenting the call and the functionalities of the platform. The intention is to use the platform for future joint calls in various sectors.



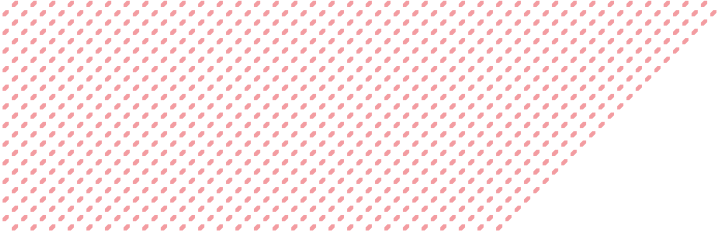
# ENHANCING INNOVATION THROUGH R&D PARTNERSHIPS

**Fabienne BOZET,**  
CEO, Circuit Foil

Video  Watch the video

## ATTRACTING FOREIGN COMPANIES

By promoting Luxembourg as an attractive business destination and reaching out to sustainable and digital companies abroad with new technology offerings and interests, Luxinnovation contributes to diversifying the Luxembourg economy. This work is carried out under the remit of the Trade and Investment Board in close cooperation with the Ministry of the Economy, the Chamber of Commerce and the Luxembourg Trade and Investment Offices (LTIOs). The agency uses its technical expertise and knowledge of the local ecosystem to help companies from abroad discover Luxembourg as a location to develop new business cases and applications for their products and services. Luxinnovation also carries out in-depth analyses that ensure that the country’s prospection activities can be carried out in a targeted and efficient manner. In 2021, prospection country reports were prepared for Japan, South Korea, Taiwan, Israel and the United Arab Emirates.



Luxinnovation's interactions with international companies interested in coming to Luxembourg have been profoundly impacted by the pandemic as digital contacts have largely replaced travel and face-to-face meetings. Nevertheless, the International Business Development team organised no less than 99 "soft landings" for international companies looking for opportunities in Europe. Prospects came from 30 different countries, with a marked increase in interest from Middle Eastern and Asian countries and continued interest from North America and Europe.

The team participated in over 70 global events, often as speakers, and supported Luxembourg's ICT mission to Expo 2020 Dubai. Luxinnovation also helped LTIO Abu Dhabi target companies in different sectors in the context of the Expo. Two "Invest in Luxembourg" workshops targeting companies with a potential interest in Luxembourg were organised together with the LTIOs in Tokyo and Seoul. 10 international companies incorporated in Luxembourg in 2021 with support from Luxinnovation.

The agency published two editions of its international publication *Crossroads Magazine*, and promoted Luxembourg as a business destination through its international *Crossroads* newsletter, social media campaigns, articles and features in international magazines. The Marketing & Communications team also supported LTIOs and embassies in their communication efforts and ensured the coordination of the communications working group linked to the Trade & Invest Steering Committee.

## A DYNAMIC START-UP ECOSYSTEM

Luxinnovation coordinates the Startup Luxembourg initiative, which is the brand for the ecosystem focusing on young innovative companies in Luxembourg. Supported by the Ministry of the Economy, this public initiative serves all players in the ecosystem (start-ups, incubators, research institutes, public organisations, etc.).

Throughout the year, Luxinnovation organised "Inside Startup Luxembourg" webinars and side events at international events such as the Web Summit in order to promote the ecosystem internationally. The Startup Luxembourg web portal, launched in July 2021, had over 50,000 visits up to year end. The agency also presented the start-up ecosystem in international media and via social media campaigns, notably the "Perspectives" video series. In total, the brand has over 20,000 followers on social media.

### Startup Luxembourg web platform

## THE LUXEMBOURG START-UP ECOSYSTEM IN THE SPOTLIGHT

**On 5 July 2021, Minister of the Economy Franz Fayot and Luxinnovation CEO Sasha Baillie officially launched the Startup Luxembourg web platform aimed at showcasing the Luxembourg ecosystem internationally and facilitating networking.**

Luxembourg is home to a maturing start-up ecosystem, and the focus is now on promoting it internationally. The Startup Luxembourg web platform ([www.startupluxembourg.com](http://www.startupluxembourg.com)), which was developed by Luxinnovation, is an important tool. Based on a very advanced design and user experience, the site aims to best reflect the specific characteristics of the Luxembourg ecosystem.

