

Latvia



**Innovate. Collaborate. Elevate.
Smart specialization sectors**



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NextGenerationEU



2027
Horizon Europe
Investment and Development
Agency of Latvia



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Development
Agency of Latvia**

**MISSION
Latvia**

Facts about Latvia

Capital: Riga

Surface area: 64 589 km²

Population: 1.872 million

Currency: Euro

International calling code: +371

Time zone: EET/UTC +2

Member:

EU (2004)

NATO (2004)

Schengen area (2004)

Eurozone (2014)

OECD (2016)

European Molecular Biology Laboratory - EMBL (2024)

Associate member:

European Space Agency - ESA (2020)

**European Organisation for Nuclear
Research – CERN** (2021)

Share of women employed in science and tech: 62.7 %

Shaped by resilience and driven by innovation, Latvia has transformed its historic challenges into strengths — shaping a country where technological ambition meets entrepreneurial spirit. From pioneering 5G connectivity and embracing fintech adoption to taking the lead in quantum technologies and establishing a national Artificial Intelligence Centre, Latvia is rapidly becoming one of the most dynamic innovation ecosystems in Europe. This forward-looking mindset is also reflected in the country's growing deep-tech environment, where bold ideas, cutting-edge research, and collaborative efforts drive progress.



*Ieva Jāgere, Director General, Investment
and Development Agency of Latvia*

Investment and Development Agency of Latvia (LIAA)

To grow and create new innovative products and services for the global markets, Investment and Development Agency of Latvia (LIAA), an executive agency underneath the Ministry of Economics of Latvia, and it focuses on supporting businesses in Latvia of all shapes and sizes from small startups and scaleups to large companies.

Through LIAA services and initiatives like pre-incubation and incubation programme for innovative companies and Deep Tech Atelier annual event, the agency aims to stimulate innovation, support the growth of technology-based businesses, and enhance Latvia's competitiveness in the global market. By stimulating ecosystem cooperation and knowledge transfer, we increase the Latvian export competitiveness and foreign R&D intensive companies landing in Latvia.

Innovative businesses in Latvia are also supported by the three Innovation and Technology offices abroad based in Brussels, Geneva and Tel Aviv. All the offices have direct contact with the Latvian business community and a community of Research organizations to facilitate their R&D activities and international scientific collaborations. Each of the offices is specialized in their own support.



Egita Aizsilniece-Ibema

**as the head of Latvian office for
Innovation & Technology in Brussels
(LAT.TECH)**

has a specific focus on promoting European cooperation and participation in EU-funded initiatives for the Research and Innovation community in Latvia.



Alise Pika-Ozola

**as the head of Latvian office
for Innovation & Technology
in CERN, Geneva**

works to strengthen the R&D capacity of Latvian businesses through procurement and industry collaborative projects with major European research infrastructures, such as CERN and ITER, as well as with the United Nations.



Irina Rubinčika

**as the head of Latvian office
for Innovation & Technology
in Israel**

has worked towards advancing bilateral projects in innovation and technology development between Latvian and Israeli entrepreneurs.

DEEP-TECH in Latvia

Over the years Latvia has emerged as a regional hub for deep tech companies and startups, with a robust ecosystem fostering innovation across various sectors. With a strategic focus on global markets, the country is building the ecosystem on strong educational foundations and a collaborative industry-research-state model, which makes it an attractive location for deep tech development. To build a more supportive environment for businesses Latvia combines the triple helix (industry-research-state) innovation model with a bottom-up approach.



Latvia's smart specialization strategy focuses on five key areas, each leveraging the country's strengths to ensure global competitiveness.



**Photonics and Smart
Materials, Technologies
and Engineering Systems**



**Information and
Communications
Technologies (ICT)**



**Smart Energy
and Mobility**



**Knowledge-Intensive
Bioeconomy**



**Biomedicine,
Medical Technologies
and Pharma industry**

Photonics and smart materials, technologies and engineering systems

Historically and today, Latvia manufactures and assembles various electronic devices, including 5G routers and sensors, with expertise in nanoelectronics and semiconductor technologies. Latvia particularly excels in nanotechnology and polymer science. Latvia is also one of the world's leaders in optical fibre production, providing and innovating customized solutions for different applications, including telecommunications and medical technologies.

