



LUXINNOVATION

#MakingInnovationHappen

20 23

**LUXINNOVATION
ANNUAL REPORT**

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ADDRESSING GLOBAL CHALLENGES THROUGH INNOVATION

It is no news that Europe, and the world, are facing challenging times. In this context, it is more important than ever to ensure that our companies remain competitive through innovation and the deployment of new technology.

The work of Luxinnovation is based on three pillars that are at the very heart of the government's efforts to ensure long-term competitiveness: innovation, digitalisation and sustainability.

The agency plays a key role in ensuring that Luxembourg succeeds with the digital and green twin transitions. It supports the digital transformation of the manufacturing sector and helps small and medium-sized enterprises (SMEs) assess their needs for and implement new digital solutions. As of 2023, the agency has also been appointed National Contact Point for the EU's Digital Europe Programme.

In the context of the government's sustainability initiative "Klimapakt fir Betriber", Luxinnovation is coordinating pilot projects helping companies reduce their energy consumption and find decarbonisation solutions. We have seen a first group of companies successfully go through the Fit 4 Sustainability programme and noted a significant increase of environmental protection funding applications in 2023, achieved with Luxinnovation's support. The agency also manages several pilot projects related to sustainable construction. In addition, Luxinnovation has engaged in a partnership with the Ministry of Agriculture to support the agri-food value chain through innovation.

We increasingly turn to Luxinnovation in another field of growing importance, namely the development of security and defence capacities in Europe through innovation. The agency helps Luxembourg organisations develop security and defence technologies and integrate European defence value chains through awareness-raising, innovation and funding support and by fostering collaborative projects with European partners.

Finally, I would like to underline the valuable contribution that Luxinnovation makes to enhancing Luxembourg's capacity to foster the emergence of successful innovative companies. The Ministry of the Economy has given the agency the mandate to develop a support programme for high-potential scaleups in accordance with the Government's "From Seed to Scale Roadmap", and welcomes its focus on gender equality through the 2023 "Women and Tech" campaign. Capturing the full potential of our national ecosystem is essential for our economy to remain sustainably competitive in the long run.

Mario GROTZ,
Board Chair



AN AGILE AND ROBUST ORGANISATION

Our mission as a thriving innovation agency is to address the many challenges posing threats and opportunities to our companies, economy and country. To fulfil this mission, we need to be agile, adapt to rapidly changing environments and constantly optimise, innovate and transform ourselves.

2023 was the second year of implementing our current four-year performance contract based on the strategy that we adopted in 2021. This annual report highlights how we proceeded with implementing our seven strategic objectives aimed at empowering companies to innovate and contributing to the development of a competitive, sustainable and digital national economy.

As the needs of our target groups evolve and our board entrusts us with new missions and projects, we need to regularly review our own organisation and way of functioning. This is why we launched a transformation process in 2023 with the objective of

ensuring that as an agency, we are responsive and efficient in providing support in both the short and the long term.

Our first focus is on enhancing our ability to capture and detect the needs of each company and research organisation with which we work and to propose the support that best fits every individual case. We are also streamlining our delivery of relevant services and expertise to maximise the impact of our support to companies of all sizes in their innovation efforts. This implies some changes to the organisation that are being rolled out during the first part of 2024.

We are also implementing a more mission-driven approach in our management of complex, innovative ecosystem projects aligned with missions entrusted to us by the government. These projects address common issues that groups of companies are facing and aim to define innovative solutions that enhance the competitiveness and long-term sustainability of our increasingly digital and data-driven economy.

This process is made possible thanks to our diverse and interdisciplinary team that provides comprehensive, tailor-made support to any organisation in Luxembourg engaged in research and innovation. I thank our entire team for yet another year of strong commitment and hard work and invite anyone interested in launching R&D and innovation activities to contact us so that we can discuss how we can help you.



Sasha BAILLIE,
CEO

PROVIDE IN-DEPTH KNOWLEDGE ABOUT OUR ECOSYSTEM

This strategic goal focuses on producing in-depth and relevant knowledge about the companies and research organisations that we work with as well as about the national ecosystem. This is essential to ensure that we provide useful support with a real impact.

ANALYSING ECOSYSTEMS

During the year, we conducted several studies related to Luxembourg's economic development. In the field of **sustainability**, we updated our sustainability enabler mapping and produced a methodological note explaining how the mapping was done. We also published a "sustainability framework" identifying relevant areas where companies can innovate in order to become more sustainable. In addition, we mapped energy research capacities at Luxembourg's public research organisations.

We updated our mapping of the **wood value chain**. We conducted in-depth studies of the geographical distribution of Luxembourg wood companies as well as of how the wood value chain contributes to the UN sustainable development goals.

We also updated our mapping of companies providing goods and services related to **artificial intelligence** (AI), and analysed AI market trends that are likely to impact Luxembourg.