The main objective of the platform is to highlight the ecosystem and its players, as well as to bring together all the latest news about start-ups in Luxembourg. At the international level, it serves as a lever to highlight all the advantages that the country can offer to young innovative companies. It also enables direct contact with incubators, start-ups and institutional players. At the national level, the platform also aims to facilitate networking and business opportunities.

# A NEW STRATEGY FOR LUXINNOVATION

**As of the end of 2021, Luxinnovation has a formal, written strategy that will guide its activities in the four years to come. Throughout 2021, all staff members participated in the process of formulating the strategy that will leverage the multidisciplinary skills of the agency and provide a common foundation for an increasingly specialised team.**

Luxinnovation has grown considerably in the last decade and is playing an increasingly important role in supporting the diversification of the Luxembourg economy through innovation. Given its expertise in sectoral development, the agency was called upon, for instance, to attract new companies to Luxembourg that fit into its ecosystem and the opportunities it offers, to manage the Luxembourg Digital Innovation Hub, to set up and coordinate the Luxembourg GAIA-X regional hub and to help guide companies with technologies relevant to European security and defence towards EU R&D programmes in this area.

Given the wide span of areas covered, it was necessary to develop a coherent strategy that aligns the multiple activities of Luxinnovation towards a common goal in a clear and coherent manner. Such a strategy ensures that the organisation itself as well as its partners have a common understanding of what the agency should achieve and how to get there.

## INCLUSION – A KEY FACTOR OF SUCCESS

While strategy development is most often carried out in a “top-down” manner, Luxinnovation’s management adopted an inclusive approach and involved each and every member of its staff in the process. On the basis of a first outline of the agency’s vision and missions developed by the management, workshops were organised where all teams provided their feedback and had the opportunity to formulate objectives and actions from their own perspective. The dialogue with all teams allowed each staff member to obtain an overall view of how their various projects and activities contribute to the overall mission and objectives of the organisation and thus take ownership for the strategy as it was finally structured and formulated into a coherent document by the management taking into account the input provided by the teams.

Throughout this process, due consideration was given to the European and national strategies and to the UN’s sustainable development goals. The aim was to ensure that the national innovation agency’s strategy would be fully aligned with the broader European and national objectives and that the projects and activities it would implement would carry real weight and contribute effectively to the broader strategic goals at national, European and global level.

The strategy outlines the vision, missions, values, pillars and strategic goals for Luxinnovation. It was formally adopted by Luxinnovation’s board in October 2021 and then converted into the agency’s 5<sup>th</sup> performance contract covering the period 2022-2025, approved and signed in December 2021 by all its stakeholders: the Government, the Chamber of Commerce, the Chamber of Skilled Crafts and FEDIL.



## MISSION

We empower companies to innovate today to be ready for tomorrow  
We identify innovation opportunities and foster collaborative innovation projects that stimulate the development of a sustainable, digital and competitive economy

## VISION

A key enabler to help Luxembourg companies to raise their competitiveness in a digital and sustainable economy through research and innovation

An efficient accelerator and facilitator of digitally enabled and sustainable economic development through research and innovation

A staff that is interconnected with the ecosystem at all levels

An organisation that is exemplary for being both data-driven and human-centric

## VALUES

Relevant | Forward-thinking | Trusted | Customer-centric

## FOUNDATIONS

Mandate | People | Sense of purpose

## STRATEGIC GOALS

**1**

Provide in-depth and relevant knowledge about our customers and the ecosystem

**2**

Provide companies with the best customer experience and relevant product portfolio to render them ready for the future

**3**

Attract and support innovative companies and start-ups

**4**

Be a force for proposals to shape the future of Luxembourg's economy through innovation

**5**

Promote Luxembourg's economic and innovation "know-how" nationally and internationally and ensure awareness of Luxinnovation's services

