Polish Investment
& Trade Agency
PFR Group

The life science sector in Poland

Status, ecosystem,
and opportunities for growth

2025

AMERICAN CHAMBER OF COMMERCE IN POLAND
INFARMA
bioinmed
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HAYS

CONTENTS

FORWARD

As Deputy Chairman of the Polish Investment and Trade Agency (PAIH), I am honored to present this report on the Life Science sector in Poland – an area that is rapidly becoming a key pillar of the Polish economy and is drawing increasing attention from global investors. With its dynamically evolving innovation ecosystem, attractive investment climate, and highly skilled talent pool, Poland is emerging as an important player in biotechnology, pharmaceuticals, regenerative medicine, and personalized healthcare.

This report aims to provide a comprehensive overview of the current state of the Life Sciences sector in Poland, outline its key components, and highlight growth opportunities that could serve as major drivers of development in the coming years. Thanks to favorable macroeconomic conditions, innovation-driven initiatives, and robust government support, Poland offers a conducive environment for investment, particularly in fast-growing areas such as biotechnology and pharmaceuticals.

In the sections that follow, we will discuss Poland's macroeconomic landscape as an investment destination, the availability of skilled labor within the Life Sciences sector, and opportunities for fostering investment growth through support programs. Additionally, we will introduce the Strategic Technologies for Europe Platform (STEP), a crucial tool for investors seeking promising opportunities in Poland.

Through collaboration with partners such as PAIH, Poland is steadily strengthening its position on the global Life Sciences map. The purpose of this report is not only to showcase Poland's current strengths but also to identify future directions for development that will further enhance the growth of this vital sector in our country.

This report is a joint effort of our partners' commitment: the American Chamber of Commerce in Poland (AmCham), the Employers' Union of Innovative Pharmaceutical Companies INFARMA, the Polish Union of Innovative Medical Biotechnology Companies BioInMed, the Association of Biotechnology Companies BioForum and the global recruitment firm – Hays. The joint initiative resulted in a multi-dimensional approach to the sector, providing valuable knowledge for a wide range of recipients of this publication.

I wish you an enjoyable read.

Paweł Pudłowski
Deputy Chairman of the Board
Polish Investment and Trade Agency

I WHY POLAND

1.

Poland's macroeconomic overview

Demographics and population trends

Poland remains one of the most dynamically developing countries in Central and Eastern Europe, with a **population of 37.56 million** and a well-balanced urban-rural distribution[1]. The country has a highly skilled and educated workforce, with a growing number of professionals in sectors such as **technology, engineering, and business services.** Poland's demographic structure ensures a steady supply of talent, making it a preferred destination for investors seeking a competitive labour market with high productivity levels.

Labour market and workforce availability

Poland maintains a relatively low unemployment rate, recorded **at 5.4%**[2] in January 2025. The employment rate, however, has slightly declined due to structural shifts in the economy, automation, and changes in demand for certain skill sets. Key labour market indicators include:

> Employment level: **6.455 million** full-time equivalent positions (-0.9% Y/Y)
>
> Workforce participation rate: **62.4%** (steady compared to 2024)

Poland's access to a highly skilled labour force continues to attract foreign investors. Additionally, the country benefits from an influx of foreign workers, with nearly 1 million registered foreign employees, predominantly from Ukraine, Belarus, and Central Asia.

Economic growth and GDP trends

Poland's GDP reached PLN 3,410.14 billion in 2023, marking a 0.2% growth compared to 2022. However, the economy is expected to recover strongly in 2024 and 2025.

According to the preliminary estimate, the increase of real gross domestic product (GDP) in 2024 was 2.9%[3] and forecasts project 3.6% growth in 2025, driven by:

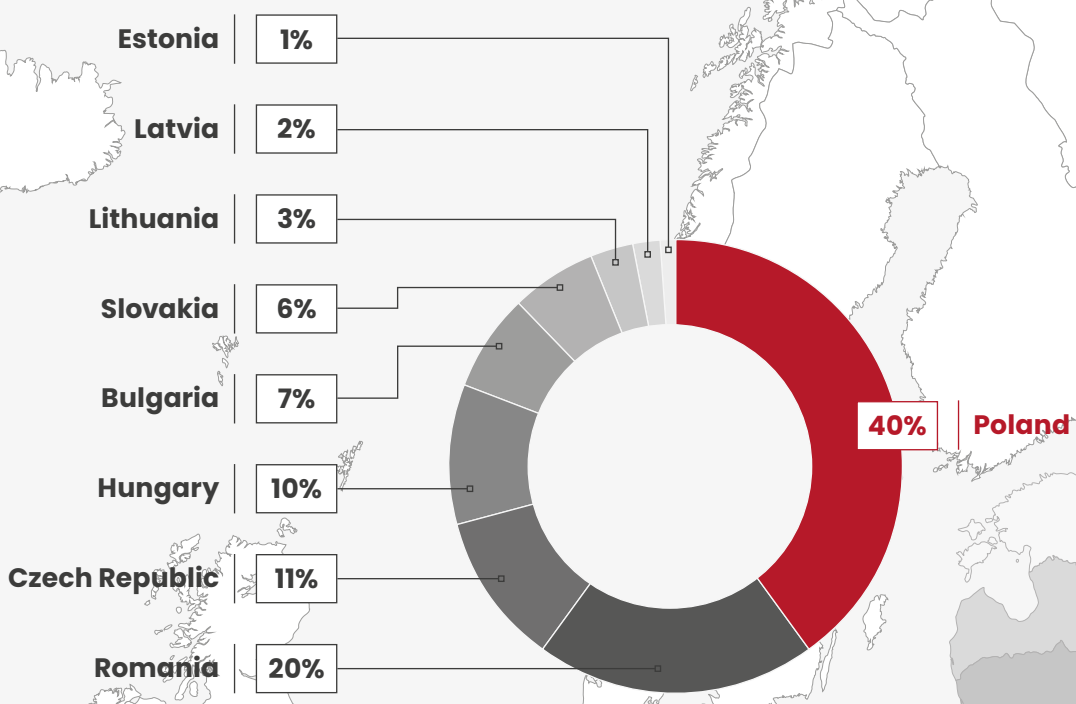
- Strong domestic demand, supported by rising wages and private consumption
- Increased public investments, particularly in infrastructure and defense

[1] Poland's Central Statistics Office, 2025. *Population and labour market data.* Retrieved on April 11th, 2025, from: https://stat.gov.pl/en/topics/other-studies/informations-on-socio-economic-situation/statistical-bulletin-no-32025,4,173.html
[2] Trading Economics, 2025. Poland Unemployment Rate. Retrieved on April 11th, 2025 from: https://tradingeconomics.com/poland/unemployment-rate
[3] Poland's Central Statistics Office, 2025. *Gross Domestic Product in 2024 – Preliminary estimate.* Retrieved on January 30th, 2025 from: https://stat.gov.pl/en/topics/national-accounts/annual-national-accounts/gross-domestic-product-in-2024-preliminary-estimate,1,14.html

Pie chart 1

Demographics and population trends in Poland

Population of CEE countries



Largest country
in Central Eastern Europe

37,56 mln
population (5th in EU)

59,5%
of the population in cities

23 mln
Poles of working age

39
number of cities above 100,000 inhabitants

Source: PAIH data based on Poland's Central Statistics Office, 2025

» Resilient export performance, despite global economic uncertainties

» Continued foreign direct investment (FDI) inflows, reinforcing Poland's role as a regional economic hub

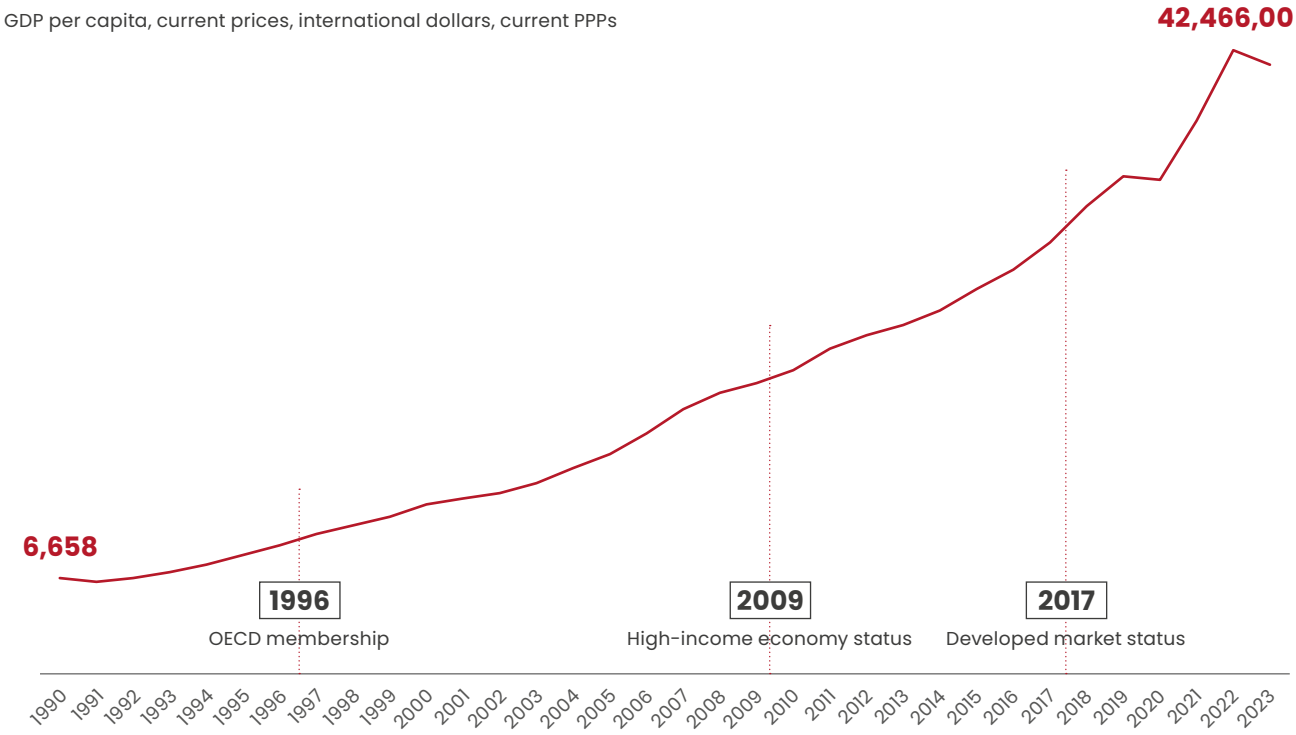
Poland remains the **sixth-largest economy in the European Union (EU)** and has experienced a threefold increase in GDP over the last 20 years, demonstrating its remarkable economic transformation since joining the EU in 2004[4].

[4] The Polish Investment and Trade Agency: https://www.paih.gov.pl/en/why_poland/economic_stability_and_a_strong_economy/

Graph 1

Poland's economy

Three decades to become Europe's most successful economy



Between 1990-2022, Poland recorded one of the **highest GDP per capita growth rates in the OECD and EU countries**

Poland was the only economy in Europe to stave off the recession

0.2%
real GDP growth in 2023

654%
In the years 1990-2023 Poland's **economy grew by 654%**

Source: PAIH data based on the World Bank Group data, 2024

Industrial production and foreign trade

Poland is a European leader in industrial production, with robust **manufacturing, automotive, biotechnology, and technology sectors.** The country's **industrial output** continues to strengthen, with key sectors showing impressive growth:

Intermediate goods:
+4.0% Y/Y

Durable consumer goods:
+3.3% Y/Y

Investment goods: consistently attracting new capital and driving modernization

In **foreign trade,** Poland enjoys a **positive trade balance,** with exports exceeding **PLN 1.5 trillion**[5] annually. The country is recognized for its high-value exports in the following sectors: **machinery, automotive, biotech solutions, pharmaceuticals, food processing, and IT services,** reinforcing its position as a key trading partner within the EU and globally.

Inflation and monetary policy

Inflationary pressures in Poland have been gradually stabilizing, with consumer prices rising by **4.7% Y/Y** as of December 2024[6].

The National Bank of Poland (NBP) has maintained its reference interest rate at 5.75% since October 2023, prioritizing inflation control while ensuring economic stability.

Key inflationary drivers include:

Food prices: **+4.8% Y/Y**

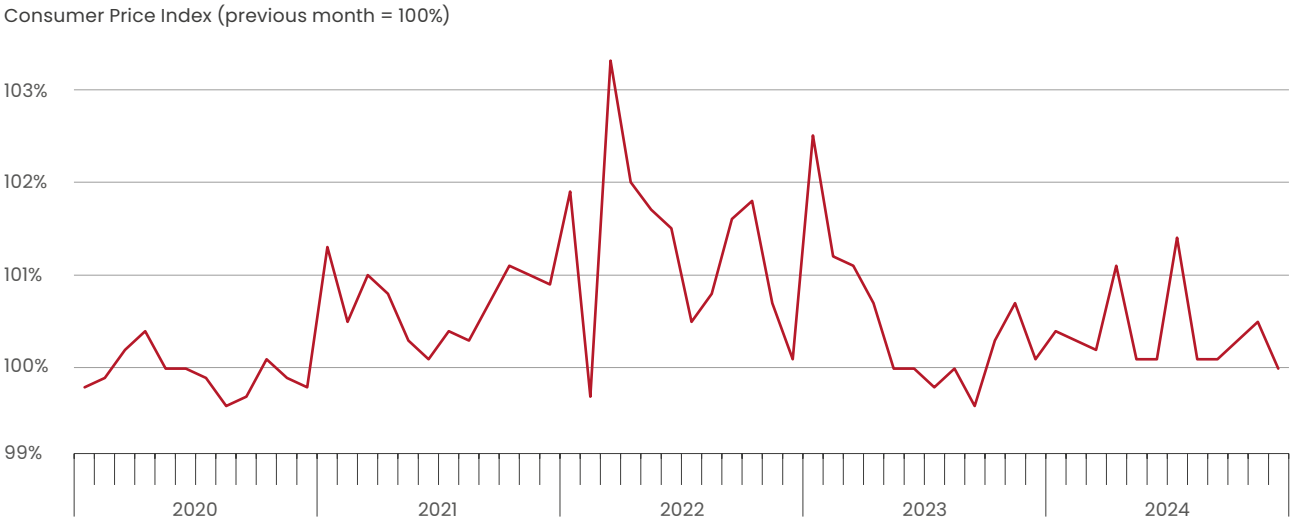
Energy prices: **+7.2% Y/Y**

Housing and utility costs: **+5.1% Y/Y**

[5] Poland's Central Statistics Office, 2023. *Poland's Concise Statistical Yearbook 2023*. Retrieved on May 7th, 2025 from: https://stat.gov.pl/obszary-tematyczne/roczniki-statystyczne/roczniki-statystyczne/maly-rocznik-statystyczny-polski-2023,1,25.html
[6] Poland's Central Statistics Office, 2025. *Macroeconomic Indicators*. Retrieved on May 7th, 2025 from: https://stat.gov.pl/wskazniki-makroekonomiczne

Graph 2

Consumer Price Index



Source: PAIH data based on the World Bank Group data, 2024

Foreign Direct Investment (FDI) and investment potential

Poland continues to attract substantial foreign direct investment (FDI), positioning itself as one of Central and Eastern Europe's top investment destinations. In 2023:

#1 in Central and Eastern Europe: Poland ranked first in the region for the number of FDI projects.

229 FDI projects: A total of 229 foreign investment projects were recorded in 2023.

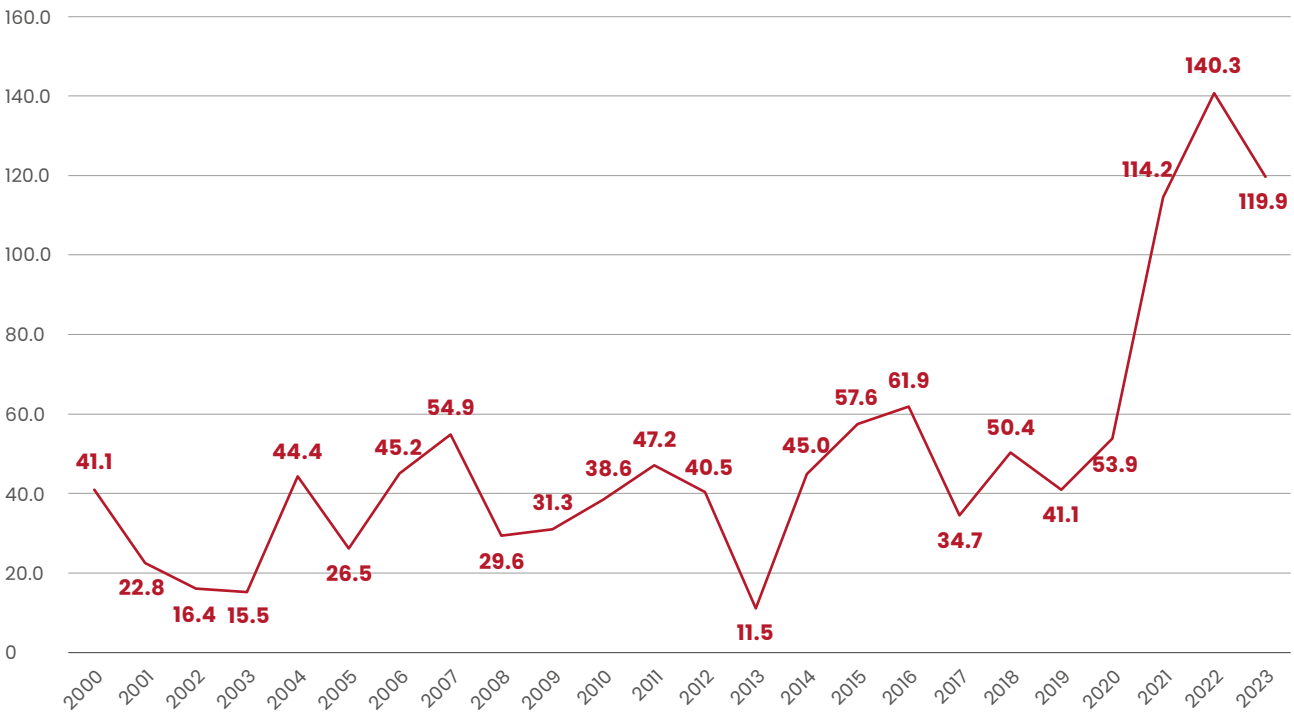
$28.6 billion in FDI inflows: Despite global slowdowns, Poland secured $28.6 billion in FDI – only a 3% year-on-year decline, compared to Germany's 12% drop.