Additional studies were conducted on future challenges related to **economic security and defence**. We also did a study of the Luxembourg ecosystem according to the eight standards established by the European Startup Nation Alliance that Luxembourg joined in 2023.

UNDERSTANDING MEGATRENDS

Analysing **megatrends** that will very probably impact the Luxembourg economy and innovation landscape was a priority in 2023. This work enables us to anticipate future challenges and opportunities. Subsequently, we can then support the implementation of innovative projects that capitalise on the identified opportunities and address the challenges.

We worked on reports on main innovation trends in the fields of environment and smart cities. We also published reports on **supercomputing** market trends and use cases.

PREPARING ECONOMIC MISSIONS

In order to support international economic missions, we generated a **country report** on the link between Luxembourg and India. We also prepared 15 prospection lists to support the identification of international companies that could potentially complement the national business and innovation ecosystem.



15

MARKET STUDIES AND ANALYSES

including ecosystem mappings and key insights



15

PROSPECTION LISTS

used for international prospection



4

MARKET TREND

reports

HELP COMPANIES GET READY FOR THE FUTURE

Providing companies with the best customer experience possible as well as a relevant product portfolio that meets their innovation needs is a major priority. Our overall objective is to render them ready for the challenges of the future.

MAISON DE L'INNOVATION

INNOVATION

GETTING R&D AND INNOVATION PROJECTS OFF THE GROUND

All companies, regardless of their size, maturity level and field of activity, face challenges that can be overcome through innovation. Our **“Fit 4” performance programmes** offer companies the expert support and funding needed to optimise their operations and prepare for the future. The new Fit 4 Innovation – Healthtech Market, which helps companies define their regulatory roadmap to obtain CE marking for their new and innovative medical devices, opened for applications in March 2023. Three companies have so far joined the programme. 23 companies participated in our second new programme, Fit 4 Sustainability. We initiated it in 2022 to offer businesses the opportunity to work together with experts who will help them analyse their environmental impact and develop a roadmap to enhance their sustainability.

To highlight how skilled crafts companies can benefit from innovation in their activities, we organised three **Club Innovation** events together with the Chamber of Skilled Crafts. These events offered participants an opportunity to learn more about evaluating their capacity for managing innovation, conducting competitive intelligence and using robotics in the field of skilled crafts.

Our specialists in the fields of **automobility, cleantech, creative industries, healthtech, materials and manufacturing, and wood** also played a key role as the first contact point for companies looking for support, funding, partners or collaborative projects in order to strengthen their competitiveness through innovation and R&D. We provided support to over 300 companies in this context and initiated more than 550 contacts between players in the ecosystem. We supported R&D and innovation projects run by individual companies or by businesses in partnership with research centres.

As part of our clustering activities, we organised a range of thematic workshops and working groups, information sessions, webinars and matchmaking events. We hosted several major conferences such as the Smart Manufacturing Week 2023, the Automotive Day 2023 and the first European Digital Healthtech Conference. We also participated in several international fairs and economic missions to help Luxembourg companies expand their networks.

We signed a three-year partnership with the Ministry of Agriculture, Viticulture and Rural Development aimed at supporting the **agri-food** sector and boost its competitiveness and sustainability through innovation, digitalisation and collaboration with research players. Our agri-food specialist supported the first collaborative projects in this field, focusing on, for example, bio-sourced materials and horticulture.

FACILITATING ACCESS TO FUNDING

Implementing R&D and innovation projects often requires additional resources. We help companies and research organisations identify suitable national or European funding tools. We also inform them on how to prepare high-quality funding applications with good chances of succeeding.

We supported the submission of 126 applications for **national R&D, innovation and environmental protection projects**. 26 out of 61 R&D project applications that we supported were collaborations between companies and public research organisations. 10 of these applications originated from the joint calls for projects launched by the Ministry of the Economy, the Luxembourg National Research Fund and Luxinnovation. During the year, we supported the launch of joint calls for projects on healthtech, high performance computing and 5G communication technologies.

We also supported eight electric vehicle charging station funding applications, four projects aimed at promoting and supporting social innovation and two applications submitted to the Business Partnership Facility (BPF). Managed by the Luxembourg Cooperation, the BPF facilitates the collaboration between Luxembourg and EU companies and partners in developing countries on sustainable and innovative business projects.

In order to simplify access to public funding, we published a video explaining the definition of small and medium-sized enterprises (SMEs). We also organised the Eureka Info Day to highlight how national funding can be used to enable collaboration projects involving companies in different countries.

Luxinnovation is the National Contact Point (NCP) for the EU's main innovation and research funding programme, **Horizon Europe**. In 2023, we were also designated NCP for the **Digital Europe Programme**. We supported the submission of 118 applications to Horizon Europe and Digital Europe calls for proposals. In addition, we informed

interested applicants about the **Innovation Fund**, one of the world's largest funding programmes for the deployment of net-zero and innovative technologies aimed at decarbonising European industry.