**6**

Empower staff in a knowledge-driven and human-centric organisation

**7**


Ensure efficient, digitalised, optimised, and sustainable internal processes

# FUELLING THE DIGITAL TRANSFORMATION

**Digital know-how is increasingly important for innovation and sustainable competitiveness. Luxinnovation supports companies in their uptake of digital technologies and in developing digital solutions. The agency manages several key projects for digitalisation and the digital transformation of industry, and provides support to data initiatives led by the government.**

Digitalisation is embedded in nearly all services that Luxinnovation offers to its clients. One example is the fact that almost all applications for national R&D and innovation subsidies supported by Luxinnovation's Corporate RDI team in 2021 included digitalisation aspects such as the improvement of organisational processes through digitalisation, industry 4.0 and the use of high performance computing. The EU RDI team reached more than 80 organisations with its support for digitalisation projects through EU funding, which included awareness raising, individual meetings with clients and support to proposals related to digital topics within Horizon Europe. 7 projects on cybersecurity with a total EU funding of €2.34 million for the Luxembourg participants were approved in 2021, and 11 projects with €4.9 million in funding for Luxembourg organisations under the first call for proposals issued by the Horizon Europe cluster "Digital, industry and space".





Two performance programmes, Fit 4 Digital and its sister initiative Fit 4 Digital Packages which specifically targets small companies, focus on digitalisation and supported over 300 SMEs in 2021. Several companies also benefitted from their participation in Fit 4 Resilience to review their strategic orientation and decide to transform their processes and business models through digitalisation. Two of the Club Inno events organised for skilled crafts companies presented themes linked to digitalisation, namely traceability and blockchain as well as machine learning and maintenance.

Three of the international companies that came to Luxembourg in 2021 with support from Luxinnovation are active in the digital field. As part of its efforts to attract businesses from abroad that fit into the Luxembourg ecosystem, the agency also collected information about local companies' digital needs and interest in open innovation in order to identify new relevant topics to be taken into account in its international prospection work.

## CAPTURING TRENDS AND SUPPORTING DATA STANDARDS

In order to detect trends and innovation opportunities that could benefit the Luxembourg economy, Luxinnovation analysed trends that are expected to impact the healthcare sector. Five trends were identified and outlined in the report "Digitalisation of the health sector: Market trends".

Luxinnovation is also one of the key players supporting Luxembourg's ambitions to become a highly trusted data economy. In March 2021, Luxinnovation was entrusted with the coordination of the Luxembourg regional hub of GAIA-X by the key government, research and private sector actors with an interest in this ambitious European data initiative. In this role, the agency helps all interested public, private and research players of the Luxembourg data ecosystem to become involved in the European GAIA-X initiative that aims to gather and develop common requirements for a European data infrastructure that is federated, secure and sovereign.

## FIRST DIH ON TOUR A SUCCESS

Between 25 October and 16 November 2021, the L-DIH team toured the country with its yellow bus to meet manufacturing companies and discuss their digital transformation and implementation of an industry 4.0 approach. This joint Luxinnovation – FEDIL exercise was deemed a success, and the L-DIH team intends to repeat it in 2022.

"Industry 4.0 comes to you." This idea was the driving force behind the L-DIH initiative to spend a month on the roads of Luxembourg and meet up with representatives of industrial companies in a way that would be both convenient and inspiring for them. From Lentzweiler in the north to Belval in the south, the L-DIH bus stopped in 12 different industrial zones and attracted no less than 160 participants from 100 different companies, both large groups and SMEs. Numbers that, for a first edition of this rather unusual type of event, are considered more than satisfactory.

The DIH ON TOUR was organised by Luxinnovation with strong support from FEDIL. The characteristic yellow school bus fitted out as a classroom criss-crossed the country's main industrial sites and offered, at each stop, training sessions on digitalisation and cybersecurity. It also hosted round table discussions with digitalisation experts from leading companies as well as the University of Luxembourg and LIST.