Nearshoring hotspot: In a Maersk / Reuters survey, 23% of respondents identified Poland as a preferred nearshoring destination in Europe.

According to the latest EY Attractiveness Survey, Poland ranks 6th in Europe for investment attractiveness[7] and is an emerging leader in nearshoring and supply chain relocation, benefiting from its strategic geographic position and well-developed infrastructure.

Graph 3

FDI inflow to Poland in 2000–2023 (PLN billion)



Source: PAIH data based on the National Bank of Poland data, 2024

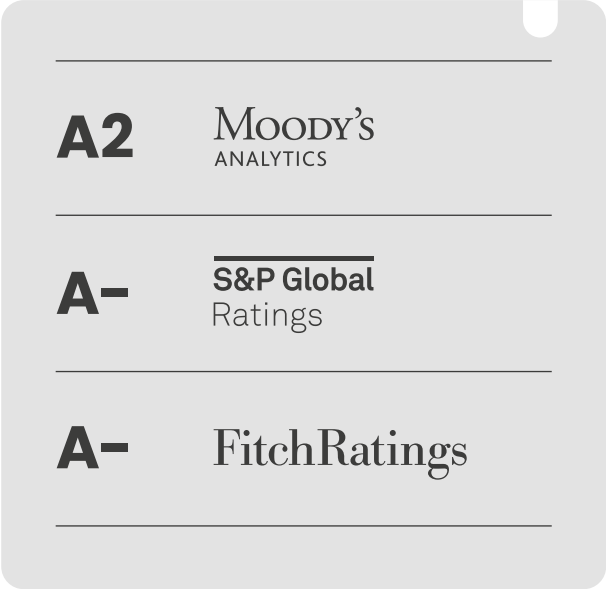
[7] Teigland, J., Bax, H. J., & Lhermitte, M., 2024. *Why optimism remains in Europe as foreign direct investment declines.* EY: https://www.ey.com/en_gl/foreign-direct-investment-surveys/optimism-remains-in-europe-as-foreign-direct-investment-declines

Macroeconomic stability

Poland stands as the right choice for your investment due to its sound public finance and the opportunity for long-term investment planning, thanks to the country's economic stability and predictability. Poland was the only country in Europe to avoid the financial crisis, and in terms of debt-to-GDP ratio, Poland's public finances remain in a better state compared to the EU's average.

Illustration 1

Poland's credit ranking 2025



Source: PAIH data

Exchange rates

Poland's currency remains relatively stable, with the following exchange rates as of early 2025:

EUR / PLN: **4.25**
USD / PLN: **4.11**
GBP / PLN: **5.077**[8]

Future economic outlook

Poland's macroeconomic outlook for 2025 reflects a strong recovery, stable employment trends, and increasing foreign investment. While inflation and labour market shifts pose some risks, Poland remains one of Europe's most attractive economies for investment and trade. With favorable growth projections, a resilient industrial base, and a competitive workforce, the country continues to reinforce its role as a key economic player in the European Union and beyond.

2.

Poland's investment climate

Poland – a strategic gateway to Europe

Poland, a country located in the heart of Europe, connecting the west with the east, in terms of geography alone, encourages investors to consider our country as a place for their investment.

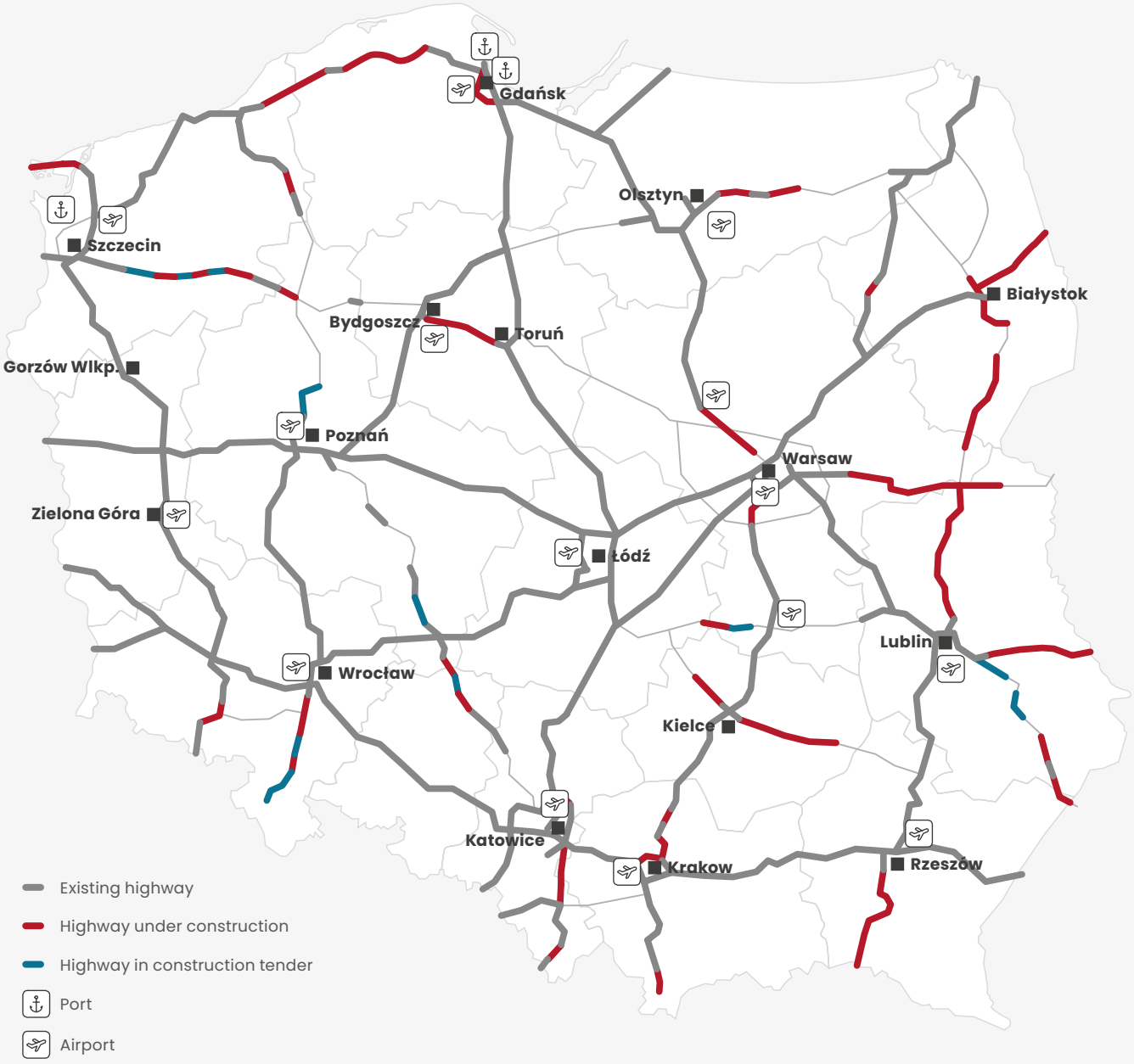
Poland's central position in Europe makes it an ideal gateway for businesses looking to access both Western and Eastern European markets. The country boasts a well-developed transport and logistics infrastructure, including modern highways, an extensive rail network, and major international airports. With 15 airports, four major maritime ports, approximately 19,000 km of railway lines, and over 5,000 km of motorways and expressways in use – along with an additional 266 km completed in 2023 – Poland offers seamless connectivity and efficient transportation options for businesses and trade.

Easy access to both Eastern and Western European markets

[8] Source: The National Bank of Poland: http://www.nbp.pl/home.aspx?f=/statystyka/kursy.html

Map 1

Poland's logistic infrastructure (July 2024)



Poland has the **fifth longest** highway network in Europe (**1, 849.2 km** motorways, **3,266.4 km** expressways)

ca. 1, 263 km

of motorways and expressways under construction

65%

of motorways & expressways planned for 2030 completed

EUR 31.5 bn

spent on road infrastructure in the years 2014-2025

Source: PAIH based on Poland's Central Statistics Office data

Poland: The European phenomenon

Over the past three decades, Poland has evolved into a dynamic and rapidly growing market, solidifying its position as a key economic player in Europe. With consistent economic expansion, a strategic geographic location, and a strong industrial base, Poland has emerged as an attractive destination for both trade and investment. Today, it is the tenth largest economy[9] in Europe, playing a crucial role in regional supply chains and contributing significantly to the European economic landscape. Despite global economic challenges, Poland has demonstrated remarkable resilience, maintaining one of the highest GDP growth rates in the EU.

Poland's economic growth shows no signs of slowing down and, if current trends continue, the country is likely to outperform several of the world's leading economies, including the US, Australia and the UK.

Poland's greatest asset: a skilled and innovative workforce

Further strengthening its appeal, Poland's population of nearly 38 million[10] makes it the largest market in Central and Eastern Europe (CEE), providing businesses with access to broader EU market of over 500 million consumers.

At the heart of Poland's success are its people – highly educated, skilled, and globally minded. Polish employees excel across both the technical and humanities fields, demonstrating strong problem-solving abilities, adaptability, and fluency in foreign languages. Their curiosity and enthusiasm for innovation make them invaluable to international companies, attracting foreign investors who recognize their expertise and commitment to high-quality work.

Poland: a powerhouse of talent, research, and innovation

Poland's dynamic growth is driven by its commitment to education, research, and innovation. With a strong academic foundation and a rapidly expanding ecosystem of research institutes and technology hubs, the country continues to shape the future of global industries. This synergy between higher education and the business sector not only fuels technological advancement but also reinforces Poland's position as a leader in science, talent development, and industrial innovation.

The country is home to over 300 institutions of higher education, where more than 1.2 million students[11] acquire knowledge and skills essential for various industries. Many of these universities have strong research capabilities and maintain close ties with the business sector, fostering a culture of innovation and applied science. Notable institutions such as the Jagiellonian University, the University of Warsaw, the Warsaw University of Technology, and the Medical University of Gdańsk play a crucial role in educating future specialists and conducting cutting-edge research. Additionally, numerous research centres and technology parks further enhance Poland's reputation as a hub for scientific progress.

One of the key players in Poland's research and innovation landscape is the Łukasiewicz Research Network – one of the largest research organizations in Europe. Łukasiewicz brings together 22 specialized institutes focused on developing advanced technologies and supporting industry through applied research. With expertise in biotechnology, medical technologies, and materials engineering, Łukasiewicz plays a vital role in bridging the gap between science and business. Its strong collaboration with both domestic and international partners fosters knowledge transfer and accelerates the commercialization of scientific discoveries, further strengthening Poland's position in the global innovation ecosystem.

[9] https://pl.tradingeconomics.com/country-list/gdp?continent=europe
[10] https://stat.gov.pl/podstawowe-dane/
[11] https://stat.gov.pl/en/topics/education/education/higher-education-in-the-202324-academic-year-preliminary-data,10,10.html

Map 2

Selected entities operating in Poland's biotech and medical clusters

600+

entities operating in biotech and medical clusters

Source: PAIH data

For the life science sector, investors can count on a diverse and highly qualified workforce. Poland produces thousands of graduates annually in biotechnology, pharmacy, medicine, chemistry, and biomedical engineering, ensuring a steady supply of specialists ready to work in research, clinical trials, pharmaceutical production, and medical device development. The country is also home to experienced professionals in regulatory affairs, quality control, and healthcare management, further strengthening the life science ecosystem.

Additionally, Poland's strong foundation in IT and data science supports the growing field of digital health and medical technology. Polish programmers are recognized worldwide for their skills in artificial intelligence, cybersecurity, and software development – key areas for innovations in telemedicine, bioinformatics, and personalized medicine. With an increasing focus on knowledge-driven industries, Poland has become an attractive destination for companies looking to combine scientific research with technological advancements, making it a prime location for life science investments.

Poland: a resilient magnet for foreign investments

> Poland's ability to attract and sustain high levels of foreign direct investment, even in the face of global economic challenges, underscores its strength as a stable and dynamic market. With a well-developed support system for investors and a track record of resilience, the country continues to draw leading global players, reinforcing its position as a key economic hub in Europe.

Poland's appeal is further reflected in its consistent growth in foreign direct investment (FDI), showing greater resilience to market fluctuations than many other European nations. Despite a global decline in FDI, and a temporary dip in Poland in 2023[12], investment levels in the country remained at record highs in 2021, 2022, and 2023. In 2023, the composition of foreign direct investment (FDI) inflows to Poland shifted notably across economic sectors. While investments in 2022 were primarily concentrated in industrial sectors, 2023 saw a significant rise in capital directed toward service industries, including professional, scientific, and technical services, as well as financial, insurance, information, and telecommunications sectors. The largest FDI contributions came from the Netherlands (net transactions of 34.2 billion PLN), the United Kingdom (24.8 billion PLN), and Ireland (13.3 billion PLN). In relation to Poland's GDP, FDI inflows accounted for 3.5% in 2023[13]. Taking into account the country of origin of the parent enterprise in the capital group (and not the direct investor), Germany remained the largest investor in Poland in 2023. The next places were taken by the Netherlands and the United States[14].

Empowering investors: Poland's strong support network for business success

This success is possible thanks to Poland's well-developed ecosystem of institutional support for investors. A wide range of organizations assist businesses in establishing and expanding their operations, providing expertise, financial incentives, and networking opportunities.

[12] The National Bank of Poland report: https://nbp.pl/wp-content/uploads/2024/12/Raport_IB_2023.pdf
[13] The National Bank of Poland report: https://nbp.pl/wp-content/uploads/2024/12/Raport_IB_2023.pdf
[14] The National Bank of Poland report: https://nbp.pl/wp-content/uploads/2024/12/Raport_IB_2023.pdf

At the forefront of these efforts is the

Polish Investment and Trade Agency (PAIH), which plays a key role in helping foreign investors navigate the Polish market.

As a comprehensive investment support agency, PAIH offers essential services such as market intelligence, assistance in selecting optimal investment locations, administrative support, and facilitation of connections with local partners. Additionally, PAIH provides expert advisory services on public aid, helping investors understand and access various forms of state support, including tax incentives, grants, and preferential financing. Moreover, PAIH serves as the operator of the government grant program, playing a crucial role in allocating financial support to strategic investment projects.

In addition, investors can count on support from other institutions such as:

Special Economic Zones (SEZs)

Special Economic Zones (SEZs) provide tax incentives, such as corporate income tax exemptions, to attract foreign and domestic investors. They offer preferential conditions for companies investing in strategic industries like manufacturing, technology, and research & development. Investors benefit from streamlined administrative processes, reduced operational costs, and access to well-developed infrastructure. SEZs also create a business-friendly environment by fostering innovation and collaboration with local suppliers and research institutions.

The Polish Development Fund (PFR) Group

The mission of the Polish Development Fund (PFR) is to support Poland's sustainable economic development. It operates on behalf of entrepreneurs, local governments, and other entities, providing comprehensive financial and advisory solutions. Its activities focus on several key areas that form a cohesive strategy aimed at fostering entrepreneurship, investment, and innovation.

Technology & Industrial Parks

Technology & Industrial Parks in Poland provide modern infrastructure, including office spaces, production facilities, and laboratories, to support business growth. They offer R&D support, enabling companies to collaborate with universities and research institutions to develop innovative technologies. Many parks, such as Krakow Technology Park, provide business acceleration services, including mentoring, funding access, and networking opportunities. These parks play a crucial role in fostering innovation, entrepreneurship, and foreign investment, strengthening Poland's position in global markets.

National Centre for Research and Development (NCBR)

The National Centre for Research and Development (NCBR) plays a key role in supporting investors by financing R&D projects and innovation-driven initiatives. It provides grants, subsidies, and co-financing programs that help companies develop new technologies, improve existing products, and enhance their competitiveness in both domestic and international markets. NCBR focuses on bridging the gap between science and business, enabling investors to collaborate with research institutions and implement cutting-edge solutions in various industries, such as biotechnology, renewable energy, and advanced manufacturing.

Bank Gospodarstwa Krajowego (BGK)

Bank Gospodarstwa Krajowego (BGK) is Poland's State Development bank, providing financing solutions for strategic business projects. It supports investors through loans, guarantees, and investment funds, facilitating large-scale infrastructure, industrial, and innovation-driven projects. BGK also helps businesses access EU funding programs and co-finances projects that contribute to economic growth and job creation. Additionally, the bank plays a key role in supporting export financing and international expansion, helping Polish companies compete in global markets.