To increase the chances of success for Luxembourg applicants, we organised several information and matchmaking events as well as proposal writing workshops. Our annual Horizon Europe Day showcased how European funding can support the entire innovation journey and the synergies between different types of European and national funding instruments.

126

NATIONAL AID APPLICATIONS

supported by Luxinnovation (R&D and innovation + environmental protection)

86

SMES PARTICIPATED

in the "Fit 4" performance programmes

118

HORIZON EUROPE PROJECTS

with Luxembourg participants funded

DEFENCE INNOVATION AND TECHNOLOGIES

Building on the already existing cooperation, we signed a new three-year convention for supporting companies and research centres in **developing security and defence capacities through innovation** with the Directorate of Defence of the Ministry of Foreign and European Affairs. We also signed a letter of intent with the Belgian and Dutch defence and space industrial associations aimed at working more closely together in the fields of space, cyber, aerospace and communication and information systems.

We promoted the growing defence technology and innovation community at the Paris Air Show and published an updated version of the *Luxembourg Defence Capabilities: Industry and Research* catalogue covering over 80 companies and research centres. We organised events on dual-use technologies for green defence and the NATO Innovation Fund and supported applications submitted to the European Defence Fund, the European Defence Agency CapTech programme and the NATO DIANA accelerator.

CROSS-BORDER PARTNERSHIPS

Together with the Chamber of Commerce and the Chamber of Skilled Crafts, we are members of the **Enterprise Europe Network (EEN)**. In this context, we organised several B2B matchmaking events with a total of almost 800 participants meeting new potential partners. So far, this has resulted in two transnational collaboration agreements. We contributed to several transnational EEN working groups and joined an EEN project aimed at supporting companies that have been awarded a Seal of Excellence by the European EIC Accelerator in finding private funding.

€60.86

MILLION OF HORIZON
EUROPE FUNDING

obtained

335

COMPANIES
SUPPORTED

by the Luxembourg
Cluster Initiative

DIGITALISATION

ENABLING DIGITAL TRANSFORMATION

To help companies in their digital transformation journey, Luxinnovation supported 62 Fit 4 Digital projects, the performance programme that helps SMEs identify the most suitable digital solutions to save time and money and to be more competitive.

Launched in 2019, the **Luxembourg Digital Innovation Hub** (L-DIH), coordinated by Luxinnovation, supports the digital transformation of Luxembourg's manufacturing sector. In 2023, it was designated as European Digital Innovation Hub (E-DIH) with a 50% co-funding from the EU's Digital Europe Programme. We joined the network of over 170 E-DIH centres throughout Europe.

The Luxembourg House of Cybersecurity, the Luxembourg Institute of Science and Technology (LIST), the University of Luxembourg and the University of Luxembourg Competence Centre joined the L-DIH Consortium, founded with FEDIL - the Voice of Luxembourg's Industry, the Chamber of Commerce and the Luxembourg National Research Fund.

The addition of new members broadened the range of available technical resources and expertise. Consequently, in summer 2023, we started to deliver a portfolio of new services to manufacturing companies. It includes digital maturity, cybersecurity and digital skills assessments as well as a "test before invest" service enabling companies to try out digital technologies. These services supported several companies in the development and implementation of their digital innovation roadmaps. The Competence Centre also issued a first training catalogue consolidating available courses in Luxembourg in fields such as automation, connected industry, cybersecurity and emerging technologies.

To stimulate the digital transformation of manufacturing companies, we organised webinars - including the monthly L-DIH Talks - boot camps, and best practice and technology-testing workshops. This year's edition of the DIH ON TOUR went to manufacturing companies as well as research laboratories and even crossed the border to Germany

for the first time. In addition, the L-DIH consortium joined Luxembourg's national pavilion at the Hannover Fair to extend its network and range of expertise.

SUPPORTING DATA EXCHANGE AND SUPERCOMPUTING

In our role as national coordinator of **Gaia-X**, the European initiative aimed at shaping the future European sovereign data exchange and cloud infrastructure, we hosted the "Schengen-X Conference: Supporting a future where data knows no borders" in December.

We pursued our work as coordinator of the **National Competence Centre in Supercomputing**, managed in close collaboration with the University of Luxembourg and LuxProvide in the context of the EuroCC project. One of the highlights of this was Luxembourg Supercomputing Day 2023.

In order to better understand the strategic field of supercomputing, we released an analysis of supercomputing market trends. We also published a study on concrete supercomputing use cases that are of interest for companies. In addition, we collaborated with the Ministry of the Economy and the Luxembourg National Research Fund on the second joint call for high performance computing projects.



28

**COMPANIES
SUPPORTED**

by the Luxembourg
Digital Innovation Hub
(L-DIH)



SUSTAINABILITY

SUSTAINABILITY INNOVATION HUB

Our Sustainability Innovation Hub brings together all our activities that help companies succeed with their sustainable transformation. This notably includes our support to environmental protection projects and Fit 4 Sustainability as well as our mapping of sustainability enablers. The Hub is part of the government-initiated **Klimapakt fir Betriber** initiative that we run jointly with the Klima-Agence.