## THE DIGITAL TRANSFORMATION OF INDUSTRY

A substantial part of Luxinnovation's support to the digital transformation of industry is channelled through the Luxembourg Digital Innovation Hub (L-DIH). This initiative is carried out in cooperation with the Chamber of Commerce, FEDIL, LIST, FNR, the University of Luxembourg, SecurityMadeIn.Lu, LuxProvide and the University's Competence Centre with support from the Ministry of the Economy, the Ministry of State and the European Commission.

The new L-DIH internet platform, which serves as a go-to place for industry players with digitalisation needs, was released in 2021. It includes a listing of over 100 service providers that can support industrial companies on their digital transformation journey. Seven webinars in the popular "L-DIH Talks" series were also organised, as well as the pioneering DIH ON TOUR initiative through which the L-DIH visited over 100 industrial companies all over Luxembourg. Luxinnovation also hosted the launch conference of the European network of Digital Innovation Hubs in January 2021.

The 2021 edition of the Smart Manufacturing Week, organised jointly by all the clusters managed by Luxinnovation, focused on industrial companies' uptake and widespread use of digital technologies and their adoption of an "Industry 4.0" approach as well as environmentally friendly processes. The event, which included a session particularly targeted at SMEs, was also the occasion to launch and present the mapping of Luxembourg's manufacturing ecosystem compiled by Luxinnovation.



## HIGH PERFORMANCE COMPUTING: A TOOL FOR COMPANIES

Luxinnovation, the University of Luxembourg and LuxProvide jointly manage the Luxembourg National Competence Centre in high performance computing (HPC), which promotes the use of HPC to industry – in particular SMEs – academia and public administration and provides access to HPC, high performance data analytics and artificial intelligence support services. The centre was set up in the context of the EuroCC project, which is co-funded by the EU via the EuroHPC Joint Undertaking and by the Ministry of the Economy.

The competence centre launched its awareness-raising activities and other services in 2021, and conducted a survey on HPC skills and training needs among companies. The over 150 responses received were used to design activities that correspond to real needs. The team also contributed to Luxinnovation's mapping of potential HPC users in Luxembourg and launched an awareness-raising campaign on social media.

In order to promote the use of the HPC among start-ups, Luxinnovation, in close collaboration with the Ministry of the Economy, put in place an HPC track for the 12<sup>th</sup> edition of start-up acceleration programme Fit 4 Start. Three start-ups were selected for coaching in this field.

## E-DIH NETWORK: A SUCCESSFUL LAUNCH

On 27-28 January 2021, Luxinnovation hosted the launch conference of the European network of Digital Innovation Hubs. The event was organised together with the European Commission and the DIHnet.eu project. Originally foreseen as a traditional onsite conference, it had to be transformed in record time into a “phygital” event due to the global health situation. A challenging task, but one that considerably paid off.

“We started working on a concept for a face-to-face event open to around 600 people. In the end, we organised a hybrid event with more than 3,300 people registered!” says Géraud Guilloud, Advisor – European R&D and Innovation Support at Luxinnovation. People from over 40 different countries joined online to listen to more than 100 speakers covering a range of concrete topics related to the European Digital Europe programme as well as the European DIH network ecosystem and the implementation of the DIH network. Over 1,200 tweets were sent during two days of live sessions online and more than 2,800 questions were submitted through the event platform.

These exchanges also made it possible to collect feedback from the players in the field. The feedback was transmitted to the European Commission as input for adapting and improving the functioning of the future European network.

# PROMOTING SUSTAINABLE INNOVATION

**Supporting innovation that can contribute to advancing a competitive, sustainable economy is important for Luxinnovation. Many of the agency's activities cover topics such as clean technologies, sustainability and the circular economy. In 2022, it plans to make its know-how related to the sustainable transition more accessible and visible through a "Sustainability Innovation Hub".**

Many of the funding applications for R&D and innovation subsidies supported by the Corporate RDI team in 2021 included aspects of sustainable innovation, in particular those funded under the Neistart scheme and the environmental protection aid law. Several companies that participated in the Fit 4 Resilience programme decided to invest in more sustainable production methods with the help of Neistart funding. The agency also supported funding applications from companies working on innovative technologies enhancing the use of hydrogen.

