

Lithuanian Life Sciences sector: facts and figures

2023



Lithuania
Co-create



Invest
Lithuania



Dear reader,

Despite the persistent global pandemic and ongoing macro and geopolitical challenges in 2022, Lithuania has managed to attract a record number of foreign direct investment (FDI) projects. More specifically, we've secured as many as 57 investment projects, valued at €134.5M in total, which will lead to the creation of 5,000 jobs within the next three years.

Moreover, positive business growth was observed among foreign companies already present in Lithuania, with 27 of them announcing plans for local expansions. This indicates that forecasts for the local investment environment remain positive.

Last year, the Life Sciences sector grew by 22%, making it one of the most advanced in Central and Eastern Europe (CEE). Particularly strong in BioTech and medical devices, Lithuania is the region's top performer in university-business cooperation for R&D. Its highly skilled workforce and long-standing expertise make the country an attractive location for manufacturing and R&D operations.

In fact, last year Lithuania ranked third in the CEE region for talent attraction and retention. The country is strongly focused on raising employee qualification levels and promoting gender balance and diversity. This is reflected in the fact that over 60% of the scientists and engineers working in the local market are women.

To drive future innovation, Lithuania is providing centralised patient data and access to high-level tech talent for biopharma companies looking to pilot their AI-related projects locally. The country's regulations, including hospital exemption, are also favourable to the development of ATMPs. Additionally, the agile Life Sciences community, which is comprised of both private and public sector stakeholders, is prioritising flexibility, speed, and decisiveness in its drive to accommodate new investments and propel industry evolution.

Karolina Karl
Head of Life Sciences team



Key facts

Lithuania maintains a strong position in global rankings and is listed among the most developed countries in the world:

1st A bar chart with three bars of increasing height, the first bar is the tallest and is colored blue, representing the 1st rank.

in the EU according to the 2022 Greenfield FDI Performance Index. Given the size of Lithuania's economy, it attracts 5.7 times more projects than the size of its GDP would suggest¹

1st An icon showing two stylized human figures, one green and one white, representing a diverse workforce or gender balance.

in the CEE in the Gender Gap Index (11th globally)²

2nd A bar chart with three bars, the second bar from the left is the tallest and is colored blue, representing the 2nd rank.

in the IMD World Talent Ranking (in the < \$20,000 GDP/capita category)³

2nd An icon of a green padlock, representing security or protection.

in the National Cyber Security Index⁴

4th A bar chart with four bars, the fourth bar from the left is the tallest and is colored blue, representing the 4th rank.

in Europe in the Economic Freedom Ranking⁵

4th An icon showing two overlapping circles, one blue and one white, representing innovation or research.