We officially kicked off the Klimapakt fir Betriber with a major launch conference in January 2023 attracting close to 300 participants. We contributed to develop practical tools like an energy simulation one helping companies in the bakery, butchery, carpentry, hotel, restaurant or food trade business define how they can decrease their energy consumption and costs. We were involved in a project aiming at helping companies located in the same industrial zone or geographical area to find common decarbonisation solutions.

We worked on a range of sustainability-related innovation projects in the fields of, for example, concrete recycling, the reuse of building materials and nature-based construction. We also organised workshops on water management and circular construction.

ENVIRONMENTAL PROTECTION PROJECTS

We supported the submission of 47 **environmental protection funding applications** aimed at investing in eco-technology or environmentally friendly processes. This is a significant increase compared to previous years (4 in 2021 and 11 in 2022).

We worked systematically during the year to increase the visibility of funding measures related to a positive environmental impact, notably through the Klimapakt fir Betriber launch conference, the user-friendly simplified guide to environmental protection aid that we published at the end of 2022 and dedicated content and success stories.

In addition, we supported the Ministry of the Economy in promoting an increasing number of calls for projects on environmental topics. Two calls for photovoltaic self-consumption projects and three calls for electric vehicle charging infrastructure projects were launched during the year. We also informed about a new subsidy related to zero-emission heavy goods vehicles and a temporary environmental impact support measure.

ATTRACT AND SUPPORT INNOVATIVE COMPANIES AND STARTUPS

We work to attract innovative and high-value added businesses from abroad that fit into Luxembourg's ecosystem. We also facilitate the creation and development of innovative startups in Luxembourg.

ACCELERATING STARTUPS

As part of our work to support innovative startups from idea to market scaleup, we supported the creation of 45 startups. We managed edition #13 of our acceleration programme **Fit 4 Start**, which included verticals on digital and healthtech. The Fit 4 Start graduation ceremony took place in June as a side event at ICT Spring. 64 applicants to Fit 4 Start #14 in the fields of digital, healthtech and space were invited to pitch their companies at the Luxembourg Venture Days in October. 20 were selected for participation in the 2024 edition.

The Ministry of the Economy mandated us to develop a **programme aimed at startups with the potential to scale up even further**. We gathered a keystone team made up of entrepreneurs, investors, incubator managers and institutional players to help us design the programme. As a first step, the keystone team selected the three startups participating in the first pilot edition.

To **connect startups with corporates**, we joined forces with the Luxembourg Open Innovation Club (LOIC) managed by the House of Startups and organised a "reverse pitch" session during the Luxembourg Venture Days. Eight corporates looking for innovative solutions presented their needs to a group of startups in order to identify cooperation

opportunities. We also organised a **Women & Tech** panel which, together with our communication campaign with the same name on the Startup Luxembourg blog, aims to cultivate further diversity in our ecosystem.

Luxinnovation is part of the European project "Seeds of Bravery" aimed at supporting the **Ukrainian innovation community**. The project targets startups established in Ukraine, or relocated to Ukraine, or set up by Ukrainian entrepreneurs abroad.



387
NEW LEADS FOR FOREIGN DIRECT INVESTMENT
from 41 countries approached



53
SOFT LANDINGS ORGANISED
for international companies

PROMOTING THE STARTUP ECOSYSTEM

Together with our Startup Luxembourg partners, we **promoted the startup ecosystem at several international events**. We participated in the Luxembourg pavilion at Vivatech (France), contributed to the programme of the Luxembourg delegation at Web Summit (Portugal) and hosted a side event together with the Chamber of Commerce and the Luxembourg Private Equity and Venture Capital Association (LPEA) at Slush (Finland).

On the national level, we participated in the first edition of the **Luxembourg Venture Days** together with the LPEA, the Luxembourg Startup Association and the Luxembourg Business Angel Network (LBAN).

We launched a **Luxembourg startup promotion platform powered by Dealroom**, a global data platform for intelligence on startups and ecosystems. The database, which currently covers around 550 Luxembourg-based startups, will serve both companies and prospective investors through its real-time data-driven insights about start-up activities and venture trends in Luxembourg. Luxembourg, represented by Luxinnovation, also joined the **European Startup Nation Alliance (ESNA)**.

ATTRACTING INTERNATIONAL COMPANIES

Together with the Ministry of the Economy, the Ministry of Foreign and European Affairs, the Chamber of Commerce and the Luxembourg Trade and Investment Offices, we continued our efforts to identify and **support international companies** interested in opening offices in Luxembourg. While the economic situation is slowing down foreign direct investment across the world, Luxembourg has established a good reputation and has become an interesting landing place for companies from Asia and North America. The top countries for lead generation include the USA, Korea and Japan. We identified and met more than 300 leads and organised over 50 softlandings together with the House of Entrepreneurship.