Value proposal:

Established Infrastructure: Institutions like the Institute of Solid State Physics excel in the field of polymer photonics while Riga Technical University holds world records in data centre interconnection technology using silicon photonics chips

High Technology Transfer Potential: Contributions to international consortias and active participation in the projects of ESA and CERN, underscores Latvia's commitment to advancing smart materials technology on a global scale.

Industry Collaboration: Presence of high-tech companies like Light Guide Optics, Mikrotik and Groglass, which specialize in advanced materials and technologies.

Did you know?

In December 2022, 12 partners from academia, industry and the public sector signed a Memorandum of Understanding (MoU), solidifying a commitment to developing semiconductor manufacturing capabilities in Latvia. The initial focus is on developing relevant skills in Latvia to support the broader aim of increasing EU independence from other global chip manufacturers and create EU based value chains in semiconductor industry.

Photo: GroGlass



Key innovators:

Light Guide Optics International: optical fiber manufacturing providing fibers, cables, and laser delivery systems for scientific, industrial, medical applications

GroGlass: developer and manufacturer of anti-reflective and high-performance coatings for glass and acrylic for electronics, displays and architecture

Sidrabe: For over 50 years, the company has designed and manufactured vacuum coating systems and developed unique thin-film technologies whilst working on contract R&D projects

Eventech: Develops event timer technology (time taggers) used in over half of the world's satellites, collaborating closely with the ESA and NASA.

LightPath Technologies: The company manufactures optical devices for the infrared spectrum and develops new, unique infrared materials. It also has metrology and design capabilities.

Information and Communication Technologies (ICT)

The ICT sector significantly contributes to Latvia's economy, with exports generating around 1.4 billion euros. Latvia is generally recognized for its strong capabilities in cybersecurity, providing advanced solutions and services to protect data and systems, as well as innovations in AI, IoT, and quantum algorithms. Latvia has made significant strides in drone technology, particularly in developing applications for various industries, including agriculture, logistics, and environmental monitoring. For example, "Meta City Riga" is a project where the City of Riga is working on its digital twin to integrate education, entertainment, and urban planning and provide a testing ground for startups to launch their solutions with real clients.

Value proposal:

Export Powerhouse: Latvia has a strong international market presence with software and hardware solutions, generating approximately \$1.4 billion in exports (2023). Many Latvian ICT products and services are innovative and patent-pending, placing Latvia globally among the top countries for patent activity in this domain.

Innovative Industry Ecosystem: Latvia is amongst the first countries globally to implement the 5G network and companies like LMT and Tilde are at the forefront of 5G and AI developments.

Strategic Initiatives: Innovative projects like "Meta City Riga" and VEFRESH provide a platform for urban planning and development. They allow private and public sector stakeholders to test solutions in real-world environments, making Riga a sandbox for the whole ecosystem.

Did you know?

In 2022, Latvia's leading scientists and academics in quantum technologies created the Latvian Quantum Initiative. The initiative aims to support knowledge, skills, technologies, and ideas related to practical applications of quantum physics, focusing on quantum algorithms and software, quantum sensors and quantum communication. By the end of 2025, Latvian telecoms company Tet is planning to finish work and make accessible quantum network for secure services to public sector institutions, businesses, and private individuals. In 2024, Latvia and 20 other European Union (EU) Member States signed a declaration on quantum technologies.

Photo: Mikrotik



Key innovators:

MikroTik: The company produces high-quality network hardware and software (routers, switches) popular worldwide and contributing to 1.8% of global trade.

SAF Tehnika: one of the world's leading manufacturers of microwave data transmission equipment, including microwave measuring devices and wireless IoT sensor systems.

LMT: Regional leader in 5G technology and IoT solutions, recognized for innovations and high-quality coverage.

Tilde: Specializes in natural language processing and AI, developing tools that enhance communication and accessibility.

RedFrog: With precisely tagged Augmented Reality overlays and any need to pre-map the room, the company develops a social networking platform based on Augmented Reality.