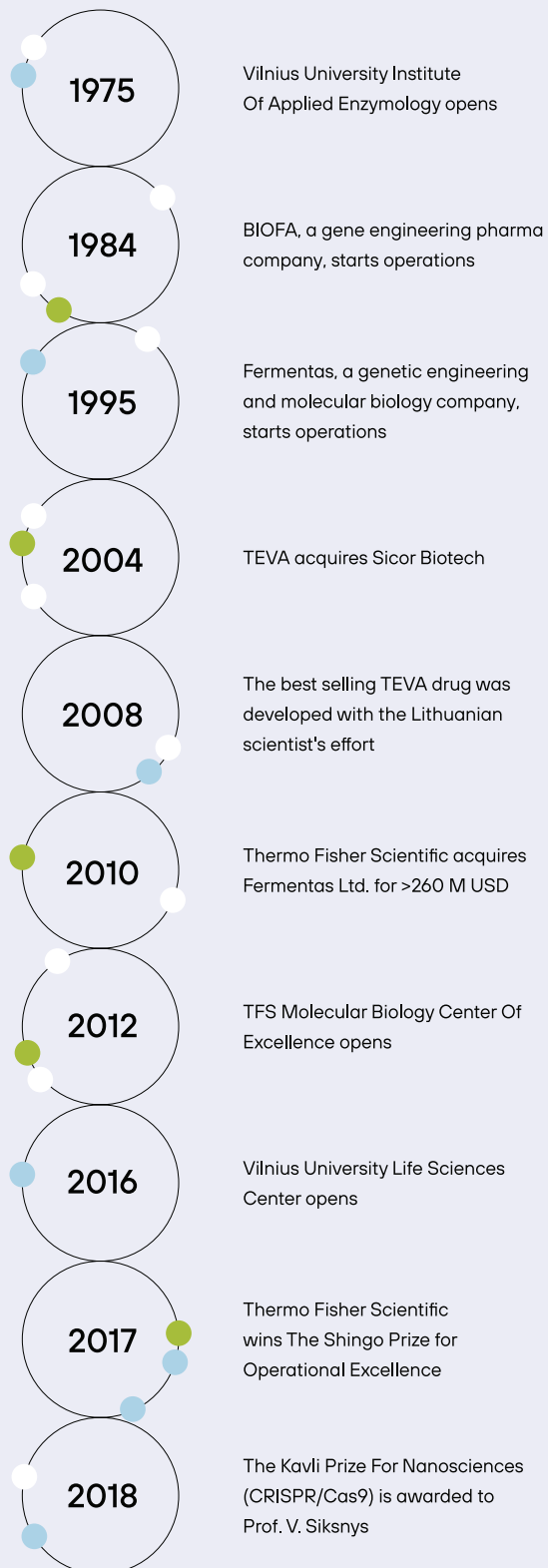
in the CEE in the Innovation Scoreboard 2022⁶

8th An icon showing a green mountain range, representing competitiveness or economic strength.

in the International Tax Competitiveness Index, which ranks 36 OECD countries⁷

Source 1: FDI Intelligence, 2022 / Source 2: World Economic Forum, 2022 / Source 3: IMD World Talent Ranking, 2021 / Source 4: National Cyber Security Index (E-Governance Academy), 2022 / Source 5: Fraser Institute, 2022 / Source 6: European Commission, 2022 / Source 7: International Tax Competitiveness Index, 2022

Life Sciences at a glance



Ambition

5% 
of GDP generated from Life Sciences by 2030⁸

22% 
average annual sector growth, accounting for about 2.7% of GDP revenue for Lithuania's Life Sciences sector is among the fastest-growing in Europe⁹

87% 
BioTech and pharma sector growth in 2022, among the highest growth rates in the EU¹⁰

1 in 4 
students enrol in Life Sciences study programmes¹¹

95% 
of Life Sciences products manufactured in Lithuania are exported. The main export markets are the USA (29%) and Germany (14%)¹²

Source 8: Lithuania's Life Sciences strategy, approved by the Parliament in September 2018, Source: LBTA, 2023 / Source 9: LBTA, 2023 / Source 10: EIMIN, 2022 / Source 11: Enterprise Lithuania, 2021 / 12 - Source: EIMIN, 2022



Life sciences hub

Lithuania's Life Sciences hub comprises the capital Vilnius and the country's second-largest city Kaunas. Both cities are equipped with all the infrastructure necessary to support the Life Sciences industry, including universities, hospitals, and science parks. What is more, the convenient 1-hour commute between Vilnius and Kaunas helps to further expand the talent pool relevant to Life Sciences companies.

Historically, Vilnius has been focused more on red BioTech, with companies such as Thermo Fisher Scientific and TEVA having a presence there. Kaunas, on the other hand, has a long-standing proficiency in engineering, making it a hub for medical device manufacturing.