We supported Luxembourg's official visit to Latvia, **economic missions** to Singapore, Nice and Dublin and several **international trade shows and major events** to identify potential prospects and promote Luxembourg. We also actively contributed to events organised by partners such as the OECD, Cleantech Scandinavia, Tsukuba City and JETRO in Japan.



8

INTERNATIONAL COMPANIES INCORPORATED

in Luxembourg with support from Luxinnovation



45

STARTUPS CREATED

with support from Luxinnovation



15

STARTUPS PARTICIPATED

in Fit 4 Start edition #13

SHAPE THE FUTURE OF LUXEMBOURG'S ECONOMY

Contributing to shaping the future of Luxembourg's economy through innovation is one of our key mission. This involves both assessing innovation opportunities and obstacles for the Luxembourg economy and making proposals on how to address them, and getting involved in European and international innovation initiatives.

We work on several projects aimed at making the Luxembourg economy and companies more digital and competitively sustainable. The following overview highlights key projects that we worked on in 2023.

INNOVATION FOR SUSTAINABLE CONSTRUCTION

The construction industry has an important role to play in Luxembourg's transition to a more sustainable society. In 2023, we continued the work on our project on **concrete recycling**, which has been launched to address environmental concerns and resource conservation. A call for tenders for a study on the national aggregate deposit (secondary materials from demolition/deconstruction with a view to recovery) was published and awarded to a contractor that will conduct the study in 2024.



We also pursued the work on exploring the feasibility of establishing a **deconstruction platform** enabling the reuse of materials from demolished buildings. We promoted the concept of reuse through several workshops and brought together various players in the (de)construction and recycling industries.

Two of our key projects focus on wood as a sustainable construction material. We have been running the **digital e-Holzhaft timber trade platform**, launched in 2022 to facilitate the sustainable and local use of wood by connecting regional supply and demand. We also launched the **HARDWood Nature-Based Construction** project, which aims to facilitate the long-term transition of the national sawmill industry towards the use of regional wood resources, i.e. hardwood.

In addition, we worked on a project to support SMEs in the construction sector to be more sustainable, productive and resilient by considering social, economic and environmental aspects, whilst enhancing their competitiveness.

INNOVATION FOR CLIMATE

Two projects were launched in the context of the **Klimapakt fir Betriber** initiative, which is managed by Luxinnovation and the Klima-Agence. Its objective is to guide and support businesses in dealing with the climate crisis and the energy transition.

With the development of a catalogue of practical solutions, the first pilot project focused on helping companies **reduce their energy consumption and costs**.

The second pilot project of the Klimapakt fir Betriber aims to **find decarbonisation solutions for industrial zones and communities**.

We also ran the third edition of the **Circular by Design Challenge**, which aims at stimulating the development of innovative and sustainable solutions and products. This edition focused on multifunctional urban furniture, sustainable business events, development cooperation and humanitarian aid, and sustainable products for the LuXembourg Collection. 10 companies were selected to take part in a 12-week coaching programme that helped them improve their projects.

PROMOTE INNOVATION AND THE LUXEMBOURG ECONOMY

Our fifth strategic goal focuses on promoting Luxembourg's economic and innovation "know-how", in Luxembourg as well as on the international level. It also includes ensuring that our various target groups are aware of Luxinnovation's services and know how we can support them.

HIGHLIGHTING INNOVATION

One of our main tasks is showing that any company – regardless of size, maturity and field of activity – can benefit from innovation. We published articles and videos highlighting how **companies have boosted their innovation efforts** with our support and how this has benefitted their business. Our content was disseminated through the *Insights* and *Horizon Europe* newsletters and the *DIH Digest* as well as on social media.

We implemented communication campaigns promoting, for example, Fit 4 Start, the Klimapakt fir Betriber initiative, the joint calls for projects, our main events and the calls for Fit 4 Digital and Fit 4 Innovation – Healthtech Market consultants. We also published new brochures on the Creative Industries Cluster and Luxembourg's defence capabilities, and launched a new website on the Supercomputing Luxembourg initiative.

We organised over 100 events, of which one-third were webinars and the rest on-site events. Key events notably included the European Digital Healthtech Conference (May), the Smart Manufacturing Week (June), the Fit 4 Start graduation ceremony, (June), the DIH ON TOUR (September/October), the Automotive Day (October) and the Luxembourg Venture Days (October), Schengen-X (December) and the Horizon Europe Day (December). We also cooperated with the World Food Programme on the organisation of the Humanitarian Innovation Accelerator pitch event that took place in June in Luxembourg.

316,000

VISITS

to our websites

94,000

FOLLOWERS

on social media (+26% compared to 2022)

SHOWCASING THE STARTUP ECOSYSTEM

On the occasion of VivaTech Summit in Paris, we launched the Dealroom platform providing data on the national startup ecosystem and integrated it into the Startup Luxembourg website. We also promoted Luxembourg's participation at major international startup events, including Web Summit (Portugal) and Slush (Finland).