3.

Innovation – a growth driver

Innovation is a key determinant of a long-term economic performance. Investments in research and development, education, and technology foster entrepreneurial ecosystems, enhance productivity, and drive global competitiveness[15].

According to the Global Innovation Index (GII) – a comprehensive tool that captures the innovation ecosystem performance of 133 economies and tracks the most recent global innovation trends – Poland has entered the top 40 most innovative countries.

What's more, out of the 39 European economies covered, Poland was one of only nine that move up the ranking in 2023[16].

[15] Global Innovation Index by Country: GII Rank 2025 – Worldostats: https://worldostats.com/country-stats/global-innovation-index-by-country/

[16] Global Innovation Index 2024. *Unlocking the Promise of Social Entrepreneurship*: https://www.wipo.int/web-publications/global-innovation-index-2024/assets/67729/2000%20Global%20Innovation%20Index%202024_WEB3lite.pdf

TABLE 1

Heatmap: GII 2024 rankings overall and by innovation pillar, 2024

Economy	Overall GII	Institutions	Human capital and research	Infra-structure	Market sophisti-cation	Business sophisti-cation	Knowledge and technology outputs	Creative outputs
Norway	21	6	20	4	31	22	26	26
Iceland	22	13	26	3	22	21	37	21
Australia	23	15	10	15	20	26	28	29
Belgium	24	21	13	44	46	15	15	36
New Zealand	25	7	23	12	34	20	45	31
Italy	26	55	30	28	38	34	19	18
Cyprus	27	46	46	45	41	29	23	13
Spain	28	49	27	14	33	31	24	23
Malta	29	39	35	37	42	19	48	11
Czech Republic	30	30	32	24	75	30	17	33
Portugal	31	37	21	46	36	33	33	20
United Arab Emirates	32	10	17	17	26	24	56	40
Malaysia	33	27	38	52	18	36	35	49
Slovenia	34	41	24	26	62	32	27	48
Lithuania	35	22	44	38	28	38	29	55
Hungary	36	53	34	35	60	28	25	44
Türkiye	37	100	40	40	37	48	43	16
Bulgaria	38	83	62	22	50	44	30	27
India	39	54	51	72	23	58	22	43
Poland	40	73	36	51	61	35	47	35
Thailand	41	74	71	50	25	41	39	38
Latvia	42	42	45	33	53	40	51	39
Croatia	43	68	41	23	54	54	32	50
Viet Nam	44	58	73	56	43	46	44	34
Greece	45	57	29	42	66	65	40	41
Slovakia	46	63	52	47	68	43	31	58
Saudi Arabia	47	35	33	49	27	79	68	67
Romania	48	81	70	32	67	47	38	56
Qatar	49	20	48	39	59	68	82	61
Brazil	50	103	57	55	47	39	50	42
Chile	51	48	58	54	44	51	65	59
Serbia	52	67	50	29	40	63	41	85
Philippines	53	65	84	85	77	37	42	60

Dark gray = 4th quartile (best performers, ranks 1st to 33rd). Light gray = 3rd quartile (ranks 34th to 66th). Light red = 2nd quartile (ranks 67th to 99th). Dark red = 1st quartile (ranks 100th to 133rd).

< 34	34–67	67–100	> 100

Source: Global Innovation Index, 2024

TABLE 2

GII 2024 Poland's economy profile

	Score / Value	Rank	
Institutions	**44.9**	**73**	◇
Institutional environment	**58.7**	**53**	◇
Operational stability for businesses	66.7	51	◇
Government effectiveness	50.8	54	◇
Regulatory environment	**58.4**	**43**	
Regulatory quality	60.7	39	
Rule of law	56.2	55	◇
Business environment	**17.6**	**122**	○◇
Policy stability for doing business	18.8	123	○◇
Entrepreneurship policies and culture	16.4	69	○◇
Human capital and research	**42.6**	**36**	
Education	**60.3**	**36**	
Expenditure on education, % GDP	4.9	44	
Government funding/pupil, secondary, % GDP/cap	20.2	48	
School life expectancy, years	16.2	35	
PISA scales in reading, maths and science	492.3	14	●
Pupil–teacher ratio, secondary	9.9	33	
Tertiary education	**33.1**	**68**	
Tertiary enrolment, % gross	74.0	33	
Graduates in science and engineering, %	19.6	78	○
Tertiary inbound mobility, %	6.7	44	
Research and development (R&D)	**34.5**	**30**	
Researchers, FTE/mn pop.	3,751.0	29	
Gross expenditure on R&D, % GDP	1.5	28	
Global corporate R&D investors, top 3, mn USD$	44.9	37	
QS university ranking, top 3	31.4	40	
Infrastructure	**45.8**	**51**	
Information and communication technologies (ICTs)	**83.0**	**33**	
ICT access	98.8	25	●
ICT use	92.2	11	●
Government's online service	77.1	43	
E-participation	64.0	51	
General infrastructure	**36.9**	**46**	
Electricity output, GWh/mn pop.	4,684.7	48	
Logistics performance	68.2	25	
Gross capital formation, % GDP	22.0	84	○
Ecological sustainability	**17.4**	**79**	
GDP/unit of energy use	12.9	43	
Low-carbon energy use, %	8.3	89	○
ISO 14001 environment/bn PPP$ GDP	1.9	53	
Market sophistication	**33.6**	**61**	
Credit	**20.7**	**83**	◇
Finance for startups and scaleups	47.9	47	
Domestic credit to private sector, % GDP	39.7	81	
Loans from microfinance institutions, % GDP	0.2	53	○◇
Investment	**5.7**	**73**	◇
Market capitalization, % GDP	26.7	55	
Venture capital (VC) investors, deals/bn PPP$ GDP	0.1	67	○
VC recipients, deals/bn PPP$ GDP	0.0	70	
VC received, value, % GDP	0.0	76	○◇
Trade, diversification and market scale	**74.2**	**16**	●
Applied tariff rate, weighted avg., %	1.1	21	
Domestic industry diversification	97.7	6	●
Domestic market scale, bn PPP$	1,712.6	21	●
Business sophistication	**38.0**	**35**	
Knowledge workers	**51.1**	**32**	
Knowledge-intensive employment, %	41.5	28	
Firms offering formal training, %	21.7	76	○◇
GERD performed by business, % GDP	1.0	24	
GERD financed by business, %	51.0	25	
Females employed w/ advanced degrees, %	24.7	19	●
Innovation linkages	**23.1**	**64**	◇
Public research–industry co-publications, %	1.8	48	
University–industry R&D collaboration	39.1	77	◇
State of cluster development	46.1	67	
Joint venture/strategic alliance deals/bn PPP$ GDP	0.0	82	○
Patent families/bn PPP$ GDP	0.3	38	
Knowledge absorption	**39.8**	**30**	
Intellectual property payments, % total trade	1.1	33	
High-tech imports, % total trade	8.6	58	
ICT services imports, % total trade	2.0	30	
FDI net inflows, % GDP	4.6	28	
Research talent, % in businesses	55.8	19	
Knowledge and technology outputs	**28.0**	**47**	
Knowledge creation	**24.0**	**40**	
Patents by origin/bn PPP$ GDP	2.3	28	
PCT patents by origin/bn PPP$ GDP	0.2	45	
Utility models by origin/bn PPP$ GDP	0.4	33	
Scientific and technical articles/bn PPP$ GDP	18.3	38	
Citable documents H-index	36.7	26	●
Knowledge impact	**30.1**	**53**	
Labor productivity growth, %	1.7	34	◆
Unicorn valuation, % GDP	0.0	49	○◇
Software spending, % GDP	0.3	47	
High-tech manufacturing, %	30.5	38	
Knowledge diffusion	**29.9**	**42**	

	Score / Value	Rank	
Intellectual property receipts, % total trade	0.3	34	
Production and export complexity	68.6	25	
High-tech exports, % total trade	6.9	32	
ICT services exports, % total trade	3.2	38	
ISO 9001 quality/bn PPP$ GDP	6.3	44	
Creative outputs	**38.1**	**35**	
Intangible assets	**40.7**	**34**	
Intangible asset intensity, top 15, %	65.3	27	
Trademarks by origin/bn PPP$ GDP	27.4	70	
Global brand value, top 5,000, % GDP	3.9	36	
Industrial designs by origin/bn PPP$ GDP	4.3	18	●
Creative goods and services	**27.9**	**42**	
Cultural and creative services exports, % total trade	0.9	31	
National feature films/mn pop. 15–69	2.6	49	
Entertainment and media market/th pop. 15–69	10.9	34	◇
Creative goods exports, % total trade	4.7	11	●◆
Online creativity	**42.9**	**33**	
Top-level domains (TLDs)/th pop. 15–69	15.6	35	
GitHub commits/mn pop. 15–69	40.9	26	●
Mobile app creation/bn PPP$ GDP	72.3	37	

● indicates a strength
○ a weakness
◆ an income group strength
◇ an income group weakness

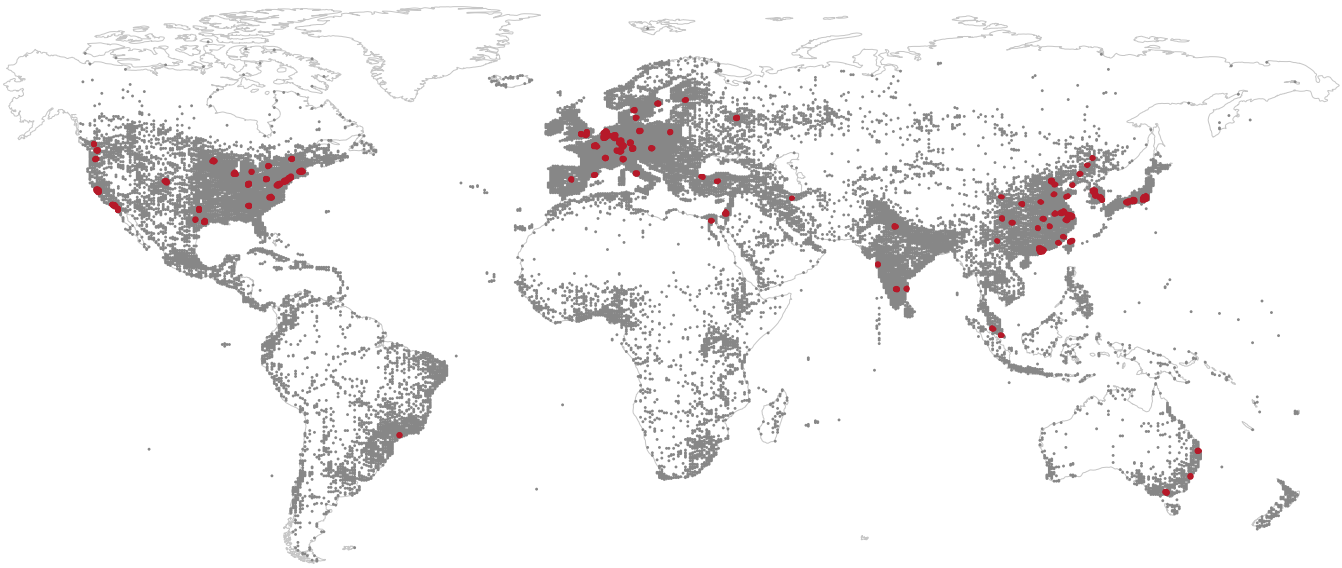
Source: Global Innovation Index, 2024

A common thread among top-innovative is the presence of thriving science and technology (S&T) clusters. Regarding to the GII methodology, disregarding administrative or political borders and instead pinpointing geographical areas with a high density of inventors and scientific authors, Poland is among the 100 best science and technology clusters out of 232 identified.

The resulting clusters identified in this way often span several municipal districts, sub-federal states, and sometimes even two or more countries.

Map 3

Top 100 clusters worldwide



● S&T clusters: TOP 100
● Noise non-cluster points

Source: Global Innovation Index, 2024

Map 4

Top S&T cluster by economy or cross-border region ranked among the top 100

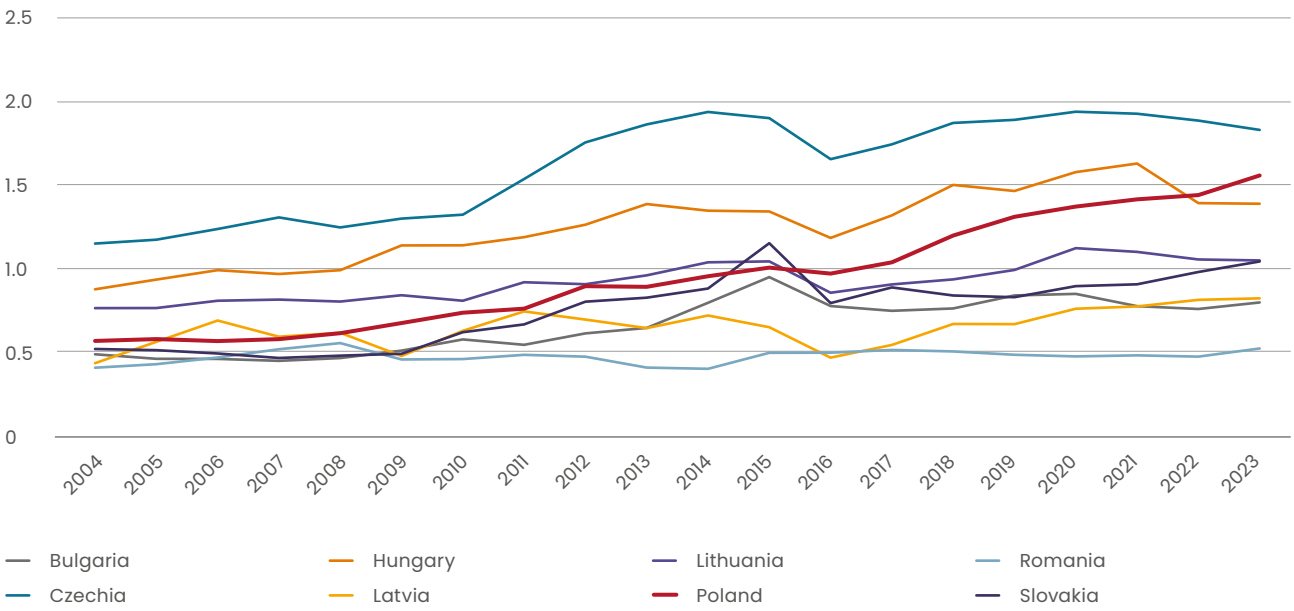
Source: Global Innovation Index, 2024

Poland's improvement in rankings is also reflected in the increased percentage of GDP spent on R&D activities. When Poland joined EU, it was fourth among CEE countries with only 0.55% of GDP spent on R&D. In 2022, following incremental increases, this indicator reached 1.45%, ranking Poland as a second country in the analyzed group[17]. However, the size of Poland's economy, its continuous commitment to increasing the R&D spending, and rapid convergence with Western Europe makes it the R&D hub in the CEE region.