Source 1: Statistics Lithuania, 2018
Source 2: Ministry of Education and Science, 2016-2017

Two leading cities form the Life Sciences hub:

Kaunas

Santaka Science Valley

- National Entrepreneurship and Innovation Centre
- Technology Transfer Centre
- 9 research institutes
- Advanced research in organic chemistry, medical technologies, nanotechnologies, robotics

1H DRIVE

Vilnius

Santara Science Valley

- 5 research institutes and 4 private R&D facilities
- 3 GMP-compliant pharma plants
- Academic training centers and open labs
- Advanced research in medicine, physics, chemistry and biochemistry photonics, nanotechnologies

1.4M inhabitants¹
100K students²



Sector profile

Lithuania's cutting edge Life Sciences sector is home to 200+ companies involved in manufacturing, R&D or clinical trials, mostly in the following areas: BioTech, precision medicine, MedDev & MedTech, as well as industrial BioTech, such as FoodTech and other novel technologies.

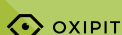
BioTech

ATMPs / Cell and gene therapies /
Enzymes / Proteins / DTx / AI



MedTech and MedDev

Single-use devices / Class I / Class II /
Software / Plastics and other components



Industrial BioTech

Alternative proteins / FoodTech /
Bioenergy



BioTech

Lithuania's expertise in biotechnology is concentrated primarily in cell and gene therapies, enzymes, proteins, and pharma, providing companies with access to a highly skilled workforce in an untapped market.

The most promising sector to emerge in recent years is cell and gene therapy. Three bioscience institutes at Vilnius University, along with the Centre for Innovative Medicine, comprise a hub for cell and gene therapy expertise. The country is also home to such local companies as CasZyme, which is led by Prof. Virginijus Šikšnys, winner of the 2018 Kavli Prize for the CRISPR-Cas9 gene-editing nanotool. Froceth – another homegrown company – is focused on developing advanced cell therapy solutions for cancer immunotherapy, tissue regeneration, and the treatment of multiple sclerosis.

"Lithuania has an amazing talent pool that's made accessible through an extensive university network and close partnerships with the government. We are incredibly grateful for the opportunities we've had so far to work together and find mutual success.

With our investment in the infrastructure and positive support of our partners, we have been able to drive our mission as a company and support our customers in addressing the biggest healthcare challenge [Covid-19 pandemic] of our lifetimes".

Peter Silvester, Senior Vice President and President, Life Sciences Solutions

ThermoFisher
SCIENTIFIC

MedDev and MedTech

The medical device industry is a vital component of Lithuania's Life Sciences ecosystem, particularly when it comes to R&D and the manufacturing of single-use and Class I & II devices.

This intersection of medical and engineering expertise, alongside robust software development and manufacturing capabilities, has positioned Lithuania as an attractive location for companies in this sector.

On top of that, expertise in medical diagnostics, especially in the application of AI/ML in imaging, 3D printing, sensors, IT, and laser technologies, make it an excellent option for MedTech projects. The country's research in medical technologies is focused on areas such as biomedical diagnostics and monitoring systems, electronic security systems, electronic device analysis and synthesis, and electronic system quality.

Lithuania's AI ecosystem is expanding rapidly, with several emerging AI startups, including Ligence, an AI-based cardiology imaging analysis tool, and Oxipit, which provides AI solutions for global medical imaging. In 2018, Oxipit received CE certification for its ChestEye radiology imaging suite and is currently undergoing the FDA approval process.

"Lithuania in general, and Kaunas in particular, are highly compatible with Hollister's work culture, and located in close proximity to our customer base.

In addition, they offer all the technical competencies we require, as well as a favourable investment climate, which was the key criterion in our location scouting efforts".