The European RDI team specifically promoted participation in the Green Deal call for proposals of the Horizon 2020 programme, which resulted in 8 projects including Luxembourg participants which were approved in 2021. The Luxembourg participants together obtained €3.2 million of funding. It also supported some companies in their participation in other EU programmes with a sustainability dimension.



Luxinnovation and its partners in the National Competence Centre for High Performance Computing (HPC) included examples related to sustainability and circularity in a social media campaign on possible HPC applications. Sustainability was also on the agenda of the 2021 Smart Manufacturing Week, which included a session devoted to sustainable manufacturing.

## GREEN BUSINESS CENTRE

Several international companies with a sustainable approach chose to expand to Luxembourg in 2021. 4 out of 10 companies that came to Luxembourg with support from Luxinnovation are active in the cleantech sector.

Luxinnovation also signed an agreement with South Korean eco-innovation centre ASEIC, which aims to set up a Smart Green Business Centre here. The agency facilitated the introduction of the first nine Korean SMEs – expected to join the centre in 2022 – to the University of Luxembourg and other research centres in order to stimulate collaborative innovation.

## SUSTAINABILITY INNOVATION PILOT PROJECTS

Luxinnovation worked on several pilot initiatives related to sustainability and the circular economy in cooperation with various companies and partners such as LIST, the Ministry of the Economy and other public bodies.

Several initiatives focused on the construction sector. Luxinnovation explored the possible creation of a shared platform for reusing products and materials from deconstructed buildings and identified several key factors for success. It also produced a preliminary report on concrete recycling after consulting the main players of the national concrete value chain, and drew up draft specifications for possible future studies of the preconditions needed to make concrete recycling profitable. In addition, the agency worked with several private companies on a joint project aimed at developing windows that can be reused after the deconstruction of the buildings where they have been installed and defined a concept for financing the project.

Luxinnovation investigated different business models for chemical recycling technologies for mixed polymers used primarily in packaging. After identifying a recycling process that could be economically viable if implemented at a larger scale than Luxembourg, the scope was enlarged to the Greater Region. A new Interreg project covering sustainable construction, water treatment, recycling and other topics related to the circular economy is under preparation.

Circular ideas and innovation in all priority economic sectors were encouraged through the Circular by Design Challenge. Luxinnovation also started gauging the interest of the local ecosystem in a possible Circular Design Factory – a cross-sector platform where sustainability and digitalisation would be key enablers.



# MAPPING THE LUXEMBOURG ECONOMY

The objective of all of Luxinnovation's activities is to have a positive impact – on individual companies as well as on the Luxembourg economy as a whole. In order to ensure that services and projects address relevant needs, the agency maps, analyses and monitors relevant ecosystems. It also identifies and anticipates innovation challenges and opportunities.

Luxinnovation first launched the pioneering work of mapping key sectors and generating brand new knowledge about the Luxembourg economy in 2018. The mapping exercises are spearheaded by the Market Intelligence department, always in close collaboration with other Luxinnovation teams (in particular the Company Relations and Support, Start-up Acceleration and Digital Innovation Hub teams) who contribute with their in-depth knowledge of companies and sectors. External experts, such as SecurityMadeIn.Lu and LuxProvide, are also involved.

## THE ADDED VALUE OF MAPPINGS

The Luxinnovation mappings go beyond strict statistical definitions of sectors and cover both companies with their core business in the analysed sector and other firms that are related to it by their key technologies, expertise and market orientation. These comprehensive portraits provide useful input for decisions about targeted projects and policy measures and give Luxinnovation staff knowledge that they can use to better support their clients.





The analyses of each ecosystem's specialisation offer an overview of what solutions are already available on the national market and what might still be missing. The regular updates of the mappings make it possible to monitor the development of the ecosystems over time and measure the impact of national actions as well as global events. The impact of the COVID-19 crisis on the start-up ecosystem, for example, is currently being analysed.