The **Startup Luxembourg website** remains the flagship platform for promoting the Luxembourg startup ecosystem nationally and abroad. We consistently produced content, which this year included the "Women & Tech" series aimed at enhancing the visibility of women in the startup world and a new Startup Luxembourg video. Together with news from the ecosystem, the content was published on the website and disseminated via the *Startup Luxembourg* newsletter and social media.

PROMOTING THE LUXEMBOURG ECONOMY INTERNATIONALLY

We help to **promote Luxembourg as an attractive business location** under the remit of the Ministry of the Economy, the Ministry of Foreign Affairs and the Chamber of Commerce. In this context, we produced a video with an innovative green screen format on the 10 good reasons for companies to choose Luxembourg.

All our contents were published on the Luxembourg Trade & Invest website and disseminated via the *Crossroads* newsletter, social media and sponsored campaigns. We highlighted health technologies in our *Crossroads Magazine 2023* published in November.

We ran campaigns on Luxembourg's participation at major international fairs such as Hannover Messe (Germany), Pollutec (France) and Medica (Germany) as well as on the state visit to Latvia and the economic missions to Vietnam, Ireland and Finland. We also published content in international publications such as *Autoregion International* and Israeli tech publication *C-TECH*.

ALMOST
400
MENTIONS

of Luxinnovation
in national media

3,600

**UNIQUE
PARTICIPANTS**

at our events

EMPOWER OUR STAFF

Empowering staff within an organisation that is both knowledge-driven and human-centric is essential for us. Luxinnovation should be an attractive place to work where team members develop relevant skills and are closely integrated into our ecosystem.

Luxinnovation's team is made up of 87 employees of 16 different nationalities in almost equal proportion of men and women.

Learning and development are essential to us. We provided dedicated training programmes for new managers, alongside personalised training and skills development opportunities tailored to individual staff members.

We continued our digitalisation journey of our human resources processes. To better understand our surrounding ecosystem, we invited guest speakers from the Ministry of the Economy, the University of Luxembourg, the Ministry of Research and Higher

Education, the Luxembourg House of Financial Technologies, the Luxembourg Institute of Health, the Chamber of Deputies and the Luxembourg - Let's Make It Happen team to tell us about their organisations and their challenges. This was a good opportunity to enhance collaboration and develop synergies.

We strengthened the sustainability approach of our internal processes further, for example by avoiding the use of disposable items and increasing the purchase of local products. Our volunteer-led social committee organised activities in and around Belval accessible by public transport for our staff.



ENSURE DIGITAL AND SUSTAINABLE INTERNAL OPERATIONS

The focus of this strategic goal is on ensuring that our internal operations are efficient, digitalised, optimised and sustainable. Our objective is to become a fully data-driven organisation.

On 1 January 2023, we took a major step forward in our efforts to optimise our processes by implementing new customer relationship management and enterprise resource planning systems. These new tools enable a better and more efficient management of customer and financial data. We developed internal dashboards that provide us with a real-time overview of our key performance indicators, financial situation and the activities of our teams.

To enhance our interfaces with our customers, we maximised the potential of several web tools. These notably include the “Research Industry Collaboration” website that supports the national

joint calls for innovation projects and enables applicants to share their project ideas, find suitable partners and prepare applications. In addition, we integrated a new events organisation tool that support our online and onsite events.

To facilitate our interaction with external contacts, we also advanced on the development of a new, unified web platform set to go online in 2024. In addition, we worked continuously during the year to enhance and adapt our organisation, aiming to improve our customer interaction.



Innovation remains at the heart of our strategy

— Rotomade

Rotomade is the first company to complete both digital maturity assessments proposed by the Luxembourg Digital Innovation Hub (L-DIH). Managing Director Arnaud Fournier emphasises how these analyses and other current initiatives are consistent with the company's long-term strategy and commitment to innovation.

Established in 2003, Rotomade specialises in the production of rotomoulded parts for a variety of purposes, including industrial, water and sewage treatment, agricultural, recreational and other applications. With the creation of new digital tools, Mr Fournier sees an immense potential for industry 4.0 technologies to boost efficiency and productivity within the niche sector.

“Today we have tools at our disposal that could quite easily be integrated into the rotational moulding process and have the possibility to bring man and machine closer together, which is what we want to do through our digitalisation activities,” he explains. In his view, this also allows for a faster onboarding process for new operators and technicians in an industry that now depends significantly on the expertise and skills of more experienced operators.

DIGITAL MATURITY ASSESSMENTS

A critical step the company took in 2023 was to undergo the initial and then advanced digital maturity assessments (DMA) provided by the L-DIH, which is managed by Luxinnovation. The initial DMA provided an overall view of the company's digital maturity. Whereas, the advanced DMA, which is an in-depth assessment, evaluated five key dimensions of its digital DNA: strategy, value stream, organisation, tools and methods, and people.