V. George Maliekal,
President and Chief Executive Officer

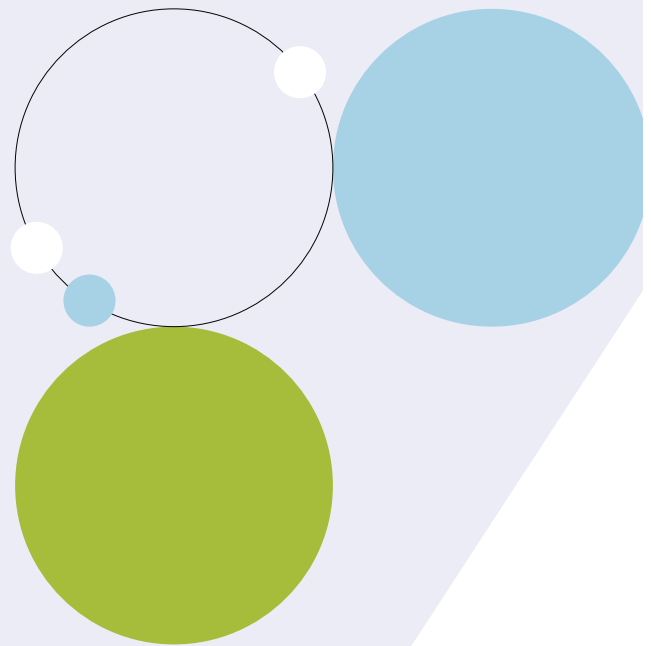
 **Hollister**

Industrial BioTech – an emerging sector

The industrial BioTech sector is an emerging field with the potential to revolutionise the production of many different products, from novel foods to pharmaceuticals. Using BioTech tools and techniques, industrial BioTech companies are increasingly able to design and optimise microbial systems that produce high-value products in a more sustainable and cost-effective manner than traditional chemical-based manufacturing processes.

As a result, the industrial BioTech sector is expected to grow significantly in the coming years, driving innovation and economic growth across multiple industries. Roquette Amilina is a prime example of how Lithuania is facilitating the sector's development.

The company is a global player in the production of potato-based starches and derivatives for various industries, including food, paper, and textiles. Success stories like this are putting Lithuania on the map as a destination for BioTech investment and innovation.



Startup ecosystem

Lithuania's startup ecosystem boasts several promising players in the Life Sciences market. Droplet Genomics / Atrandi Biosciences focuses on developing microfluidics technology and instruments for drug development, single-cell research, and other applications, while Biomatter Designs uses machine learning to power its platform for next-generation computational protein design and discovery.

When it comes to digital health, Kilo Health is the startup to watch. As of 2022, Kilo Health is the second fastest-growing company in Europe on the FT 1,000 ranking, and the second-fastest growing company in Central Europe on the Deloitte Technology Fast 50 list.

The main driving force behind the ecosystem's rapid growth is the Lithuanian talent pool. For instance, since 2015, teams from Vilnius University have taken part in the world's largest synthetic biology competition iGEM, which regularly features students and researchers from 250+ leading universities, including MIT, Harvard, and William and Mary University. In 2017 and 2020, the Vilnius University team won the competition's Grand Prize and received gold medals for Best Project in the Field of Environmental Protection and Best Synthetic Part Collection.

It's also important to note that while the companies already established in Lithuania have been proactive in attracting top-level researchers, the market remains unsaturated and could easily accommodate several more international players.



Clinical trials

Clinical trials is another area that offers an attractive business environment. Over 90 international pharma and medical companies are already conducting (mostly Phase III) trials in the country, with the main research areas being gastroenterology, oncology, and endocrinology.

- Getting approval for a clinical trial in Lithuania usually takes around 60 days.
- Lithuania is subject to European Medicine Agency regulations.
- In 2018, Lithuania signed the FDA mutual recognition agreement (MRA), under which the State Medicine Control Agency (SMCA) is able to conduct inspections that meet US requirements.
- TOP 10 companies conducting clinical trials in Lithuania:

abbvie

Lilly

ARENA
PHARMACEUTICALS

Roche

NOVARTIS

REGENERON

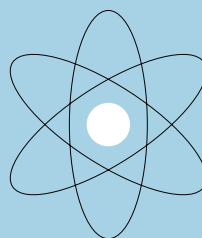
BAYER

SANOFI

Bristol Myers Squibb

janssen

Sources: Clinical Trials Board of Lithuania, 2020; EU Clinical Trials Register, 2021