Smart Energy and Mobility

Latvia's strategic location, abundant natural resources, and commitment to renewable energy make it a competitive player in the smart energy and mobility sectors, positioning the country well for future growth and innovation. Latvia's geographical advantages, including a 500 km coastline, offer significant potential for offshore wind energy. The smart energy sector encompasses hydrogen initiatives, wind and solar energy, hydroelectric power, and ammonia-based energy solutions. It also focuses on producing, transporting, transforming, and utilising various other bioenergy sources. Latvian innovative mobility initiatives are transforming cities through the integration of electric transportation solutions, advanced public transit systems, bike lanes, and ride-sharing services.

Value proposal:

Renewable Energy Potential: ELWIND is an Estonian-Latvian cross-border offshore wind project. In it, Latvia and Estonia have selected locations in their respective parts of the Baltic Sea to tender for the rights to develop offshore wind farms starting in 2027/2028.

Technological Innovations: Companies like Aeronex and Enefit SIA are revolutionizing robot-enabled wind turbine maintenance, inspection and energy solutions.

Strategic Projects: Rail Baltica is a groundbreaking smart mobility project that integrates innovative infrastructure and digital technologies to create a sustainable, efficient railway system connecting the Baltic States with the European transport network.

Did you know?

Latvia is punching above its weight to become an innovative player in hydrogen technologies for energy storage and smart grid solutions. In September 2025, LIAA will host 2 important deep tech investor gatherings: EIC Scaling Club annual forum and The European Hydrogen Valleys 2025 international conference. Hydrogen Valleys play a key role and, jointly with Tech Tour, the conference will bring together main players across Europe. The programme is designed to foster meaningful connections, strategic partnerships, and (co-)investments within the hydrogen sectors.

Key innovators:

Aeronex: A world leader in robotic wind turbine maintenance and inspection services, Aeronex uses drones for efficient and safe inspections and maintenance of wind turbines.

Naco Technologies: have created nano-coating and new materials replacing the need for platinum and expensive materials in the production and usage of hydrogen at massive scale.

Electrify: specializes in the production of electric minibuses and have been involved in several projects to electrify public transport in Latvia.

Vizulo: Specializes in illuminated water surface imaging, which can enhance mobility solutions in urban environments.

Fokker Next Gen: Based in Liepāja, the company is working on an R&D project to design and construct a new type of aircraft with hydrogen engine technology. This will enable the next generation of eco-friendly aviation, where a flight of 2,500 km is possible without any CO2 emissions.

Photo: Aeronex



Knowledge-Intensive Bioeconomy

With the strategic development of a knowledge-intensive bioeconomy, Latvia aims to transform the country into an innovation leader in the Baltic States for the sustainable management and use of natural resources. Using satellite and LiDAR technologies for accurate forest inventory and management and developing new wood materials with a focus on CO₂-storing materials are just some of these innovative approaches Latvia uses to balance economic growth with environmental protection.

Value proposal:

Cross-sector innovations: The integration of sustainable practices like zero-waste and biorefining with advanced scientific innovation across multiple sectors, such as forestry, agriculture, and biotechnology.

Robust research ecosystem: Research institutions like the Latvian Biomedical Research and Study Centre and the Latvian State Institute of Wood Chemistry are key players in developing and commercializing high-value-added bio-based products and services.

Reducing carbon footprint: By 2030, Latvia plans to become a regional leader in the knowledge-intensive bioeconomy, which will help reduce the impact of climate change.

Did you know?

The company Fibenol has confirmed plans to invest €700 million euros in Latvia to build a commercial scale biorefinery plant. Biorefining is a type of timber processing that converts biomass into functional biomaterials like wood sugars and lignin. It offers sustainable alternatives to petroleum products such as phenol, bitumen, and polythene. Biomaterials produced at the Fibenol biorefinery will also contribute to further innovation along the entire product value chain.

Photo: SpirulinaNord



Key innovators:

Golden Fields Factory: Producing high-quality animal feed with local ingredients like peas and beans, which are grown and sourced only in the Baltic region.

Aloja-Starkelsen: A leading food ingredient manufacturer in Latvia, specializing in the production of potato starch and various food additives using local resources.

Biolat AS: An innovative company producing biologically active products from tree needles and young shoots, using environmentally friendly zero-waste technologies.

Fluffy Unlimited: applies green chemistry principles and transforms otherwise wasted materials like sheep wool and chicken feathers into sustainable products.

SpirulinaNord: the company grows spirulina in Latvia, in unique bioreactors created especially for this purpose. Innovative cultivation technology ensures the highest product quality, purity and nutritional value. In addition, it has a neutral taste and smell!