The future-oriented company also has ongoing research and development (R&D) projects. One project in close collaboration with the Luxembourg Institute of Science and Technology was approved for funding this year by the Luxembourg National Research Fund as part of its Bridges programme. The project aims to replace its current wastewater filtration media that consists of rock wool with a sustainable alternative. The other project focuses on the development of a new range of products.

Luxinnovation supported the funding application process for both R&D projects by ensuring alignment with funding criteria. It also facilitated the company's integration into a working group on water management in Luxembourg to encourage the formation of new collaborations and resource-sharing. “That's precisely what we appreciate about Luxinnovation, this ability to facilitate, put people in touch with each other, and develop the network,” he says.

Driven by the need to create a “metamodel” tool for tracking several artificial intelligence (AI) solutions, BGL BNP Paribas launched an R&D project in partnership with the University of Luxembourg’s research centre SnT. With Luxinnovation’s support, the duo applied and received national funding from the Ministry of the Economy.

In a recent press statement, BGL BNP Paribas was acknowledged for this initiative as the first bank to propose an AI project eligible for public co-financing under the R&D and innovation aid scheme. The three-year project of about €7.4 million over 3 years can be co-financed up to €2.95 million by the Ministry of the Economy.

“We’ve been working with AI tools for about seven years and with the help of the university, we’ve been able to put several AI solutions in production,” explains Anne Goujon, Director of Data Science Lab at BGL BNP Paribas. “Compared to what we can see in the market, we have been able to put 100% of our solution from the Data Science Lab into production,” she asserts.

The present partnership with the Interdisciplinary Centre for Security, Reliability and Trust (SnT) is focused on creating an AI metamodel tool in order to effectively monitor these AI solutions in a fast changing financial, regulatory and economic setting. “We put in place a real-time monitoring, but this takes about 80% of the lab’s capacity which is highly impacting for us,” adds Ms Goujon. “We discussed with the university and agreed that we can’t solve the challenge by adding more people but that we needed to work on monitoring in a different way to free up the time of our experts,” she continues.

The project further exemplifies how public-private partnerships can be leveraged to combine resources and expertise to minimise risks linked to new innovations and to achieve a shared goal.



Public-private synergy for AI metamodel tool development

— BGL BNP Paribas

ADDED VALUE OF LUXINNOVATION SUPPORT

Luxinnovation helped to analyse and structure the project to make the roadmap clear. The national innovation agency also clarified the risks and provided support to prepare the application documents. “We had regular meetings with them on the application and the project itself, and without them, we probably wouldn’t be sitting here still discussing it,” states Ms Goujon. The project will adopt diverse AI technologies, initially focusing on machine learning and later expanding to natural language processing and generative AI. “We do not plan to replicate what exists but to think in advance with our experts,” asserts Ms Goujon, who sees the potential benefits of the project extending beyond the bank to the general financial sector and industry at large.



Innovation that leads to efficiency

— Hein

Oven and cooling equipment manufacturer Hein has maintained relevance in Luxembourg's industry for 142 years through innovation. Benefitting from Luxinnovation's support and "Fit 4" programmes, it is now forging ahead with R&D for zero-fossil energy ovens.

To keep up with evolving market demands and secure its leading position, CEO of Hein, Henri Guillaume, explains that strategic innovation has been essential in its journey. "We've been around for the last 142 years, and innovation and the quality of our products have been essential in making sure we remain a recognized brand in the market," he underlines. With support from Luxinnovation, the company applied for R&D funding from the Ministry of the Economy and is now developing a novel hybrid heating technology for zero fossil energy ovens. It has also benefitted from SME-specific programmes like Fit 4 Digital and was recently selected for its Fit 4 Innovation counterpart.

STRATEGIC R&D

Hein invests about 6% of its revenue on research and development and has carefully expanded its product line to remain competitive. "It's important to innovate and be strategic because customers have become more and more price sensitive and you have to take that into consideration when developing new products or re-designing the existing ones," mentions Mr Guillaume. In addition to cost-effectiveness, the family business also prioritises lower energy consumption and energy source diversification when creating new solutions. Several oven models from the company have integrated energy-saving technologies that reduce client's consumption and save costs long before the energy crisis that hit Western Europe. The ongoing R&D project to develop fossil-free energy ovens is a critical step in its efforts to create alternative energy sources for ovens beyond the conventional oil and gas-powered burners. "We want to respond to a demand that will hopefully be increasing in the future," he adds.

LUXINNOVATION SUPPORT

"We had all sorts of support from Luxinnovation for the Fit 4 Digital programme, which helped us look at our IT functions and systems, with recommendations for implementation," states the CEO. During the R&D funding application, he highlights help from the national innovation agency to evaluate their ideas and prepare the required documentation. The ongoing Fit 4 Innovation programme assists in increasing the company's performance through a 360-degree assessment. "It is based on our motivation to look at ourselves from an external point of view with internal insights, from how our staff view the company to our way of working over the last few years and what could be implemented to improve our efficiency in the future."