[17] https://stip.oecd.org/stats/SB-StatTrends.html?i=G_XGDP&v=3&t=2004,2023&s=BGR,CZE,HUN,LVA,LTU,POL,ROU,SVK

Graph 4

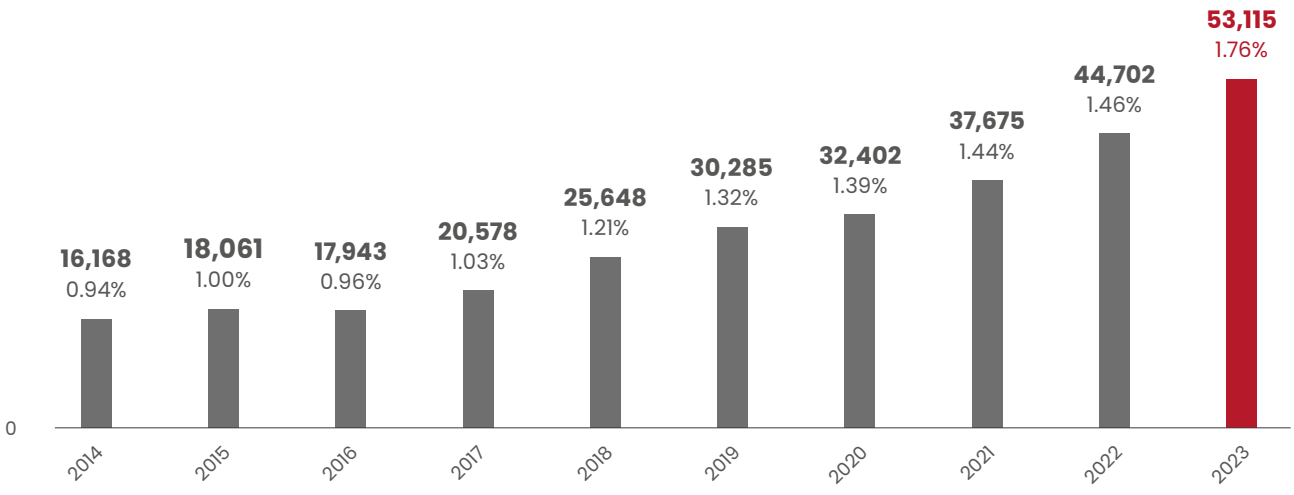
Dynamics of GDP percentage spent on R&D activities in the CEE region



Source: OECD calculations (STIP Compass), 2025

Bar chart 1

R&D expenditures and % in GDP in Poland (PLN millions)



Source: Poland's Central Statistics Office data, 2024

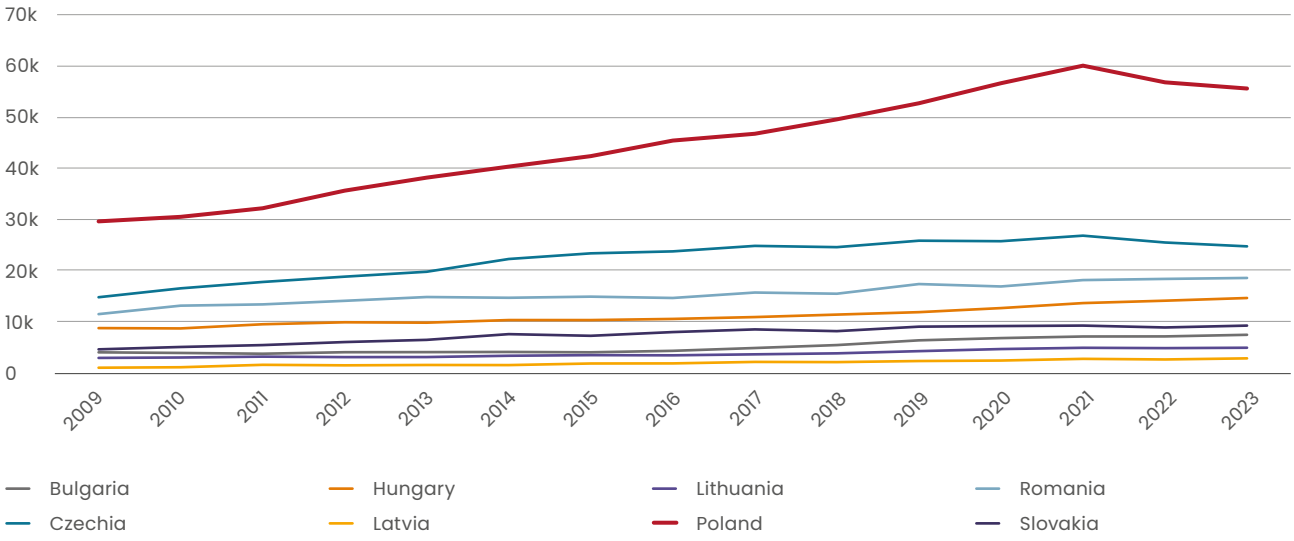
However, it is only when considering absolute rather than percentage or per capita values that we can see how Poland differs from other countries in the region. This perspective can be reflected through the total number of scientific papers published by each country.

Polish scientists are responsible for more than double the number of publications created by the second country in the ranking – Czechia[18]. A similar trend can be observed when looking at the quality of the papers[19].

[18] https://stip.oecd.org/stats/SB-StatTrends.html?i=WPUBS_NBWHO&v=3&t=2009,2023&s=BGR,CZE,HUN,LVA,LTU,POL,ROU,SVK&r=ci
[19] https://stip.oecd.org/stats/SB-StatTrends.html?i=TOP10_X_WLD&v=3&t=2009,2023&s=BGR,CZE,HUN,LVA,LTU,POL,ROU,SVK&r=ci

Graph 5

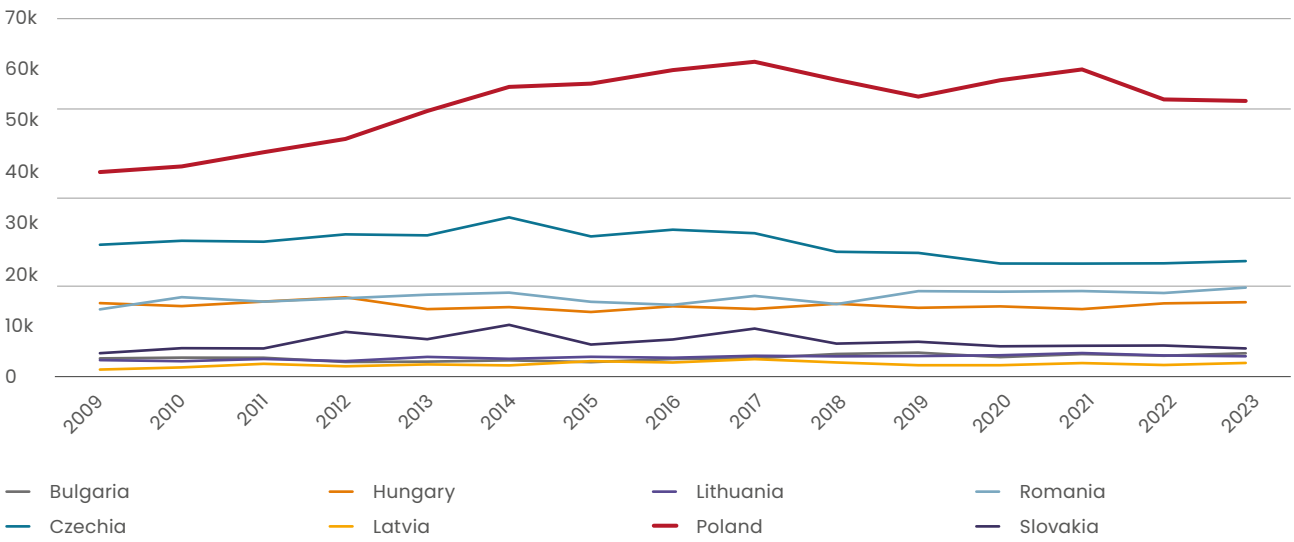
Total number of scientific papers published by CEE region countries



Source: OECD calculations (STIP Compass), 2023

Graph 6

Total top 10% most cited publications as % of world total top 10% most cited publications (percentages)



Source: OECD calculations (STIP Compass), 2024

Did you know that?

Prominent scientist of Polish descent started a revolution in the treatment of breast cancer[20]

Dr. Mark Sliwkowski is a prominent American scientist of Polish descent, specializing in molecular biology and oncology.

> **Dr. Sliwkowski has gained worldwide recognition for his innovative approach to the development of cancer therapies, which has revolutionized cancer treatment, contributing to significant improvements in outcomes for patients with HER2-positive breast cancer worldwide.**

As a researcher at **Genentech (now part of the Roche Group)** for more than 20 years, he focused his research on HER family receptors and their impact on cancer development.

To date, nearly 125 years after the first drug was introduced into clinical practice, it has been used by more than 24 million patients[21].

The introduction of trastuzumab for the treatment of HER2-positive breast cancer represented a breakthrough in oncology. The drug not only increased patients' survival rates but also improved the quality of life by offering effective targeted therapy. As a result, trastuzumab has become the standard of care for this subtype of breast cancer, significantly impacting treatment outcomes and offering hope to many patients around the world.

Polish scientists contributed to mRNA stabilization[22]

mRNA term was popularized in the era of COVID-19, in connection with the approval and availability of mRNA vaccines by Pfizer-BioNTech and Moderna.

Meanwhile, scientists from the University of Warsaw have been working on mRNA stabilization since 1980.

> Prof. Jacek Jemielity together with **Prof. Edward Darżynkiewicz and Dr. Joanna Kowalska have enhanced mRNA stabilization and its productivity. Scientists have discovered versatile ends of mRNA molecules that guarantee greater durability of mRNA in the cell environment and allow the production of a greater number of desired proteins. Modification of the mRNA made the molecule several times more durable.**

Increasing mRNA durability gives cancer patients a chance. The method can be used to produce improved anti-cancer vaccines, to support protein supplementation, the levels of which are too low and cause various

[20] Roche Poland data and contribution
[21] https://www.herceptin.com/patient/metastatic-breast-cancer/about-herceptin/what-is-it.html
[22] Roche Poland data and contribution

diseases, and to reprogram stem cells for regenerative medicine[23]. The greatest advantage of mRNA vaccines is their versatility – you can choose a protein characteristic of a given tumor, and the involvement of the immune system will have much fewer side effects. The safety of this solution is key[24].

The invention was created in cooperation between the team and foreign partners: Louisiana State University and the biotechnology company BioNTech operating at the University of Mainz, which financed the first phase of clinical trials. The results of the research were so groundbreaking that the investor (BioNTech) managed to interest global pharmaceutical companies. Granting a sublicense for further clinical trials to **Sanofi** in 2015, and then to **Genentech** (**Roche Group,** 2016) – was one of the first examples of commercialization of Polish science on a large scale, with a total value of over USD 610 million[25].

Hope for patients with pulmonary sarcoidosis, MASH and other chronic inflammatory and fibrotic diseases[26]

OATD-01 (protected multiple international patents, wholly owned by **Molecure**) represents a pioneering breakthrough as the world's first-in-class chitinase inhibitor, offering new hope for patients with pulmonary sarcoidosis, MASH and other chronic inflammatory and fibrotic diseases. Developed in collaboration with

[23] https://www.uw.edu.pl/najwieksza-komercjalizacja/
[24] https://biotechnologia.pl/biotechnologia/przelom-w-medycynie-i-rozwoju-szczepionek-na-raka,16621
[25] https://www.uw.edu.pl/najwieksza-komercjalizacja/
[26] BioInMed data and contribution

globally recognized experts including Dr. Jack Elias and Dr. Luke O'Neill, this drug leverages cutting-edge research to address significant unmet medical needs. Following the successful Phase 1 clinical trial conducted with a previous partner – Galapagos NV, which demonstrated that OATD-01 is safe and well-tolerated, the drug has progressed to further development. With the global Phase 2 clinical trial (KITE) running in multiple sites in the UK, US, and the European Union, patients with pulmonary sarcoidosis find hope for safe and effective treatment. OATD-01 has potential to transform the global treatment paradigms in this unmet medical need. Additionally, its therapeutic potential extends to other severe conditions, including MASH (Metabolic Associated Steatohepatitis), a market projected to reach over $25 billion in 2032. By targeting the root causes of inflammation and fibrosis, OATD-01 has the potential to improve the lives of thousands worldwide, providing a beacon of hope for those seeking safe, effective, and innovative therapies.

More precision in glioblastoma multiforme (GBM) treatment[27]

WPD Pharmaceuticals is a biotechnology company developing a new generation of targeted therapies for glioblastoma brain and other oncology indications, based on protein-drug conjugate (ADC) therapy. The uniqueness of our solution lies in the development of a therapy based on the active biological molecule QUAD DM1, which targets tumor cell surface receptors for two classes of cytokines (IL-13 and EFNA1) as well as ephrin A5 receptors (EPHA2 and EPHA3). In the case of gliomas, the drug candidate will be administered using the CED method, allowing multiple, intracerebral administrations of the drug in an outpatient setting, enabling the patient to function normally and significantly prolong their life with the potential for complete tumor absorption. The solution has global potential, as current treatments for glioblastoma multiforme (GBM) and other difficult-to-treat cancers lack efficacy and precision, with median survival of 12 months and survival rates of more than three years from detection standing at a paltry 2%. Currently, WPD is in the process of conducting GLP-standard preclinical studies, and preparing Phase I clinical trials.

WPD Pharmaceuticals is a global integrator of scientific organizations and technology companies working together to create the most effective treatment for glioma.

Scientific Partners:

Wake Forrest University North Carolina (USA) – the forerunner of QUAD DM1 research, guarantees WPD an unrestricted global license (IP) to use the molecule commercially in oncology applications;

University Of Liverpool – is conducting in vivo studies with WPD using the Renishaw-developed multiple drug delivery CED method;

Hirszfeld University – is developing the use of WPD's innovation in other oncology indications.

Technology Partners:

Renishaw Neuro Solutions – developer of a multiple drug delivery system for the brain;

Clearpoint Neuro – developer of the 1st FDA-approved SmartFlow cannula, the first device of its kind in the United States;

Robeaute – developer of micro nanorobots for use in all neurosurgical interventions requiring high precision.

[27] BioInMed data and contribution

Breakthrough therapeutic solutions in the fields of neurology and snakebite envenoming[28]

Pikralida is a **science-driven & result-focused clinical-stage biotech** company based in Poland /EU/. It is dedicated to developing breakthrough therapeutic solutions with first-in-class and dual-use potential to address unmet medical needs, primarily in the fields of neurology and snakebite envenoming.

Pipeline includes three priority projects:

TRX-03: a novel neuroprotective therapy for stroke patients (completed Phase I)

TRX-06: a novel oral antivenom for snakebite envenoming (completed Phase I, qualifies for Orphan Drug Designation, and is a social impact project)

TRX-12: a novel veterinary antivenom for snakebite envenoming (qualifies for MUMS status, with the potential to be introduced to the U.S. market as early as 2027).

TRX-03: a novel neuroprotective therapy for stroke patients

Pikralida is focused on developing an innovative therapy for patients after ischemic stroke. The company's drug candidate, PKL-021, is a small-molecule inhibitor of extracellular matrix metalloproteinases (MMPs). Minimizing brain damage after a stroke remains one of the biggest challenges in neurology. TRX-03 harnesses PKL-021's ability to modulate MMP activity and brain-blood barrier disruption, reducing inflammation and secondary neuronal

[28] BioInMed data and contribution

injury. By enabling earlier intervention after diagnosis, PKL-021 has the potential to redefine ischemic stroke care, significantly reducing neurological damage and improving long-term outcomes for stroke patients

PKL-021 demonstrates an excellent safety profile confirmed in preclinical and clinical studies (Phase I), making it a promising candidate for neuroprotective therapy in acute neurological conditions.

The project is at an advanced stage of development. **Pikralida** has successfully completed a Phase I clinical trial evaluating the safety, tolerability, and pharmacokinetics of PKL-021 in healthy volunteers following single and multiple doses.

The next key milestone in PKL-021's development is the initiation of a Phase II clinical trial to assess its efficacy and therapeutic benefits in ischemic stroke patients. This study aims to confirm PKL-021's neuroprotective effects and determine the optimal dosing regimen.

The project is being developed closely with leading neurologists and neuroprotection experts from top research institutions. The company works with **Prof. Sean Savitz from Houston (UTHealth Houston),** an expert in neuroprotective stroke therapies, and **Prof. Dileep Yavagal from Miami (Miller School of Medicine),** a leading researcher in brain regeneration after a stroke.

TRX-06: a novel oral antivenom for snakebite envenoming

Snakebite envenoming is a neglected tropical disease. There are 5.4 million cases of snakebites worldwide each year, of which about 2.7 million result in envenomation, causing > 100,000 deaths and hundreds of thousands of permanent disabilities. The problem mainly affects rural communities in regions with limited access to health care. Snakebites are treated only in hospital conditions by intravenous administration of appropriate antivenoms. There are no drugs on the market that can be administered "in the field" immediately after a bite. The currently used antivenoms are characterized by deficiencies like 1) poor dose efficacy, 2) high incidences of adverse reactions due to administering large doses of foreign immunoglobulins, and 3) reliance on cold chain transport and storage.

PKL-021 is an effective inhibitor of enzymes within the metalloprotease group, including snake venom metalloproteases (SVMPs), which cause blood clotting disorders, hemorrhages, and tissue necrosis. The significant potential of PKL-021 in treating venomous snakebites has been confirmed in numerous in vivo models. Due to its properties, PKL-021 has the potential to become an important oral medication that protects against the effects of venomous snake bites, which patients can use immediately after an incident. In Q1 2024, Pikralida completed a Phase I clinical trial for PKL-021 in a population of healthy volunteers, confirming the safety of the developed therapy.

The next key milestones in PKL-021's development are obtaining the Orphan Drug Designation status for snakebite envenoming (US FDA) and initiating a Phase II clinical trial to assess its efficacy and therapeutic benefits in patients.