## BREAKING NEW GROUND

Four new mappings were carried out in 2021, covering manufacturing, start-ups, the creative industries and potential high performance computing (HPC) users. The analysis of the manufacturing ecosystem covered 750 companies, of which 60% have manufacturing as their core business and 40% are smart manufacturing enablers. This snapshot of the ecosystem provides insights into the digital maturity of companies and how sustainability targets will impact the national ecosystem. It also enriches the network of the Luxembourg Digital Innovation Hub.

The start-up ecosystem mapping, which currently covers 500 companies, outlines characteristics of the start-ups such as key technologies, target sectors, size, growth and funding raised. Available on the Startup Luxembourg web platform, the mapping is also a useful tool for promoting the Luxembourg start-up ecosystem at the international level.

Mapping the highly fragmented creative industries was a major exercise, and the end result covers no less than 2,400 companies. The study notably highlights the main subsectors and the evolution of the ecosystem in terms of company creation and jobs. Luxinnovation also conducted a mapping of Luxembourg companies that could benefit from the HPC capacities of the national supercomputer MeluXina, either because of their core technologies (big data, simulation, artificial intelligence, etc.) or their activity and size.

## MARKET TREND ANALYSES

Luxinnovation updated the existing mappings of the healthtech and cybersecurity ecosystems in 2021. Two further new mappings of the automotive and cleantech ecosystems were initiated and will be finalised in 2022.

The agency also identified and issued a report on 5 digitalisation market trends that are expected to transform the health ecosystems of tomorrow. The combination of mappings and market trend analyses provides a unique understanding of how Luxembourg companies are positioned related to key trends and is a useful basis for determining actions needed to help them capitalise on new opportunities and remain competitive.

The agency is setting up a “Knowledge Hub” that will make these and other studies and data more accessible to external partners and the broader public in general. The knowledge hub is due to be released in 2022. Meanwhile, all studies and mappings can be consulted on the “resource centre” page of the Luxinnovation website.



# 2021 IN 10 KEY DATES



## 12-14 JANUARY

Luxinnovation and the Ministry of the Economy are the hosting partners of the **2021 Cleantech Forum Europe**, a major international event in the field of clean technologies.



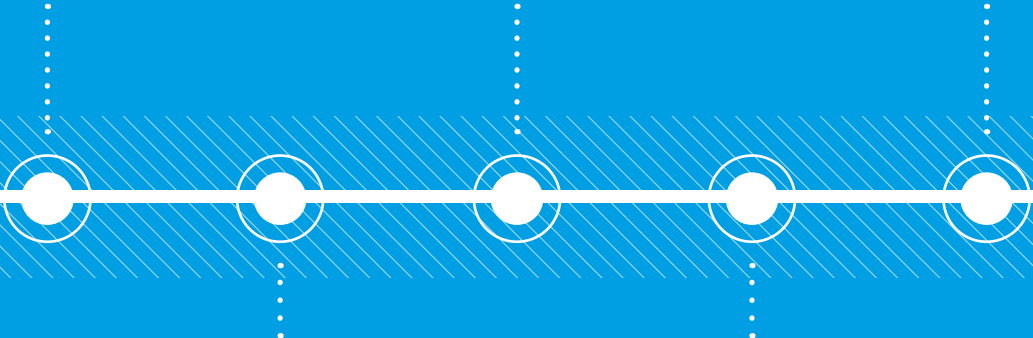
## 26 MARCH

Minister of the Economy Franz Fayot launches the **Luxembourg regional hub of GAIA-X**, which is coordinated by Luxinnovation.



## 15-21 APRIL

The Luxembourg Creative Industries Cluster organises the first edition of the digital **Meet the Zebras event** which highlights the importance of the creative industries in the economy.



## 26-27 JANUARY

Luxinnovation organises the **launch conference of the European Digital Innovation Hub network** together with the European Commission and the DIHnet.eu project. The phygital event attracts 3,300 registered participants from 40 countries.



## 1 APRIL

The Ministry of the Economy and the National Research Fund launch **Luxembourg's first joint call for public-private projects** in the field of health technologies, put in place with the support of Luxinnovation.





## 6 JUNE

15 start-ups from 8 different countries are selected for participation in the 11<sup>th</sup> edition of **Fit 4 Start**.