ANNUAL ACCOUNTS

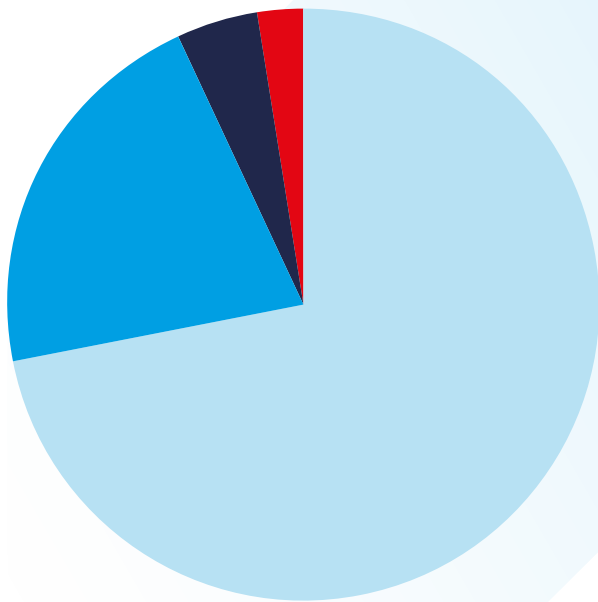
BALANCE SHEET 31 DECEMBER 2023 (EUR)

ASSETS	2023	2022
FIXED ASSETS	1,241,336.14	1,041,440.38
Intangible assets	985,446.18	813,204.77
Tangible assets	255,889.96	228,235.61
CURRENT ASSETS	11,653,680.33	8,379,522.17
Debtors	1,450,606.56	1,343,837.67
Cash at bank and in hand	10,203,073.77	7,035,684.50
PREPAYMENTS	291,130.92	393,731.80
TOTAL	13,186,147.39	9,814,694.35

CAPITAL, RESERVES AND LIABILITIES	2023	2022
CAPITAL AND RESERVES	9,437,736.62	7,799,887.45
Subscribed capital	541,739.24	541,739.24
Reserves	8,895,997.38	7,252,419.51
Profit or loss for the financial year	0.00	0.00
Capital investment subsidies	0.00	5,728.70
PROVISIONS	231,312.89	289,878.17
CREDITORS	1,392,096.99	1,201,539.74
Amounts owed to credit institutions	12,190.45	15,777.59
Trade creditors	613,200.23	815,578.40
Other creditors	766,706.31	370,183.75
DEFERRED INCOME	2,125,000.89	523,388.99
TOTAL	13,186,147.39	9,814,694.35

PROFIT AND LOSS ACCOUNT 31 DECEMBER 2023 (EUR)

	2023	2022
Other operating income	13,457,161.06	12,408,028.53
Raw materials and consumables and other external expenses	-2,801,530.40	-2,638,561.40
Staff costs	-9,980,441.06	-8,959,997.30
Value adjustments	-384,433.80	-296,583.41
Other operating expenses	-510,412.63	-529,331.57
Other interest receivable and similar income	221,275.77	16,957.34
Interest payable and similar expenses	-1,618.94	-512.19
Profit or loss after taxation	0.00	0.00
Profit or loss for the financial year	0.00	0.00

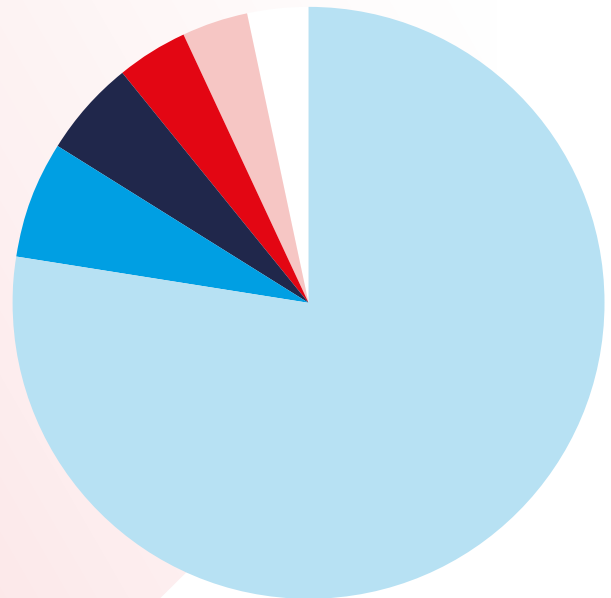


EXPENSE CATEGORIES 2023

Staff costs	73.0%
Other external expenses	20.5%
Other operating expenses	3.7%
Value adjustments	2.8%
Total expenses	100.0%

SOURCES OF FUNDING 2023

Ministry of the Economy	77.6%
European programmes	6.5%
Ministry for Research and Higher Education	5.1%
Other public funding	3.9%
Private stakeholders	3.6%
Other	3.3%
Total	100.0%



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