Multimodal system for non-invasive assessment of a child's general condition to support the medical triage process[29]

The Integrated Infant and Toddler General Condition Assessment System is an innovative medical device that uses advanced technology for objective and standardised health

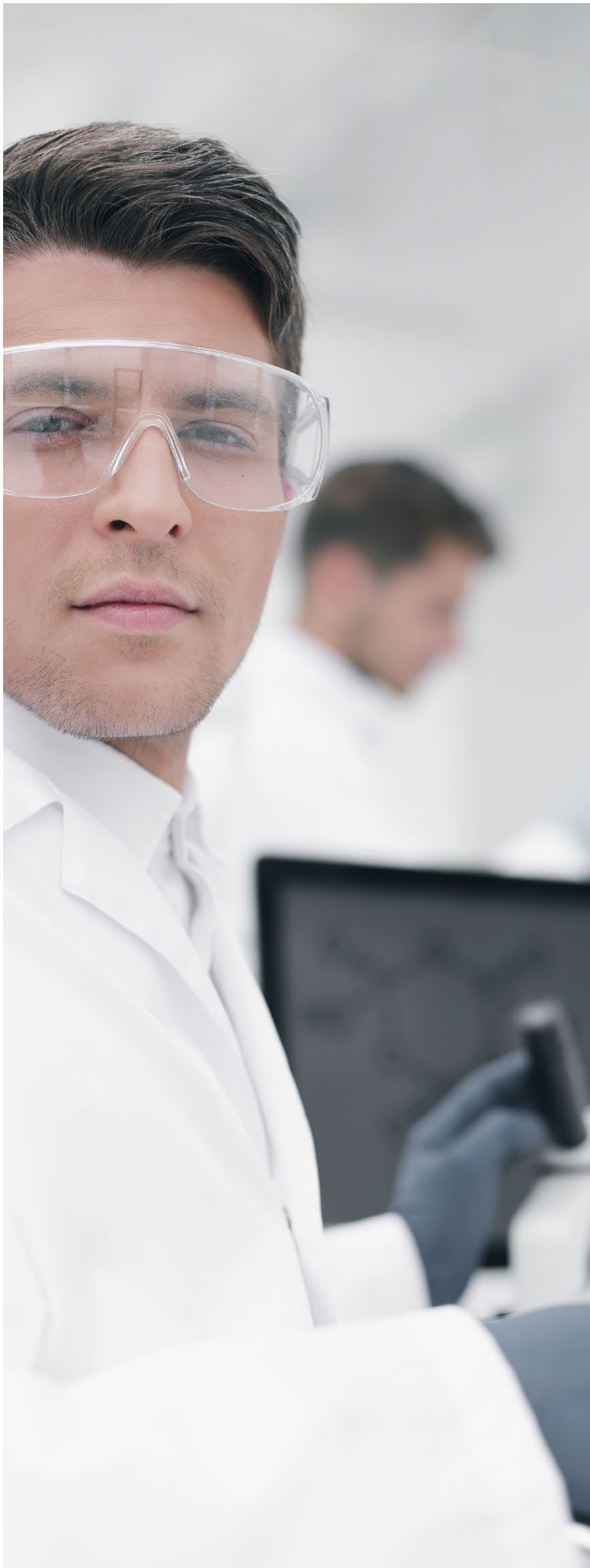
[29] BioInMed data and contribution

assessment. The system combines an analysis of the child's body temperature distribution and movement patterns on one-minute video footage with an additional thermal imaging lens, creating a tool to support the medical triage process in acute care facilities.
The system uniquely transfers the medical intuition of an experienced pediatrician into an algorithm that supports junior and less experienced medics in making key clinical decisions. Through advanced analysis of camera, sensor and medical history data, the system mimics the way an experienced doctor assesses a child's condition based on subtle changes in behaviour, appearance and physiological responses.

The integration of imaging technology, motion analysis and artificial intelligence algorithms creates a solution that not only relieves the burden on medical staff but also minimizes the risk of overlooking dangerous clinical conditions. Thus, the system helps to standardise paediatric diagnostics, enabling a faster and more accurate assessment of the condition and, consequently, decisions on the need for hospitalisation or urgent antibiotic therapy.

> The described system in its prototype version was created, standardised and tested in laboratory conditions and in target conditions – in three pediatric emergency rooms of hospitals in Wrocław, Wałbrzych and Trzebnica – as part of the KID AID project.

The project is a joint venture between the **Medical University of Wrocław** and **Animativ LLC.**



4.

State aid – investment incentives

The biotechnology sector has been identified as a strategic industry in Poland, benefiting from substantial public support at both national and European levels. Recognized for its potential in healthcare, agriculture, industrial applications, and environmental sustainability, biotechnology is a key driver of innovation and economic growth. The Polish Government and EU institutions actively promote investment in this sector, ensuring that companies can access funding, incentives, and specialized support programs. **Below are the available public support options for investors.**

I. Regional support opportunities

Poland continues to offer public support for investments, primarily through **tax exemptions** and, in selected cases, **direct grants.** The level of support depends on the investment's location and the company's size, in accordance with the **Regional Aid Map.**

> **Large enterprises:** up to 15–50% of eligible costs
>
> **Medium-sized enterprises:** additional +10 percentage points
>
> **Small enterprises:** additional +20 percentage points

This regional aid remains an important incentive for both domestic and foreign investors, especially in areas with higher intensity thresholds.

II. Polish Investment Zone – CIT exemptions

Income tax exemption in the Polish Investment Zone

The Regional State Aid offered within the Polish Investment Zone in the form of exemption from corporate income tax and personal income tax is one of the main instruments for supporting economic activity in Poland. It applies to entities within the supply chain to energy generators (due to the exclusion of entities operating in the energy generation and distribution sector).

Form of support

The principal form of support within the Polish Investment Zone – covering the entire territory of Poland – is exemption from corporate income tax or personal income tax granted to entrepreneurs implementing so-called new investments via a decision on support in the Polish Investment Zone. The amount of support may reach up to 70% of the value of the implemented investment, depending, in particular, on the location of the investment, the value of eligible costs and the size of the entrepreneur.

III. Strategic Technologies for Europe Platform (STEP) in Poland

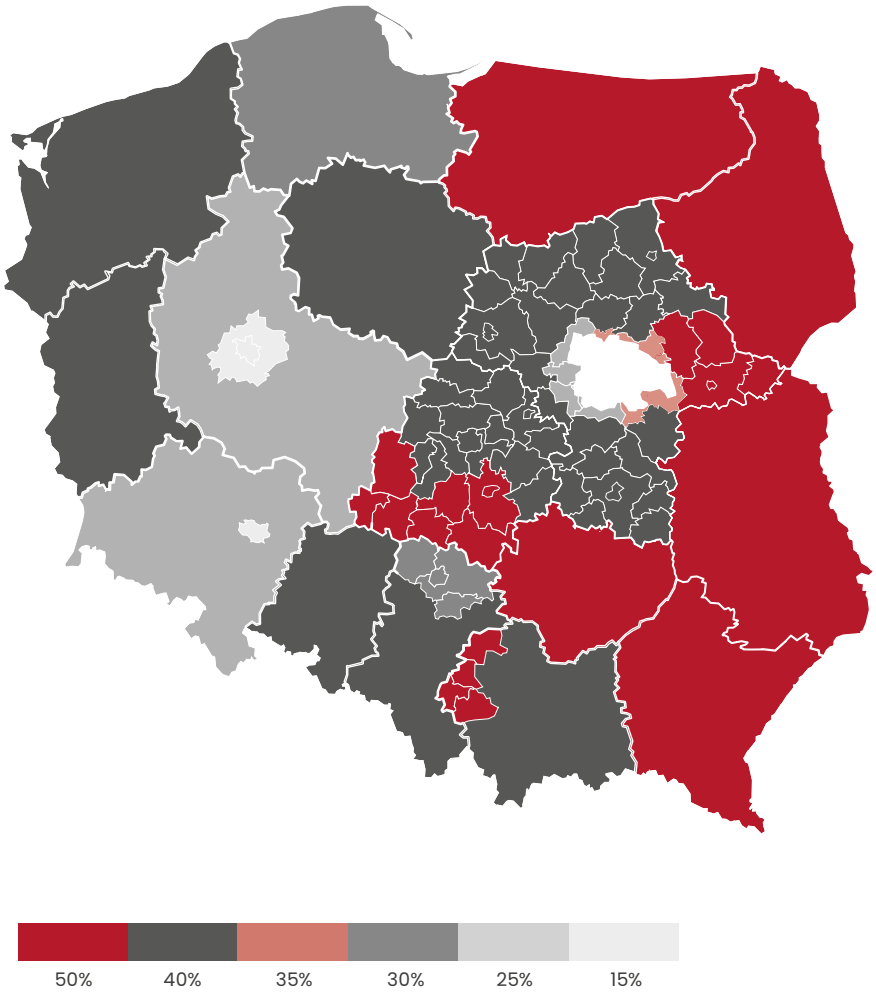
1. An overview of STEP

The Strategic Technologies for Europe Platform (STEP) is a European Union initiative launched in 2024 to support strategic industries and enhance Europe's technological sovereignty. The program prioritizes funding for projects in biotechnology, deep-tech, and zero-emission technologies, ensuring access to financial resources that foster innovation, industrial resilience, and sustainable development.

Map 5

Regional aid intensity

Maximum levels of support for 2022-2027 in different regions in Poland (large companies)



SMES:
Medium-sized companies can benefit from 10% more support. Small companies can benefit from an additional +10% (+ total 20%)

Greater Poland, Lower Silesia and partly Masovian Voivodeship – area "c":
A large entrepreneur may receive assistance only for the initial investment that creates a new economic activity (i.e., not the same or similar to the previous activity).

Source: PAIH data

STEP does not introduce a new fund but integrates existing EU and national financing mechanisms, enabling companies and investors to secure funding through dedicated programs.

2. Key benefits for investors

Investors in STEP-aligned industries can benefit from:

Access to EU and National grants – Financing through Horizon Europe, InvestEU, European Regional Development Fund (ERDF), and National innovation programs.

Tax incentives – Up to 200% R&D tax relief, a 5% corporate tax rate under the IP Box scheme, and investment tax credits.

Priority funding for strategic projects – STEP prioritizes investments in biotechnology, digital transformation, and clean technologies.

Simplified application process – A centralized one-stop-shop facilitates investor access to public funding and advisory support.

Fast-track approvals – STEP SEAL Certification grants priority access to public funding and exemptions from certain competitive bidding procedures.

3. Eligible sectors and investment areas

STEP funding is available for companies and investors in the following industries:

Biotechnology and pharmaceuticals – Gene therapies, bio-based materials, drug manufacturing, and medical innovation.

Clean energy and environmental technologies – Hydrogen production, battery storage, renewable energy, and circular economy solutions.

Deep-tech and digital innovation – Artificial intelligence, cybersecurity, semiconductors, and blockchain.

Industrial investments reducing strategic dependencies – Projects aimed at securing supply chains and enhancing European technological self-sufficiency.

4. Application process

Investors can apply for STEP-related funding through the following mechanisms:

EU funding programs – Horizon Europe, InvestEU, Innovation Fund, and EU Health Program.

National funding sources – Poland's Fund for a Modern Economy (FENG), Medical Fund, and the National Recovery Plan (KPO).

STEP SEAL certification – Projects that meet the initiative's strategic objectives may receive priority status, facilitating access to funding.

5. Implementation in Poland

Poland is integrating STEP into its public financing system, ensuring that biotech, deep-tech, and clean energy investments benefit from dedicated funding, regulatory support, and streamlined administrative procedures. Investors are encouraged to engage early with relevant agencies to maximize their access to available resources.

6. Next steps for investors

Assess project eligibility based on STEP's strategic priorities.

Engage with Poland's Investment Agencies for guidance on funding opportunities.

Apply for relevant financial instruments at National and EU levels.

Leverage tax incentives and funding programs to optimize investment potential.

STEP presents a significant opportunity for investors seeking to develop and expand operations in strategic industries. Poland's active participation in the initiative ensures strong financial support and a competitive investment environment.

Conclusion

With a robust public support system, access to EU and National funding, and a thriving research ecosystem, Poland is rapidly becoming a top destination for biotechnology investment. The combination of financial incentives, innovation-friendly policies, and strategic European partnerships ensures that biotech companies in Poland have the necessary resources to innovate, expand, and compete on a global scale.

II THE POLISH LIFE SCIENCE LABOUR MARKET

The life sciences sector in Poland is becoming increasingly competitive and innovative, making it an attractive destinations for investments in biotechnology, pharmaceuticals, regenerative and personalised medicine. Access to a qualified workforce is essential for attracting investment projects and supporting further development in this sector. As a result, an increasing number of multinational companies are choosing to relocate certain research projects and business processes to Poland.

1.

Poland in brief

- Poland has a long history of success in the fields of biology, medicine, and pharmacy, and many outstanding scientists have contributed to their development.
- The local market features renowned universities and numerous research and development institutes, which are constantly strengthening Poland's status as a leader in Central and Eastern Europe.
- Poland has a highly developed education system that trains qualified specialists in natural sciences, biology, chemistry and medicine.
- The cost of hiring specialists in Poland remain competitive compared to Western Europe and the United States.

- Access to qualified workforce enables the effective formation of teams specialising in clinical research, medical information, and market access, as well as the scaling of structures in subsequent investment phases.
- Poland is home to many technology incubators, science parks and accelerators that support the development of biotechnology, pharmaceutical and medical startups.
- The Polish Government, along with public institutions, promotes the growth of the life sciences sector by offering various financial programmes, subsidies and tax incentives. Companies in this industry can expect support in research, innovation and the implementation of new technologies.
- As a member of the European Union, Poland provides companies in the life sciences sector with direct access to EU markets. In addition, EU regulations on the safety of products, such as medicines and medical devices, are rigorously followed, ensuring product stability and high quality.

2. Poland's talent pool

When investors analyse the potential of specific locations in Poland, a key factor to consider is the availability of a skilled talent pool. Poland excels in this area, as many urban centres provide access to large populations of highly qualified specialists educated in the life sciences field.

One of the significant advantages of human capital in Poland is the high level of education, particularly the growing interest in studying life sciences. According to data from Poland's Central Statistics Office for 2024, 43.7% of the professionally active population in Poland hold a university degree. According to Eurostat, this figure rises to 46% among young people aged 25 to 34.

A well-educated society ensures employees possess specialised skills and knowledge to effectively execute innovative investment projects.

TABLE 3

Employment numbers in life sciences-related sectors in 2024

17,247,000
Total employment in Poland

456,000
Administrative and support services

685,000
Information and communication

775,000
Professional, scientific and technical operations

1,197,000
Healthcare and social services

1,417,000
Education

Source: Poland's Central Statistics Office data, 2024

In recent years, Poland has attracted various investment projects that require the recruitment of specialists with specific educational backgrounds. This includes large-scale recruitment projects by international pharmaceutical companies, as well as targeted recruitment for foreign start-ups, particularly in fields such as clinical research and medical coding.

Investors can benefit from partnerships with universities and research institutes. Such collaboration creates the right conditions for developing new technologies and innovative products while also supporting employee skill development. Additionally, an increasing number of Polish researchers and scientists have experience in executing innovative projects in the field of life sciences.

Recently, we have witnessed many innovations from Polish teams of specialists. For instance, there are laser systems designed for safe and accurate eye examinations, Polish research on mRNA technology used in the latest vaccines, and nanofiber membranes that help in the treatment of various diseases.

In terms of education, it is important to highlight Poland's market for research and development in biotechnology, which is creating new opportunities for the Polish specialist workforce.

One of the leaders in the Polish biotechnology market is Celon Pharma. It conducts advanced clinical trials on new molecules used for the biological treatment of advanced medical conditions. One-third of the scientists employed by the company hold a PhD in molecular biology, pharmacy or chemistry.

The high percentage of individuals who speak a foreign language highlights the appeal of Polish workers. Many Polish specialists are fluent in English, which facilitates international cooperation and access to the latest research. According to Eurostat, approximately 62% of Poles with a university degree state that they can communicate in English. In addition, there are many professionals in the market who – in addition to English – are proficient in German, French or Spanish.

3.

Talent availability per region

The talent pool in life sciences field is substantial, thanks to a vibrant science sector and a robust R&D market in Poland.

In Poland, the most common profiles of candidates in the life sciences sector include individuals with university degrees in biotechnology, pharmacy, medicine, molecular biology, genetics and neurobiology. In addition, there is a growing demand for specialists in areas such as industrial biotechnology, genomics, bioinformatics, medical technology and clinical research. Skills that combine life sciences and IT, such as genomic data

analysis, pharmaceutical software development and molecular modelling, are increasingly important. The pool of candidates specialising in these fields is steadily expanding.

TABLE 4

The life sciences sector in Poland employs approximately 150,000 to 200,000 workers

~25,000
Scientists and researchers

~50,000
Specialists in the pharmaceutical sector

~20,000
Employees in the biotechnology sector

Source: Hays analysis based on LinkedIn Talent Insights, 2025

TABLE 5

Regions with the greatest availability of life sciences talent are typically established University centres

Region	City	Number of students in the 2023/2024 academic year
Mazowieckie	**Warsaw**	**280,516**
Małopolskie	**Krakow**	**148,044**
Wielkopolskie	**Poznań**	**130,700**
Dolnośląskie	**Wrocław**	**112,946**
Śląskie	**Katowice**	**106,294**
Pomorskie	**Tricity***	**87,530**

* Gdańsk, Gdynia, Sopot

Source: Hays analysis based on universities' data, 2024

4.

Students and graduates

Poland has a high availability of skilled workers, as indicated by the presence of 354 Universities and Institutes of Higher Education across the country. In the 2023/2024 academic year, approximately 1,245,200 students were enrolled, with around 10% of them pursuing medical degrees. Since 2020, the number of students has been increasing every year, particularly in subjects relevant to the life sciences sector.

TABLE 6

Number of students in Poland

2020/2021	**1,204,000**
2021/2022	**1,210,000**
2022/2023	**1,223,700**
2023/2024	**1,245,200**

Source: Poland's Central Statistics Office data, 2024

Each year, Polish universities produce approximately 15 to 20 thousand graduates. Additionally, the number of doctoral and postdoctoral students in Poland pursuing studies in life sciences is on the rise, providing a solid foundation for further innovation development. Polish universities actively cooperate with foreign

TABLE 7

The most popular Life Sciences study programmes

Study programme	Estimated number of applicants per place
Neurobiotechnology	**35**
Clinical Psychology and Neuropsychology	**32**
Medicine	**15–20**
Biology	**10–15**
Physiotherapy	**8–12**
Medical Chemistry	**8**
Veterinary Medicine	**8**
Medical Analytics	**6–7**
Biophysics	**5**
Chemistry	**5**
Genetics	**5**
Immunology	**5**
Medical Biology	**5**
Dietetics	**4–5**
Microbiology	**4–6**
Bioinformatics	**3–7**

Source: Hays analysis based on universities' data, 2024

TABLE 8

University graduates with a Life Sciences relevant degree in 2023

Medical	**24,072**
Engineering and technical	**23,110**
Information technologies	**10,432**
Physics	**4,471**
Biology	**2,392**
Mathematics and statistics	**2,027**
Environmental sciences	**2,255**

Source: Poland's Central Statistics Office data, 2023

scientific institutions, which enables the exchange of knowledge and experience as well as participation in international research projects. This collaboration grants students and researchers access to the latest advancements and technologies.