## 25 OCT - 17 NOV

The Luxembourg Digital Innovation Hub (L-DIH) organises the first edition of **DIH ON TOUR**. The L-DIH visits 12 industrial zones to discuss digital transformation with representatives of around 100 industrial companies.



## 29 APRIL

The winners of the first edition of the **Circular by Design Challenge**, organised by the Luxembourg Creative Industries Cluster and the Ministry of the Economy, receive their awards.



## 6 JULY

Minister of the Economy Franz Fayot and Luxinnovation CEO Sasha Baillie officially launch the **Startup Luxembourg web platform** developed by Luxinnovation.



## 17-18 NOVEMBER

Luxinnovation organises the 4<sup>th</sup> edition of the **Smart Manufacturing Week**. The event included a presentation of the first mapping of Luxembourg's manufacturing ecosystem, as well as the awards ceremony of 2021 ProdPilot Grand Prize.



# ANNUAL ACCOUNTS

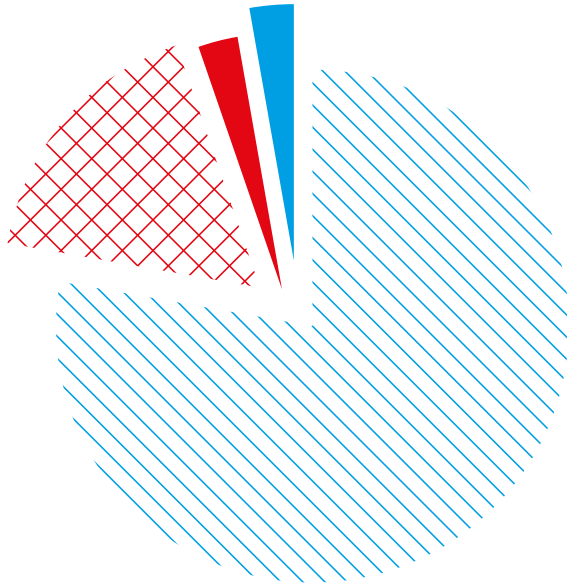
## BALANCE SHEET 31 DECEMBER 2021 (EUR)

<b>ASSETS</b>	<b>2021</b>	<b>2020</b>
<b>FIXED ASSETS</b>	<b>644,040.51</b>	<b>427,306.94</b>
Intangible assets	403,877.15	135,287.88
Tangible assets	240,163.36	292,019.06
<b>CURRENT ASSETS</b>	<b>7,686,660.21</b>	<b>6,187,276.70</b>
Debtors	696,353.62	589,671.23
Cash at bank and in hand	6,990,306.59	5,597,605.47
<b>PREPAYMENTS</b>	<b>254,121.61</b>	<b>223,892.38</b>
<b>TOTAL</b>	<b>8,584,822.33</b>	<b>6,838,476.02</b>





<b>CAPITAL, RESERVES AND LIABILITIES</b>	<b>2021</b>	<b>2020</b>
<b>CAPITAL AND RESERVES</b>	<b>6,878,214.66</b>	<b>5,143,233.82</b>
Subscribed capital	541,739.24	541,739.24
Reserves	6,321,055.57	4,575,349.93
Profit or loss for the financial year	0.00	0.00
Capital investment subsidies	15,419.85	26,144.65
<b>PROVISIONS</b>	<b>268,009.89</b>	<b>273,880.85</b>
<b>CREDITORS</b>	<b>1,175,351.36</b>	<b>1,291,804.12</b>
Amounts owed to credit institutions	15,069.78	3,383.91
Trade creditors	685,569.70	470,051.16
Other creditors	474,711.88	818,369.05
<b>DEFERRED INCOME</b>	<b>263,246.42</b>	<b>129,557.23</b>
<b>TOTAL</b>	<b>8,584,822.33</b>	<b>6,838,476.02</b>