Biomedicine, Medical Technologies and Pharma industry

Latvia has established itself as a strong player in biomedicine and medical technologies in the Baltic and broader region due to its historically strong pharmaceutical sector and current excellence in big data research, precision medicine solutions, and medical technology innovations. Other key areas include microbiome and biomarker research, cancer prevention and treatment, biomaterials development, medical technologies, and innovative telemedicine solutions.

Value proposal:

Research Excellence: Strong fundamentals with research institutions that are regional leaders in drug design and molecular biology, including Latvian Institute of Organic Synthesis and the Latvian Biomedical Research and Study Centre.

Cutting-Edge Technologies across value-chain: Strong home-grown pharma companies (Grindex, Olpha) exporting globally with thriving startups developing advanced health technologies, including organ-on-chip systems and AI-driven clinical trial processes.

Laboratory Equipment Production: Local companies (Biosan, ELMi) developing and manufacturing sophisticated laboratory equipment for various biomedical applications.

Did you know?

Latvia has established a new Artificial Intelligence Centre. The newly founded centre unites the strengths of the public sector, academia, and the ICT industry to promote the safe, ethical, and future-oriented development of artificial intelligence—boosting the country's competitiveness, productivity, and digital sovereignty. Several Latvian startups like BirgerMind, SoftMedico, Vigohealth are developing AI-powered health applications, and the establishment of an AI centre in Latvia will further advance the development of personalised healthcare across the country.

Key innovators:

Cellboxlab: Develops “organ-on-chip” technology—miniature organ replicas outside the human body, or in vitro test models, used for studying various biological processes and drug testing.

Sepsiscan: Develops a medical diagnostic device for the early detection of sepsis. It is intended for use in hospital intensive care units to help identify sepsis more quickly and decide on the appropriate course of antibiotics, thereby reducing mortality risk.

Bdetect: Develops a non-invasive melanoma detection device that combines multispectral data with AI

to improve skin cancer detection and save lives.

Biosan: develops and manufactures equipment for sample mixing, centrifugation, thermostats, cell cultivation, DNA workstations, biological safety devices, thermostatic control, spectrophotometry, and fluorimetry.

Longenesis provides solutions for managing and analyzing medical data using blockchain and artificial intelligence, helping medical institutions and research organizations manage patient data more efficiently.

Photo: Bdetect



DEEP-TECH Startup Scene

One of the most exciting developments of 2024 was the selection of three new venture capital fund managers, unlocking €62 million for early-stage startups in Latvia — the largest investment of its kind to date. With the funds now gearing up, their impact is set to unfold in 2025. Coupled with the EU's new MiCA regulatory framework, Latvia is becoming an increasingly attractive destination for fintechs and startups operating in advanced technological fields. Thanks to strong support from the Latvian government and the Investment and Development Agency of Latvia (LIAA), local startups are successfully raising funding from European sources and drawing growing interest from international venture capital.



Latvian Deep Tech Startups to Look Out For



Origin Robotics

Latvian startup transforming small-scale automation with a compact, autonomous robot for precise material handling. Designed for labs and manufacturing, it makes industrial-grade automation accessible to smaller businesses — positioning Origin as a key player in the Baltic region's robotics landscape.



Jeff App

is a fast-growing Latvian fintech startup making credit access more inclusive across Southeast Asia. By using alternative data and AI-driven user profiling, Jeff App connects underbanked individuals with suitable financial services — even if they lack traditional credit histories. One of Latvia's most promising international fintech ventures.



WeedBot

is a Latvian agri-tech startup developing precision laser weeding robots to help farmers eliminate weeds without chemicals. By combining AI and robotics, WeedBot offers a sustainable, high-tech alternative to herbicides — advancing cleaner, more efficient farming across Europe.



PrintyMed

pioneers biomimetic spider silk solutions for advanced medical applications, combining nature-inspired innovation with precision engineering. Their sustainable and scalable production methods offer an eco-friendly alternative to synthetic materials, minimizing environmental impact without compromising quality.



Bdetect

Latvian health-tech startup developing AI-powered breath analysis solutions for early disease detection. Their non-invasive technology enables fast, accurate screening for conditions such as lung cancer — offering a breakthrough approach to preventive healthcare.



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