Life sciences employers are seeking increasingly specialised experts. Depending on the company's focus, preference is given to graduates from specific fields of study.

For investors in the life sciences sector, the most valuable candidates are graduates in the following fields:

→ Medicine and Pharmacy

Medicine (medical degree) – clinical specialists, doctors engaged in clinical research, experts in personalised medicine;

Pharmacy – drug production, quality control, regulatory affairs;

Medical Analytics – laboratory diagnostics, microbiology, genetics;

Nursing and Public Health – development of research in healthcare, epidemiology;

Toxicology and Safety Assessment – risk assessment of new substances.

→ Biotechnology and Bioengineering

Biotechnology – development of new biological drugs, protein engineering, biopharmaceuticals;

Bioengineering – biomaterials design, cell engineering;

Microbiology and Genetics – vaccine development, genetic engineering;

Molecular Biology – development of targeted therapies, RNA research.

→ **Chemistry, Biochemistry and Life Sciences**

Pharmaceutical Chemistry – development of new active ingredients

Biochemistry – enzyme research, drug metabolism

Nanotechnology – nanomaterials in medicine and diagnostics

Industrial Biotechnology and biopharmaceutical production

5.

Academic centres and research institutes

Poland is home to numerous leading academic and research centres, including universities, scientific institutes and research facilities that support the biotechnology, pharmaceutical, medical and public health industries. Many of these centres conduct scientific research, promote innovation, and collaborate with international institutions. Life sciences companies typically establish their headquarters in cities that are also academic hubs.

Krakow

The Jagiellonian University – Medical College

Study programmes and specialisations

Medicine: world-renowned education with modern teaching methods;

Medical Biotechnology: research on gene therapies, biomaterials and personalised medicine;

Pharmacy: focus on pharmacology, drug technology and clinical research;

Public Health: training of specialists in healthcare management.

Modern research centres

Malopolska Centre of Biotechnology (MCB) – research on molecular biology, proteomics and genomics;

Centre of Technology Transfer (CITTRU) – an institution established at the Jagiellonian University (JU) engaged in identification of JU innovations, legal protection of intellectual property developed at JU, development of the JU and coordination of the contract research performed at the JU;

SOLARIS NSRC – a national science centre providing open access to research infrastructure. It designs, creates and makes available research infrastructure to carry out measurements using methods based on synchrotron radiation properties. The Centre's infrastructure serves basic and applied research in such areas as catalysis, biomedical engineering, nanomaterials, pharmacology or geology;

SANO – the main SANO's objective is leveraging computational technologies in the development of futuristic solutions for medical practice. SANO's ambition is to become one of the best Centre for computational medicine in Central Eastern Europe.

Institute of Pharmacology

(Polish Academy of Sciences) – research in pharmacology, neurobiology, and toxicology.

Companies

Amgen – a global biotechnology company that invests in research and development in Poland;

Ardigen – a bioinformatics and precision medicine company leveraging AI and advanced computational biology to accelerate drug discovery;

BS Biotechna – a biotechnology company specializing in developing targeted cancer therapies utilizing nanotechnology and small interfering RNA (siRNA) to silence genes associated with cancer progression;

Gyncentrum (Katowice) – a biotechnology company developing an innovative dual CAR-T cell therapy for multiple myeloma, aiming to enhance T-cell recognition and destruction of cancer cells.

INTO DNA – a company offering STRIDE™, a highly sensitive fluorescence-based technology for direct detection of DNA breaks at the individual lesion level, enhancing research in DNA damage and repair mechanisms;

Ryvu Therapeutics – a clinical-stage biotech company developing small molecule therapies aimed at precision oncology, with a pipeline including selective inhibitors targeting difficult-to-treat cancers;

Selvita – a biotechnology company specialising in drug research and pharmaceutical innovation;

SyVento Biotech – a company developing advanced lipid nanoparticle (LNP) platforms and GMP manufacturing capabilities for RNA-based therapeutics and innovative drug delivery technologies;

Lublin

University of Life Sciences in Lublin

Study programmes and specialisations

Applied Biotechnology: applications in agriculture and biomaterial production;

Human Nutrition and Dietetics: research focused on functional diets and health-promoting foods.

Veterinary Medicine: strong research facilities for studying livestock and wildlife diseases;

Companies

BioMaxima – a manufacturer of chemical reagents, devices and systems for medical diagnostics and biotechnology;

Synthaverse – a pharmaceutical company whose leading achievements include developing the field of immunotherapy. Producer of a drug used internationally in oncological immunotherapy of bladder cancer and creator of the tuberculosis vaccine, which is used to vaccinate all newborns in Poland and which is widely used worldwide.

Łódź

University of Łódź

Study programmes and specialisations

Environmental Protection: an interdisciplinary programme related to ecosystem biology and environmental management.

Molecular Biology: conducts advanced research on genes, cells and organisms;

Companies

Adamed – a Polish pharmaceutical and biotechnology company with manufacturing facilities in Pabianice;

FiLeClo – small-molecule drug platform with the most advanced oncology program entering a Phase I trial targeting various types of solid tumors and cancer stem cells;

Mabion – production of sterile biotechnological products in a manufacturing plant in GMP standard for biological medicinal substances based on mammalian cell cultures;

Personather – designing anti-cancer therapies and regenerative medicine (stem cells).

Takeda – a multinational pharmaceutical company with one of the world's largest shared service centres for the Takeda Group located in Łódź;

Poznań

Poznań University of Medical Sciences

Study programmes and specialisations

Medicine: a renowned programme with access to clinical trials;

Medical Biotechnology: cell therapies, molecular biology and protein research.

Pharmacy: research on modern drugs, including herbal medicine and nanotechnology in pharmacology;

Institute of Biotechnology and Biochemistry

– a centre that collaborates internationally with various universities and research institutes abroad.

Institute of Bioorganic Chemistry

(Polish Academy of Sciences) – bioinformatics and structural biology.

Institute of Human Genetics

(Polish Academy of Sciences) – modern research on genetics and the molecular mechanisms underlying generically determined diseases.

Companies

Bayer – an international company that conducts research in biotechnology and products for healthcare and agriculture.

Medicofarma Biotech – a biotechnology company dedicated to designing, refining, and introducing innovative medications that address critical unmet needs in modern medicine;

Pikralida – a biotechnology company specializing in the development of innovative small-molecule therapies with dual-use potential, addressing unmet medical needs in both civilian and defense sectors;

Szczecin

Pomeranian Medical University in Szczecin

Study programmes and specialisations

Medicine: this program includes classes on research methodology, statistical analysis and the practical skills necessary to conduct scientific research;

Medical Biotechnology: genetic engineering, molecular biology, applied biotechnology;

Medical Analytics: clinical chemistry, instrumental analysis, laboratory hematology, parasitological diagnostics.

Cooperation

Clinical Trials Support Centre – an organisational unit that collaborates with the Medical Research Agency and University hospitals;

Medical Simulation Centre – an educational facility offering advanced medical simulations for students and professionals in the healthcare sector.

National Laboratory for Feed Stuffs

– the laboratory conducts physicochemical tests on environmental samples and evaluates animal feed and nutrition.

Regional Centre for Innovation and Technology Transfer

– this centre provides counselling and training services for companies across various sectors, including biotechnology, medicine, pharmacy and life sciences.

Companies

Demant – an international hearing healthcare group with a manufacturing plant and business services centre located in Szczecin;

Natural Antibody – data-driven predictive methods for antibody therapeutic industry.

Tricity (Gdańsk, Gdynia, Sopot)

University of Gdańsk

Study programmes and specialisations

Genetics: research in genomics, cell biology and bioinformatics;

Medical Biology: focus on molecular diagnostics and pharmacology.

Molecular Biotechnology: programme conducted in collaboration with the International Biotechnology Centre;

Cooperation with institutes

Intercollegiate Faculty of Biotechnology UG&MUG (Medical University of Gdańsk).

Companies

Polpharma – one of the largest pharmaceutical manufacturers in Poland, also involved in researching new drugs. It is located in Starogard Gdański;

PolTREG – a clinical-stage biotech company developing pioneering T-regulatory cell therapies for autoimmune diseases like type 1 diabetes and multiple sclerosis.

Warsaw

University of Warsaw

Study programmes and specialisations

Biotechnology: research in genetic engineering, industrial microbiology and medical biotechnology;

Bioinformatics and Systems Biology: an interdisciplinary approach that combines biology, computer science and mathematics;

Environmental Protection: training specialists in ecology, environmental biology and natural resource management.

Unique degree programmes

Postgraduate programmes offered in English, such as Molecular Biology;

Opportunities to participate in research projects at the Biological and Chemical Research Centre (CNBCh);

Laboratorium Pomysłów is a grant program organised in collaboration with the pharmaceutical company Johnson & Johnson Innovative Medicine Polska.

Warsaw University of Life Sciences

Study programmes and specialisations

Biotechnology: application in agriculture, environmental protection and food production;

Veterinary Medicine: one of the top departments in Poland, specialising in researching animal diseases and their treatments;

Environmental Engineering: education focused on environmental protection and water management;

Food Science and Human Nutrition: focus on food technology and dietetics.

Modern research centres

Centre for Applied Biotechnology and Basic Sciences

Centre for Biostructure Research

– research centre focused on bioinformatics, structural biology and biotechnology.

Centre for Postgraduate Medical Education

(CMKP) – an educational and research institution focused on medicine and health sciences.

Institute of Biochemistry and Biophysics

(Polish Academy of Sciences) – research in biochemistry, biotechnology and molecular biology.

Institute of Biocybernetics and Biomedical Engineering

(Polish Academy of Sciences) – collaboration with companies from the medical and technology industries on the development of new medical devices and biomedical technologies.

Institute of Genetics and Animal Biology

(Polish Academy of Sciences) – research in genomics, biotechnology and genetic engineering.

Maria Skłodowska-Curie National Research Institute of Oncology

(COI) – one of the most significant research and clinical centres in Poland focused on oncology and medical biotechnology.

Nencki Institute of Experimental Biology

– offers cooperation opportunities for students and doctoral candidates in neurobiology, genomics and proteomics.

Polish Platform of Medical Research

(PPM) – an international cooperation centre supporting the development of innovative medical technologies, including biotechnology.

Companies

BioResearch Pharma S.A. – a company specializing in developing novel topical dermatological therapies by repurposing clinically tested medicinal substances;

Celon Pharma – a clinical-stage biopharmaceutical company committed to the discovery and development of innovative therapies targeting unmet medical needs in neuropsychiatry, oncology, and metabolic disorders;

ExploRNA Therapeutics – a company specializing in mRNA technologies, focusing on developing novel cap analogs to enhance protein production for therapeutic applications;

Famicord Tx – a biotech company developing allogeneic CAR-T therapies for hematologic cancers, aiming to make cell and gene immunotherapies broadly accessible;

Human Biome Institute – develops next-generation, donor-independent microbiome therapeutics to treat infections, immune disorders, and oncology-related complications;

JJP Biologics – a clinical stage biotechnology company specializing in developing novel biologic therapies accompanied by companion diagnostics for personalized medicine;

MilliporeSigma – a biotechnology company providing services and products to companies in the life sciences industry;

Molecure – a clinical-stage biotechnology company focused on discovering and developing first-in-class small molecule drugs that modulate underexplored protein targets and RNA functions to treat incurable diseases;

NanoGroup S.A. – a company specializing in nanotechnology solutions for medicine, focusing on areas such as cancer prevention, early diagnostics, targeted therapies, and oncological rehabilitation;

Novartis – a pharmaceutical company specialising in the development of new therapies and technologies within the life sciences sector;

OncoOne – a biotechnology company focused on discovering and developing novel biomarkers for cancer diagnostics;

Orphinic Scientific – a biopharmaceutical holding company focused on developing innovative therapies for orphan diseases and other conditions with significant unmet medical needs;

Polbionica – bioprinted organs (i.e. 3D pancreas), tissues, and biomaterials used in transplantation, regenerative medicine, drug development, and scientific research.

WPD Pharmaceuticals – a biotechnology research and development company focusing on oncology, developing medicinal products involving biological compounds and small molecules;

Wrocław

Wrocław University of Environmental and Life Sciences

Study programmes and specialisations

Biotechnology: research related to technologies in agriculture and environmental protection;

Veterinary Medicine: international study programme accredited by European Association of Establishments for Veterinary Education;

Environmental Protection: addresses issues associated with the management of natural resources.

Institute of Genetics and Microbiology

(Polish Academy of Sciences) – research on microorganisms and their applications in biotechnology.

Łukasiewicz Research Network – PORT

(Polish Centre for Technology Development) develops new technologies for industry. The research activity of the centre focuses on materials science and biotechnology.

Companies

Biotts – develops the first ever noninvasive insulin transdermal administration;

Captor Therapeutics – a Polish-Swiss biopharmaceutical company specializing in Targeted Protein Degradation (TPD) technology to develop breakthrough therapies for diseases with high unmet medical needs, such as cancer and autoimmune disorders;

Inno-Gene – a biotechnology company specialising in genetic diagnostics and pharmacogenomics;

MediSensonic – solutions enabling fast, precise and non-invasive diagnostics of diseases in the areas of diabetology, cardiology, pulmonology and dentistry.

Pure Biologics – develops antibody and aptamer-based therapies in immuno-oncology, autoimmune, and rare neurological diseases, with candidates advancing toward clinical trials;

6.

Cooperation between business and academia

Research institutes

Scientific institutes in Poland play a crucial role in supporting and enhancing business through various forms of collaboration. This cooperation often leads to the emergence of new initiatives or products on the Polish market.

Research consortia

Research consortia are an example of successful collaboration between private sectors and scientific institutions. They unite companies, Universities and Research Institutes, enabling the exchange of knowledge and resources for specific technological projects.

Incubators and accelerators

In addition to research partnerships and consortia, it is important to mention incubators and accelerators for start-ups and new research projects.

BioInMed

BioInMed (Polish Union of Innovative Medical Biotechnology Companies) was established to foster collaboration between the business and public sector. This organisation brings together private stakeholders with public administration to create favourable conditions for the development of innovative research projects in Poland.

BioInMed's PHASE Conference, held annually in Warsaw, also plays a key role in the ecosystem by attracting both capital market and private (including international) investors, showcasing the sector's success stories and growth potential to help it thrive. It also serves as a platform for dialogue with public administration on the policies and conditions needed to further support the development of medical biotechnology in Poland.

BioForum

The Association of Biotechnology Companies in Poland was the first branch association established in Poland. It connects industry stakeholders to foster entrepreneurial collaboration, facilitate knowledge exchange, and advance biotechnology as a driving force for both the Polish and European economies through strategic public affairs initiatives.

Its flagship event, the international **CEBioForum conference,** unites scientists, business leaders, and policymakers to strengthen global partnerships and expand our ever-growing network, serving as **the central hub for the #PolishBiotech ecosystem.**

The Medical Research Agency

It is a State agency responsible for the development of research in medical and health sciences. It provides financial support for the development of new medical devices, as well as for their clinical evaluation and certification. This includes innovative solutions that utilise artificial intelligence and robotics.

One of Medical Research Agency's key initiatives is the Polish Clinical Research Network, which focuses on establishing consistent quality and process standards for organisations conducting clinical research in Poland. The network consists of 23 specialized Clinical Research Support Centres, facilitating the implementation of both commercial and non-commercial clinical studies.

The National Centre for Research and Development

The National Centre for Research and Development (NCBR) actively supports the Polish medical sector by financing and initiating various research projects and innovative technological solutions. Additionally, NCBR assists medical start-ups in Poland by offering various forms of funding and support for innovative projects in the medical field.

As a part of the Digital Health program, **NCBR** collaborates with venture capital funds and other partners to provide start-ups with funding and expertise in managing high-risk projects. Recently, the centre has invested in a company that is developing portable devices for rapid genetic diagnostics, as well as in a start-up creating medical simulators for training healthcare professionals.

The Jagiellonian Centre of Innovation

The centre actively supports innovation in the fields of pharmacy, medical devices and biomedical research. It conducts clinical and biomedical research while providing modern laboratories and equipment for rent within the Life Sciences Park. Additionally, the centre supports entrepreneurs and scientists in developing innovative projects and preparing necessary project documentation. It also offers various forms of financing, including support for start-ups.

Klaster LifeScience Krakow

A cluster that promotes collaboration among businesses, academic institutions, research organisations and hospitals. It also organises international events, such as the Life Science Open Space, which aim to enhance collaboration for health and quality of life.

7.

Upskilling and reskilling

In the rapidly evolving life sciences sector, the increasing demands of the labour market and rapid technological progress necessitate ongoing skill development for both employees and students. To address these needs, several training programmes and initiatives are in place to support collaboration between academic institutions and industry in Poland. The integration of these efforts enables knowledge transfer, the implementation of modern technologies and a swift adaptation to changing market conditions.

Skill development programmes

Polpharma Academy

A programme implemented by the Polish pharmaceutical company Polpharma, offering modular training courses. These courses cover a variety of topics, including modern pharmaceutical technologies, clinical trials and project management. Additionally, the programme organises workshops focused on the digitalisation of production processes, enabling employees to acquire practical skills that align with current industry standards.