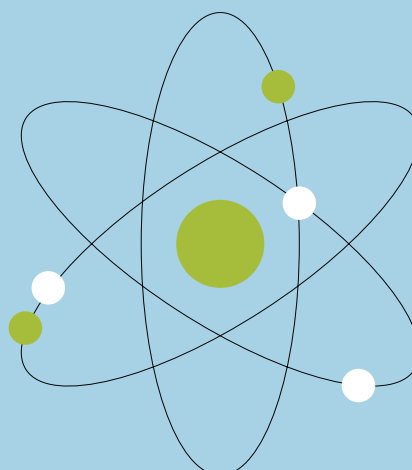
Global partnerships

Scientific partner organisations in Lithuania

The sector has gained global recognition and is fully aligned with the broader R&D goals of the European Union (EU). The Vilnius University Life Sciences Center (VU LSC) – a key player in this field – has recently signed a framework agreement with the European Molecular Biology Laboratory (EMBL) to establish the VU LSC-EMBL EMBL Partnership for Genome Editing Technologies.

In addition to this, Lithuania is actively involved in the European EIT Health Regional Innovation Scheme, which is designed to boost innovation in countries with modest or moderate innovation performance. Moreover, in 2019, the European Council for Nuclear Research (CERN) selected Lithuania to host its only business development center in the Central and Eastern European (CEE) region.

Having signed an agreement with Lithuania's then-Minister of the Economy, Virginijus Sinkevičius, the organization is set to build two incubators located in Vilnius and Kaunas.



Life Sciences
Center

Government support

Large-scale investments*

The Lithuanian Parliament has adopted a new package of laws which came into force on 1 January 2021. This offers significant new tax incentives for large-scale projects, including a 0% corporate tax for 20 years and more streamlined key processes related to land acquisition, planning, and migration.

Free Economic Zones

Lithuania has seven Free Economic Zones in various locations across the country. These provide unbeatable conditions to develop businesses by offering ready-to-build industrial sites with all the necessary physical and/or legal infrastructure, support services, and tax incentives.

Businesses that choose to base themselves in these zones enjoy a 0% corporate tax during their first 10 years of operation, rising to no more than 7.5% in the following six years. In addition, these businesses are exempt from tax on dividends and real estate tax.

*Only applicable to large-scale investment projects that include no less than €20 million in CAPEX (€30 million when investing in Vilnius) and create no less than 150 new full-time jobs (200 when investing in Vilnius).

Investment*

The Lithuanian Government fosters sustainable investment by covering companies' expenditures on capital investment. Companies considering foreign direct investment in Lithuania may qualify for state funding, which is negotiated on a case-by-case basis in compliance with EU and national legislation.

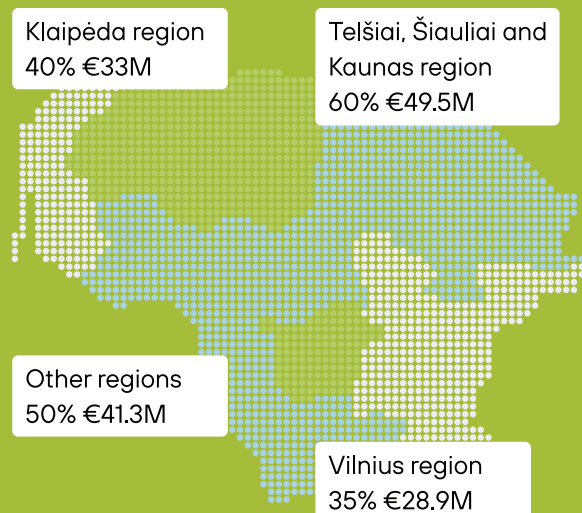
FDI+ financial aid intensity

Projects evaluated based on 3 criteria:

- Impact on economy
- Qualitative assessment
- Quantitative assessment

Maximum CAP per project:

From €28.9M in the Vilnius region to €49.5M in Telšiai, Šiauliai and Kaunas region