## PROFIT AND LOSS ACCOUNT 31 DECEMBER 2021 (EUR)

	<b>2021</b>	<b>2020</b>
Other operating income	11,378,939.62	10,135,104.03
Raw materials and consumables and other external expenses	-2,368,123.07	-1,720,166.13
Staff costs	-8,494,030.31	-7,882,438.65
Value adjustments	-222,313.29	-265,654.35
Other operating expenses	-294,073.06	-266,971.49
Other interest receivable and similar income	0.00	154.18
Interest payable and similar expenses	-399.89	-27.59
Profit or loss after taxation	0.00	0.00
<b>Profit or loss for the financial year</b>	<b>0.00</b>	<b>0.00</b>

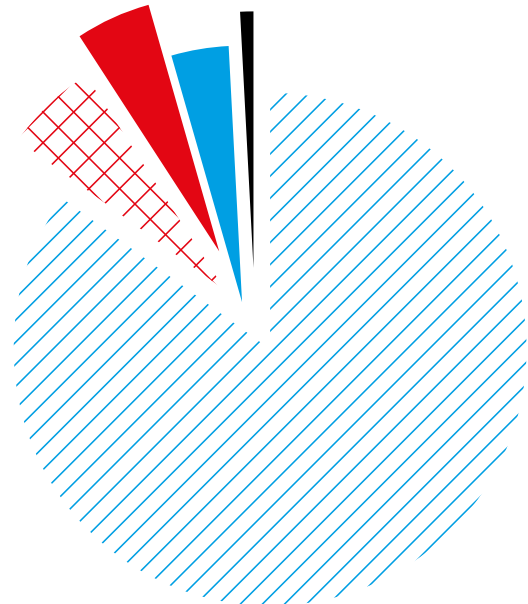


## EXPENSE CATEGORIES 2021

	Staff costs	74.6%
	Other external expenses	20.8%
	Other operating expenses	2.6%
	Value adjustments	2.0%
<b>Total expenses</b>		<b>100.0%</b>

## SOURCES OF FUNDING

	Ministry of the Economy	83.2%
	Ministry for Higher Education and Research	5.6%
	Private stakeholders	3.9%
	European programmes	4.2%
	Other public funding	2.2%
	Other	0.9%
<b>Total</b>		<b>100.0%</b>



# MANAGEMENT BOARD

AS OF 29 MARCH 2022

## BOARD MEMBERS

### **Mario GROTZ**

#### **Board Chair**

1<sup>er</sup> conseiller de gouvernement  
Ministry of the Economy

### **Sasha BAILLIE**

#### **CEO**

1<sup>er</sup> conseiller de gouvernement  
Ministry of the Economy

### **Romain MARTIN**

1<sup>er</sup> conseiller de gouvernement  
Ministry for Higher Education and Research

### **Philippe OSCH**

Senior Partner & COO  
HITEC Luxembourg

### **Gilles REDING**

Directeur Affaires environnementales, techniques et  
innovation  
Luxembourg Chamber of Skilled Crafts

### **Georges SANTER**

Head of Digital and Innovation  
FEDIL – The Voice of Luxembourg's industry

### **Gilles SCHOLTUS**

Conseiller de gouvernement 1<sup>ère</sup> classe  
Ministry of the Economy

### **Marc WAGENER**

Directeur Entrepreneurship  
Luxembourg Chamber of Commerce

## SUBSTITUTE BOARD MEMBERS

### **Robert KERGER**

Conseiller  
Ministry for Higher Education and Research

### **Philippe LINSTER**

CEO  
House of Startups (Chamber of Commerce)

### **Anne MAJERUS**

Conseillère Technique et Économique  
Luxembourg Chamber of Skilled Crafts

### **Patrick NICKELS**

1<sup>er</sup> conseiller de gouvernement  
Ministry of the Economy

### **Marco WALENTINY**

Conseiller de direction 1<sup>ère</sup> classe  
Ministry of the Economy

### **Carole WAMMER**

Attachée  
Ministry of the Economy

### **Jean-Marc ZAHLEN**

Chargé de Projets  
FEDIL – The Voice of Luxembourg's Industry

### **Lynn ZOENEN**

Investment Manager  
Alpine Space Ventures





**LUXINNOVATION**

#MakingInnovationHappen

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