Adamed Academy

This initiative, launched by the pharmaceutical company Adamed, is designed for young specialists and managers in the life sciences sector. The programme combines a series of workshops, practical training and mentoring sessions that focus on clinical research design, risk management and the implementation of innovative biotechnological technologies. Additionally, seminars on the latest trends in molecular diagnostics are organised.

Incubators and accelerators

Programmes that support entrepreneurship in the life sciences sector, including:

- **Life Science Accelerator** – offers business support, mentoring and regular training to help young scientists and entrepreneurs acquire practical skills for implementing innovative projects;
- **BioInkubator** – a regional initiative designed to support biotechnology start-ups by providing access to laboratories, research infrastructure and expert advice;
- **Life Sciences business incubators at universities** – entities that combine scientific support with business advice;
- **BioForum Akcelerator** – a program exclusively for early-stage biotech companies, designed to optimize each step of their development process.

Development programmes conducted in collaboration with industry and academic institutions

Strong collaboration between industry and academia is essential for fostering innovation in the life sciences sector. These partnerships facilitate joint research and development projects, update educational curricula and organise internships and apprenticeships that closely match the needs of the labour market.

Polpharma and the Jagiellonian University

Collaborative research projects in clinical research and pharmacology enable the adoption of modern technologies. Students gain valuable practical experience through internships and apprenticeships.

Adamed and the Medical University of Warsaw

A partnership dedicated to research and training in innovative therapies and molecular diagnostics. These initiatives allow students and young scientists to apply their knowledge in practice.

Project consortia supported by the National Centre for Research and Development

Universities and companies from the life sciences sector are engaged in projects funded by the NCBR. These include:

- **Research project with the participation of the Warsaw University of Technology** – an initiative combining laboratory research with practical industrial applications to develop innovative diagnostic methods.
- **Bioinformatics projects with the participation of the AGH University of Krakow** – a collaboration focused on partnering with pharmaceutical companies to implement tools for medical data analysis.

EIT Health

A European initiative involving the University of Warsaw, the Poznań University of Medical Sciences and the AGH University of Krakow that aims to facilitate international knowledge exchange and the implementation of modern technologies in both clinical research and industrial practices.

Coventry University Wrocław with BioInMed

In November 2023, Coventry University Wrocław and BioInMed signed a partnership agreement to launch the Applied Biosciences BSc (Hons) program, aiming to equip students with practical skills and knowledge tailored to the evolving needs of the medical biotechnology sector. This collaboration integrates BioInMed's industry expertise into the curriculum, offering students exposure to real-world applications and insights from leading biotech companies. The program started in the autumn of 2024.

As the life sciences sector continues to grow, an increasing evidence demonstrates the effectiveness of these initiatives. Measurable results and concrete examples confirm that strengthening the cooperation between academia and industry brings tangible benefits:

Increase in the number of research and development projects

Reports from the National Centre for Research and Development and the analyses of operational programmes indicate that the collaboration between universities and life sciences companies has risen by approximately 20-30% over the past three years.

Development of internship and apprenticeship programmes

The programmes offered by Polpharma and Adamed help young professionals enter the labour market quickly. The effectiveness of these initiatives is evident in the rising employment rates among graduates.

Increased competitiveness of Polish workforce

Participation by Polish universities and companies in programs like EIT Health provides access to the latest technologies and work methods. Engaging in European training projects enhances qualifications, which is essential for the competitiveness of Polish companies.

Innovative learning solutions

The development of e-learning platforms enables not only the acquisition of theoretical knowledge but also its practical application. Interactive courses, webinars and workshops allow to adapt to changing technological and market demands.

8.

Salary benchmarks and benefits

For many years, Poland has been viewed by investors as an emerging or even a low-cost country. This has resulted in many international businesses entering the market, expanding the potential of the life sciences sector. However, rising labour costs observed in the past years have contributed to the fact that Poland – while still offering great value for money – can no longer be called "low cost".

Despite growing labour costs, Poland remains a market that offers high-quality work for a moderate price, still considerably lower than e.g. in Western Europe or the US. Salary levels increase when seeking specialists with niche skills.

TABLE 9

Gross monthly salary ranges in Poland for life sciences employees in 2025 (in PLN)

Pharma

Position	Min	Opt	Max
Commercial Director	30,000	36,000	50,000
Business Unit Manager	28,000	40,000	50,000
Marketing Manager	23,000	27,000	35,000
Multichannel & Digital Manager	19,000	25,000	35,000
e-Commerce Manager	15,000	17,000	20,000
Product Manager Hospital	19,000	23,000	30,000
Product Manager RX	17,000	19,000	25,000
Product/ Brand Manager OTC	15,000	20,000	25,000
Junior Product/ Brand Manager	11,000	12,000	14,000
Marketing Specialist	7,000	9,000	11,000
National Sales Manager	18,000	20,000	27,000
District Manager	14,000	18,000	20,000
Key Account Manager (hospital)	15,000	18,000	22,000
Key Account Manager (pharmacy)	13,000	15,000	19,000
Medical Representative	7,500	8,000	9,000
Pharmaceutical Representative	6,500	7,000	8,500
Medical Director	30,000	35,000	47,000
R&D Director	24,000	33,000	45,000
Medical Advisor	19,000	22,000	30,000
Medical Science Liaison	16,500	19,000	23,500
Market Access Manager	25,000	30,000	35,000
Quality Director	18,000	25,000	30,000
Quality Control Manager	17,000	18,500	21,000
Quality Assurance Manager	15,000	17,500	22,000
Qualified Person	13,000	15,000	19,000
Regulatory Affairs Manager	17,000	19,000	24,000
Regulatory Affairs Specialist	9,000	10,500	13,000
Pharmacovigilance Manager	17,000	18,000	21,000
Pharmacovigilance Specialist	9,000	10,000	12,000
Medical Customer Service (with foreign languages)	8,000	9,000	12,000

Clinical trials

Position	Min	Opt	Max
Clinical Research Director/ Director of Clinical Trials	27,000	33,500	50,000
Clinical Operations Director	38,000	43,000	50,000
Associate Director of Clinical Operations	25,000	32,000	38,000
Clinical Operations Manager	20,000	26,000	32,000
Clinical Project Manager	18,000	25,000	32,000
Clinical Data Manager	17,000	20,000	25,000
Clinical Trial Manager	22,000	25,000	30,000
Senior Clinical Research Associate	18,000	21,000	28,000
Clinical Research Associate	14,000	17,000	19,000
Clinical Trial Assistant	6,500	9,000	10,000
Clinical Research Coordinator	9,000	10,000	12,000
Clinical Medical Writer	12,000	18,000	24,000
Clinical Data Analyst	13,000	16,500	18,000

Medical devices

Position	Min	Opt	Max
Country Manager	25,000	30,000	40,000
Sales Manager	17,000	20,000	35,000
Business Development Manager	12,000	15,000	18,000
Product Manager	12,000	15,000	18,000
Regulatory Affairs Manager	15,000	17,000	20,000
Regulatory Affairs Specialist	9,000	11,000	12,000
Service Manager	17,000	20,000	25,000
Service Engineer (5+ years of experience)	10,000	13,000	15,000
Service Engineer (2-5 years of experience)	8,000	9,000	10,000
Application Specialist	11,000	13,000	15,000
Sales Representative (5+ years of experience)	12,000	13,000	14,000
Sales Representative (2-5 years of experience)	10,000	12,000	13,000
Inside Sales Representative (with foreign languages)	9,000	10,000	12,000
Inside Sales Representative	8,000	9,000	10,000
Business Analyst	7,000	11,000	16,000
Marketing Specialist	8,000	10,000	12,000
Bioinformatician	13,000	15,000	19,000
Key Account Manager	13,000	15,000	16,000

Average rates for the whole of Poland. Gross monthly remuneration in a given position (full-time). Optimum is the salary most often proposed at an equivalent position.

1 PLN = 0.24 EUR or 0.26 USD (as of 13.03.2025)

Source: Hays Poland Salary Guide, 2025

When changing jobs, candidates in the life sciences sector pay the most attention to salary and non-financial benefits. Additionally, they are most likely to participate in the recruitment process if the employer represents a strong and recognisable brand associated stable employment. Conversely, the opportunity to participate in interesting research and development projects or to work with innovative products and technologies can effectively attract candidates to smaller companies and start-ups.

TABLE 10

The most important factors for candidates when changing jobs

- **Competitive salary**
- **Career growth**
- **Work model**
- **Work-life balance**
- **Job security**

Source: Hays Poland Salary Guide, 2025

Benefits play a vital role in devising successful recruitment and retention strategies. Standard benefits include a sports card, life insurance, and a basic private medical care package. From the perspective of employees in the life sciences sector, very attractive is the perk of a company car and additional vacation days. However, the latter is not a common solution yet, so new investors can leverage it to gain a competitive edge.

TABLE 11

Non-financial factors that help life sciences companies to recruit

49%	**Interesting projects and challenges**
47%	**Job security**
30%	**Career development opportunities**
26%	**Benefits package**
26%	**Company recognition and reputation**
23%	**Work environment**
21%	**Work model (hybrid or remote)**
19%	**Work-life balance**
16%	**Type of products/ services offered by the company**
9%	**Location**

Source: Hays Poland Salary Guide, 2025

TABLE 12

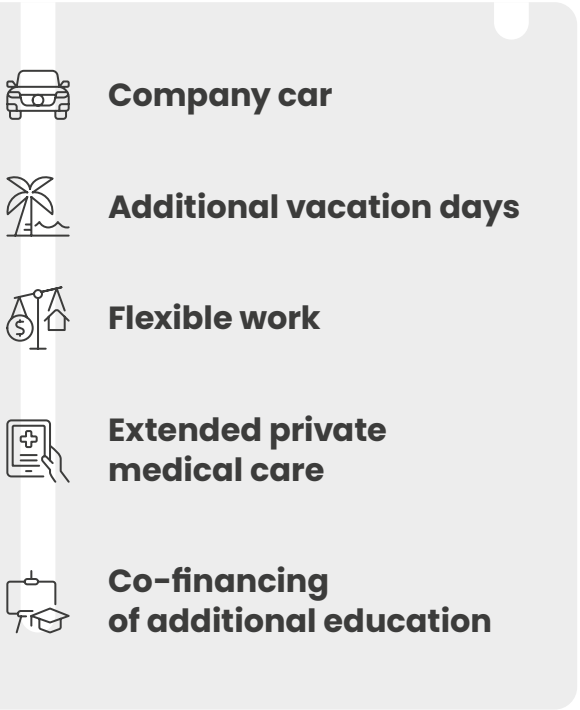
Most common benefits offered by the life sciences industry

Sports centre card	**74%**
Life insurance	**70%**
Basic private medical care	**65%**
Company phone for private use	**65%**
Events, team building activities	**56%**
Company computer for private use	**47%**
Flexible work	**44%**
Gift vouchers	**44%**
Co-financing of additional education	**42%**
Company car	**40%**

Source: Hays Poland Salary Guide, 2025

TABLE 13

The most attractive benefits for candidates in the life sciences industry



Source: Hays Poland Salary Guide, 2025

9.

Talent acquisition in practice

By aligning recruitment strategies with market standards and candidate expectations, companies in the life sciences sector can successfully execute even the most demanding investment projects. The Polish labour market has witnessed several significant investment successes in this sector, attracting further interest from multinational companies. These achievements span areas directly related to clinical trials and medical product development, as well as life sciences companies establishing business service centres in Poland, including IT, finance, and HR functions.

AstraZeneca

One of the investment successes in the Polish life sciences industry is the establishment of AstraZeneca's international clinical research hub. When selecting a location for this centre, the organisation chose Poland due to its qualified staff and lower labour costs compared to countries like Germany or the UK. In just a few years, AstraZeneca has expanded its workforce in Poland from a few hundred to more than 3000 employees. The hub hosts teams dedicated to clinical trials, regulatory affairs, transparency, data management, quality, safety and statistics.

Roche

Another notable example is the international pharmaceutical company Roche, which chose Poland as the location for its global IT Hub. It serves as a company's key centre for technology and innovation, supporting Roche's global operations. The teams based in Poland work on various critical areas, including software development, cybersecurity, big data and data analysis, artificial intelligence and cloud solutions.

Leo Pharma

Leo Pharma, a Scandinavian pharmaceutical company, has also established its global business support offices in Poland. The company

has opened its Global Business Services Centre in Gdańsk, which supports its global operations in finance, HR, quality and pharmacovigilance to name a few.

Other examples

GSK	**Takeda**
Bayer	**Biogen**
Pfizer	**Novo Nordisk**
	Merck
	Olympus
	Becton Dickinson
	Elanco

10.

Key considerations for an investor's recruitment strategy

Is there a workforce with the necessary skills and experience available in the location of interest?	**What educational requirements and how many years of experience do you expect from candidates?**	**Are you open to considering candidates from related fields?**
Will you provide a relocation package for candidates from other locations?	**Does the company offer flexible hours or remote work? What are the specific availability requirements (e.g. weekend work)?**	**What support and development opportunities can you offer to new employees (inc. onboarding, mentoring, coaching, advancement opportunities)?**
Are your salary and benefits aligned with market standards? What will be your unique selling point for candidates?	**What is your short and long-term recruitment strategy? Do you plan to use the support of recruitment agencies?**	**Do you plan to set up an HR department in Poland with a good understanding of the local labour market and experience in the life sciences sector?**

III LIFE SCIENCE IN PRACTICE – A MARKET OVERVIEW

1.

Pharmaceutical sector activities

The pharmaceutical industry in Poland is shaped not only by talented graduates and competitive costs. Domestic and foreign companies have created a vibrant ecosystem that utilizes cooperation between for-profit companies, non-profit organizations, and public institutions to create new growth opportunities. This section of the report details how companies that are already active in Poland interact with our ecosystem.

Together with the American Chamber of Commerce and INFARMA, PAIH reached out to around 40 companies that are active in the pharmaceutical industry. The data that we provide below is based on the questionnaires that were returned during the preparation of the report, accounting for around 20% of companies.

The results mostly reflect the activities of large companies, as their average number of employees amounted to 1,039. On average those companies have 115.5 clinical trials active in Poland and 17.7 drugs or treatments available locally and reimbursed by the Polish healthcare system. The average value of medication sold by the respondents exceeds 255 million Euros

Pharmaceutical companies also cooperate with healthcare professionals and patient action groups. To promote transparency within the Industry, Infarma introduced the Code of Transparency among its company members. It encourages companies to publish their transparency reports online and shares aggregated numbers annualy.

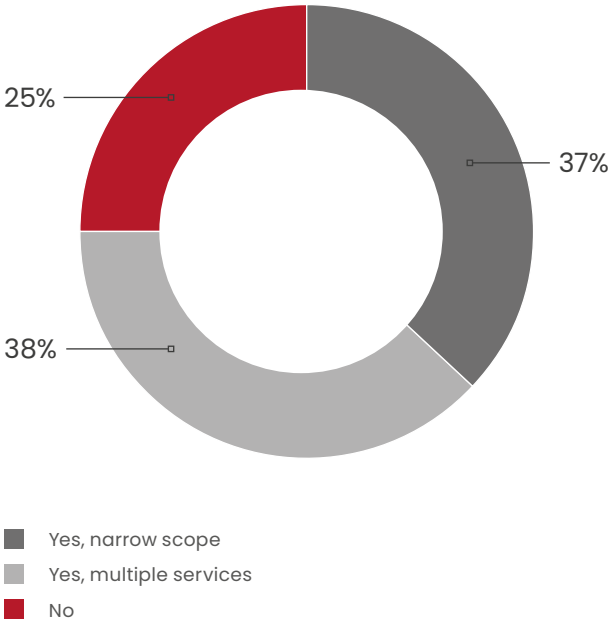
> **In 2023, 76% of donations made by pharmaceutical companies supported R&D efforts, 13.4% supported PAGs and 10,6% was awarded to healthcare professionals[30].**

[30] https://www.kodeksprzejrzystosci.pl/raport-przejrzysto%C5%9Bci/

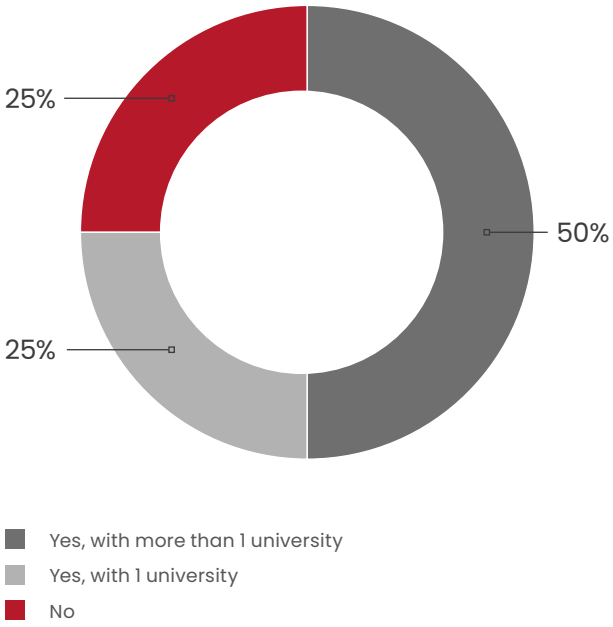
One trend that we see among pharmaceutical companies, is that they do not limit their activities only to R&D. Often they recognize the potential of Poland in other fields and establish shared services centers for their global activities. The most popular services include human resources, IT support, finance, and procurement. Their commitment to Poland shows, that our talent pool is versatile and its costs remain competitive. The companies pointed towards foreign language skills, medical, and IT knowledge as the most important advantages of the Polish workforce. Furthermore, Poland's location and its connectivity with international business centres makes it easier to coordinate a company's global activities.