*applicable on the project base

Infrastructure for Life Sciences projects:



Vilnius City Innovation Industrial Park

Life Sciences and digital innovation cluster

GLP-compliant molecular biotechnology laboratory complex

800 sq. m. open access bioinformatics calculations centre

Kaunas FEZ

534 ha territory

€1.35 billion of investment attracted

Near Kaunas international airport

Kaunas Aleksoto Innovation Industrial Park

Brownfield: a 10,000 sq. m. building with flexible-use spaces

Space in the central part of the city

Status of a project of state-level importance

Klaipėda FEZ

Next to Northernmost ice-free Baltic and EU port

Accounts for 3-5% of the country's exports

fdi Intelligence's speed of investor settlement award

Panevėžys FEZ

Halfway between the capitals Vilnius and Riga

1.5 hour distance from 3 international airports

Trans - European highway connection

R&D focused support

To promote R&D, the Lithuanian Government offers companies the opportunity to declare related expenses as tax-deductible three times during the period in which they have been incurred.

Patent Box

A reduced corporate tax rate of 5% applies to profits from copyrighted software developed by Lithuanian subsidiaries, as well as inventions that meet patentability criteria.

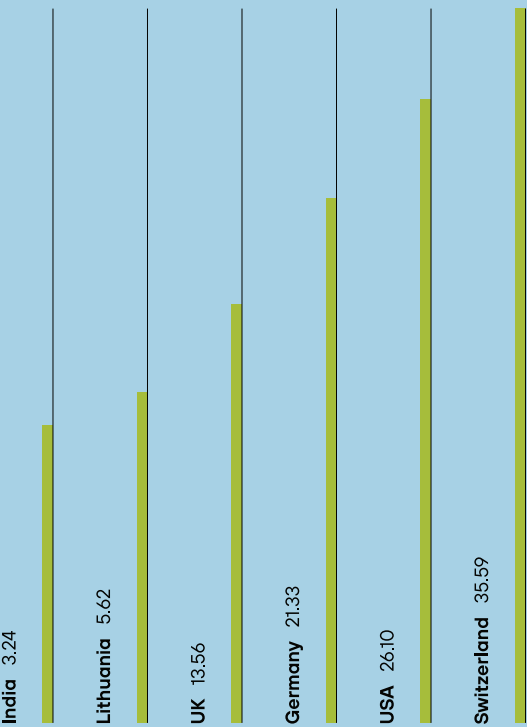
Cost advantages: hypothetical scenario

The table given below presents a comparison of the total average range of annual operating costs for a hypothetical BioTech-pharma manufacturing facility. The projection below is based on a team of 350 qualified specialists, and the operating costs have been calculated based on labor costs only.



The data presented provides valuable insights into the labor costs associated with running a manufacturing facility in Lithuania, as compared to India, the UK, Germany, the USA, and Switzerland.

Labour Cost (Eur/Million)





Position	Employees
Production Operative (Skilled)	103
Laboratory Specialist	70
Scientist	55
Production Operative (Highly Skilled)	40
Production Operative (Unskilled)	25
Laboratory Technician	15
R&D Team Leader	12
Head of Research and Development	10
Quality Control Specialist	8
Secretary	7
Facilities/Office Services Specialist	2
Head of Manufacturing	1
Production Manager	1
Quality Control Manager	1
Production Operative (Skilled)	103
Full team	350



How can we help?

Invest Lithuania is the official agency for Foreign Direct Investment and Business Development. We'll partner with you to get your business set up and off to the best possible start:



Decision making

- Tailored in-depth market and industry insights
- Advice on business costs
- Information on the local labor and legal framework



Establishing your business

- Intros and meetings with key market players and relevant governmental institutions
- Sourcing brownfield and greenfield locations for your project
- Administering governmental financial support



Business development

- Assistance with individual problems
- Lobbying for greater governmental support

Life Sciences Team



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