A vibrant ecosystem requires more than just private companies. In high-technology sectors such as the pharmaceutical industry, cooperation with universities serves as the core of talent recruitment strategies and drives innovations. To find out more about the cooperation with academia, we categorized the companies between those that successfully cooperate with a single university, multiple universities, or have no common programs. Our research further shows that some effective modes of cooperation, such as **industrial doctorate program** remain underutilized.

Does your company have a shared service centre in Poland?



Does your company cooperate with universities in Poland?

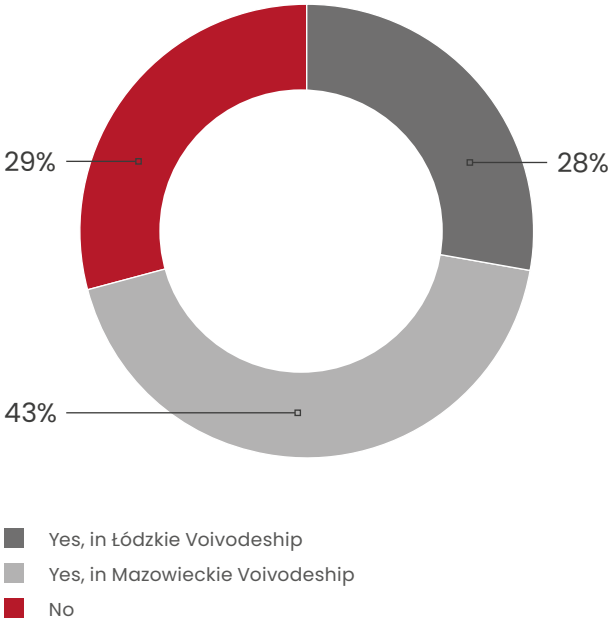


Industrial doctorate Program

This program allows partnerships between business and academia centred on research projects conducted by doctorate candidates working on real problems with private companies. On top of the scholarship for the students, the program provides companies with financial support on the acquisition of assets necessary to conduct related research projects. Moreover, the administrative costs of the industrial doctorate project can also be included.

A similar trend can be observed when looking at the status of a Centre of Research and Development. Only 37% of companies indicated that they have obtained this special status, which allows for special tax treatment. This showcases that while the instrument is not a solution that is applicable to every project, those that can benefit from are willing to commit the necessary administrative resources.

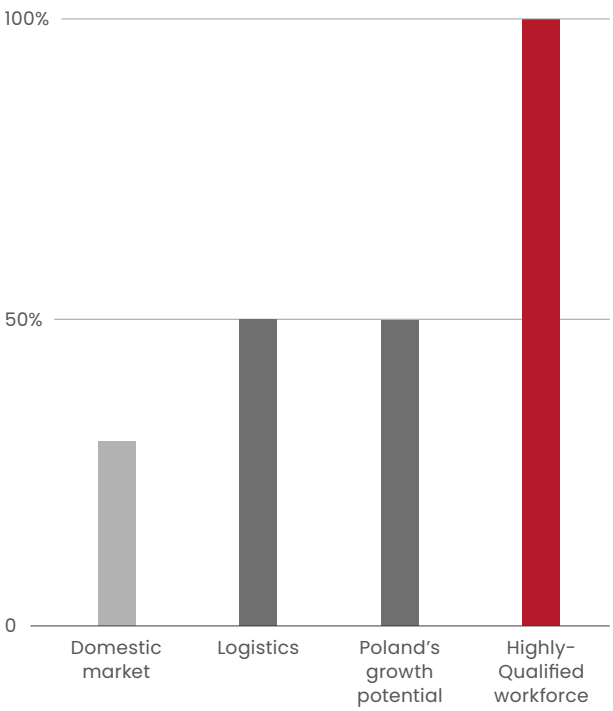
Does your company run wholesale operations in Poland?



Most of the responders have also indicated that they are running wholesale operations in Poland. Two regions have emerged as clear leaders in this regard. Both Łódzkie and Mazowieckie Voivodeships are located in the centre of Poland. The former has areas that are at the intersection of north-south and east-west motorways. The latter has the Capital city, which serves as the largest domestic market.

When asked about the reasons for their initial investment in Poland, all responders pointed towards the highly qualified workforce. Polish public universities, which are available for Poles on a tuition-free basis, are highly competitive and are gaining international recognition.

Why did you choose to invest in Poland?



Moreover, their geographical dispersion ensures that a larger share of students can benefit from higher education.

Other reasons pointed to by the companies include the domestic market (33%), great connectivity (50%), and the rapid economic development of Poland. The latter is especially important for pharmaceutical companies, since Poland's economic convergence is translated by its government into higher healthcare spending. Consequently, both the demand for new treatments and the support that they can receive should increase.

Our findings indicate that Poland is a competitive business hub. Businesses do not just enter the market, they expand and thrive here. Local branches of multinational enterprises are often granted important roles within their global structures. Moreover, universities are open to cooperation with businesses. However, the more ambitious and long-term cooperation projects are, the harder it becomes to initiate them. Utilizing them can provide additional opportunities for the long-term growth of local companies.

2.

Companies' activities under scrutiny

AstraZeneca

3,286

Warsaw office – 3,000 people,
Krakow office – over 100 people

191

R&D projects

19

molecules at advanced stage of development

9 of 20

medicines have already been launched in selected markets

PLN 2.5 billion

AstraZeneca's R&D expenditure in Poland (2020)

AstraZeneca is an innovative biopharmaceutical company with British-Swedish roots and is among the world's largest and most innovative companies in this sector. With patients in mind, we develop and manufacture cutting-edge medicines to help combat the diseases that pose the greatest challenges in modern medicine.

The company conducts research and development (R&D) and commercialises innovations, creating products and services with high added value. In Poland, its R&D activities focus on conducting clinical trials to assess the efficacy and safety profile of a drug candidate. Employees working in R&D activities account for almost 50% of the company's workforce in Poland. In addition, the company in Poland has a global HR centre, a global finance centre and a global procurement centre.

→ **Gender diversity at AstraZeneca:** 71% female, 29% male. In addition, women in senior positions: 61.48% (2024)

→ Nationality diversity: **52 nationalities**

→ **85% increase in revenue** between 2015 and 2023

68% reduction in CO_2 emissions in scopes 1 and 2 between 2015 and 2023

19.5% reduction in water consumption between 2015 and 2023

50.1% of middle management positions are **held by women**

→ Company global targets to 2030: **20 new medicines** available by 2030

→ **Alexion AstraZeneca Rare Disease** is a company established within the AstraZeneca structure operating in the area of orphan drug development (rare diseases).

In 2011, a global Clinical Research Operations Centre was established in Warsaw as the first in this part of Europe and one of six such R&D centres worldwide. Since 2020, the Warsaw facility has had the status of a Research and Development Centre. AstraZeneca in Poland has two offices located in Warsaw and Krakow. The company employs people in a wide variety of positions – those related to biomedical work: pharmacists, biotechnologists, medical professionals, people with a background in finance, marketing, law, linguistics, political science. The diversity of roles and opportunities for growth make the company attractive to job candidates. The company has products in the following therapeutic areas: oncology, cardiology, nephrology, metabolic diseases, pulmonology, immunology, rare diseases, infectious diseases and vaccines.

AstraZeneca has established partnerships with a number of scientific institutions to carry out joint projects and develop the skills of scientists:

» **University of Warsaw:** Since 2020, collaborates with AstraZeneca on identifying and implementing scientific projects and runs an "Introduction to Clinical Research" course.

» **Nobel Prize Inspiration Initiative:** In 2023, as part of the Nobel Prize Inspiration Initiative - a global program that enables Nobel Laureates to share their stories and insights - Nobel Prize Outreach, in collaboration with AstraZeneca, hosted an inspiring event with Nobel Laureate Sir Peter Ratcliffe at the University of Warsaw and Warsaw University of Life Sciences. Building on this success, AstraZeneca and Nobel Prize Outreach once again brought a Nobel Laureate to Warsaw in May 2025, welcoming Professor Craig C. Mello. His visit featured inspiring lectures and interactive discussions with students and young scientists from the Medical University of Warsaw, Warsaw University of Life Sciences, and the University of Warsaw.

» **Warsaw Medical University:** the October 2023 agreement includes cooperation in the education of pharmacists and doctors, including the launch of a postgraduate programme "Pharmacy in Business". In addition, through summer internship programmes: AstraZeneca supports students' careers through internships, cooperation on the "Pharmaceutical Care" course and participation in job fairs.

» **Institute of Experimental Biology of the Polish Academy of Sciences and AGH:** In 2023, AstraZeneca started collaborating on scientific projects, including implementation PhDs.

» **Academy of Healthcare Leaders:** The company has been organising lectures and workshops on the healthcare system for four years.

» **Copernicus Science Centre and "Transformations" Festival:** In 2023 and 2024, it supported the organisation of a festival dedicated to the popularisation of science.

» **Science Prize:** In 2023, an award was established in cooperation with the ICR and PACTT, which enabled a Polish researcher to participate in an oncology project in London in 2024.

GSK

2,500+

people employed in Poland on the basis of an employment contract (2024)

PLN 23.6 million

value of investments in clinical trials conducted in Poland (2023),
230 clinical centres (2024),
40 clinical trials (2024),
1,600 patients (2024)

24 million

packs of drugs and vaccines supplied to Polish patients (2023),
100 million packs of drugs produced for GSK in Poland (2023),
130 markets served by the export of drugs from Poland (2023)

PLN 2.3 billion

value of investments between 1998 and 2024

7,500

total number of jobs created in Poland thanks to GSK (2023)

PLN 1.65 billion

total contribution to Poland's GDP (2023),
PLN 331.3 million public levies (CIT, PIT, VAT, ZUS) (2023),
PLN 613 million income of Polish households thanks to GSK (2023)

Warsaw: GSK Commercial LLC

Poznań: GSK Services LLC

Poznań: GSK PSC Poland LLC

GSK is a global biopharma company with a purpose to unite science, technology and talent to get ahead of disease together and positively impact the health of billions of people worldwide.

Company's headquarter is located in the UK. The company is present in more than 75 countries worldwide. In Poland the company is located in Warsaw, Poznań and Gądki near Poznań.

The Polish branch of the company employs professionals in research and development, information technology, finance, purchasing, HR processes and supply chain management and commercial functions.

In the near future, the company plans to strengthen its operations in all the areas mentioned above in order to develop its competence and position itself as an expert in the global GSK network.

The role of GSK's Polish unit has evolved significantly over the last 15 years, especially in the areas of information technology and registration of new pharmaceutical products. Stable growth and the high quality of services provided by our employees resulted in the decision to open a multifunctional competence centre in Poland – GSK Poland Global Hub. The branches in Poznań and Warsaw are among the fastest growing GSK locations in the world, and Poland is recognised as a country of strategic importance.

The company actively cooperates with numerous external partners. Among them are:

The British Embassy,

Industry organisations: INFARMA, Polish Pharmaceutical Chamber of Commerce, Polish-British Chamber of Commerce, Employers of Poland, Wielkopolska Employers Association, Press Club Polska, FARMACJA POLSKA Chamber of Commerce.

Partners of Poland Global Hub: ABSL, CIMA, ACCA; academic circles (e.g. Poznan University of Technology, Poznan University of Economics, Poznan University of Merito WSB, Poznan University of Medical Sciences, University of Warsaw, AIESEC Organisation).

MSD

750

employees (December 2024)
70% Female
30% Male

34

of medicinal products from the area of Human Health

PLN 215 mln+

invested in R&D (2024)

R&D centre

status granted by Minister of Economic Development and Technology:

165+ clinical studies involving **4,100+** patients in Poland

2 million

vaccines delivered in 2024 to the Polish market

11,000+

number of jobs in the entire economy created as a result of MSD's operations in Poland*

PLN 4.3 billion

Total contribution to Poland's GDP. Total investments in R&D, purchase of marketing services, and payment of taxes to the state budget (2008-2024)

* "Innovative pharmaceutical companies as the leading partners of projects supporting Poland's development", INFARMA 2022 Report (calculated with the use of an indirect and induced multiplier).

Warsaw: MSD Polska LLC – since 1991 – Global Clinical Trial Operations, Global Data Management Centre: Global PV Case Management & Global Data Operations, MSD Human Health Division.

Warsaw / Łódź: MSD Dystrybucja LLC – distributor of MSD Group human health medicines & vaccines on the Polish market.

Warsaw: Intervet Polska LLC – MSD Animal Health

Psary Małe near Września: Allflex Polska LLC – since 2014 – MSD Animal Health Technology Solution Manufacturing Site

MSD companies in Poland are part of a global biopharmaceutical organisation – MSD, known in the United States and Canada as Merck & Co., Inc. with its registered office in Rahway (New Jersey, USA). The history of our company dates back to the turn of the 20th century, while in Poland we have been operating since 1991.

The primary objective of MSD is to use the latest scientific knowledge to save lives and improve the quality of life. We focus mainly on oncology, prevention of infectious diseases, inpatient and outpatient treatment.

Poland is an extremely important link in MSD's global research and development process, with 165 studies involving more than 4,100 patients. In 2024 alone, MSD Polska has allocated more than PLN 215m to R&D, while between 2008 and 2024 total investment in R&D, purchase of marketing services, and payment of taxes to the state budget exceeded PLN 4,3bn.

The largest of the six global MSD Data Management Centres operates in Warsaw. It analyses MSD clinical trial data coming from research centres in all regions of the world. The Data Management Centre is also home to one of the four pharmacovigilance data management centres worldwide.

The MSD Animal Health production facility in Psary Małe near Września is one of the largest MSD sites in the world, where highly specialised products are manufactured to support animal identification and welfare control. In Łódź, MSD is developing a modern pharmaceutical wholesaler of medicines and vaccines for the Polish market.

MSD employs professionals in a wide range of roles and areas, including research and development, medical affairs, marketing, sales, regulatory affairs and corporate operations. The company is looking for individuals who are passionate about driving change in healthcare and supporting an inclusive and innovative work environment.

Since 2021, MSD Polska has maintained the status of a research and development centre, awarded annually by the Minister of Economic Development and Technology. MSD is involved in numerous public-private partnerships in Poland, cooperating with, among others, the Maria Sklodowska-Curie National Institute of Oncology – National Research Institute or the Warsaw Medical University. Since 2024, as part of the Warsaw Health Innovation HUB (WHIH), a platform established under the auspices of the Medical Research Agency, MSD has been running the programme "MedConnect: Enabling Future Medical Leaders', aimed at outstanding final-year MSc pharmacy students.

MSD is a signatory to the Diversity Charter at the Responsible Business Forum and has also joined the Women's Empowerment Principles (UN Women).

In 2024, MSD Polska received a number of distinctions, including the titles of Investor Without Borders and Leader in Ethics, Pro-Woman Company of the Year in the RównoWaga competition, Innovator Wprost for innovative therapy in pulmonary arterial hypertension and the Prix Galien Polska medal for the best educational campaign 'Let's win against HPV'.

Roche

1,200+

employees working at the intersection of medicine, pharma, diagnostics and IT

29%

of Roche's global clinical trials are conducted in Poland

151

clinical trials involving nearly 3,000 patients conducted in Poland [2023]

530+ team

at Roche Informatics in Poland – one of Roche's leading IT hubs worldwide

Warsaw: Roche Poland, Roche Diagnostics, Roche Diabetes Care.

Poznań, Warsaw: Roche Informatics.

- **Roche "under one roof"** brings together in Poland the competence and power of innovative diagnostics, therapeutic and IT solutions
- **More than PLN 4.6 billion** investment in innovation activities – innovative IT solutions for health and investments in clinical trials [between 2020 and 2023]
- **More than PLN 1.7 billion** investment in innovation activities in 2023
- **Roche reinvests 130% of revenue** generated from drug reimbursement in Poland

Headquartered in Basel, Roche is a global pharmaceutical company with Swiss roots, which for more than 125 years has made a major contribution to improving the quality and length of life of millions of patients through the development and delivery of pioneering drugs and cutting-edge diagnostic tests.

The division's operating in Poland – Roche Poland, Roche Diagnostics, Roche Diabetes Care – "under one roof" bring competence and innovative diagnostic, therapeutic and technological solutions to support

patients on entire diagnostics and therapeutic path. Roche Informatics – one of the largest global Roche IT hubs in the world responsible for developing innovative health IT solutions – is located in Warsaw and Poznań.

Through Public-Private Partnerships initiated in Poland and cooperation with healthcare sector institutions, universities, hospitals, clinicians and patient organizations – Roche is committed to building a stable and resilient healthcare system in Poland that meets current and future challenges in health. Poland is at the same time an important centre on the company's global investment map and an important centre for clinical research. Between 2020 and 2023, Roche's investment in innovation activities in Poland exceeded PLN 4.6 billion. Currently, almost every third study conducted globally by Roche (29% of all studies), is conducted in our country. In 2023, there were 151 clinical trials underway, involving nearly 3,000 patients, including early-phase trials that enable Polish centres to not only participate, but also shape ongoing research projects at the early stages of drug research.

IV MATURITY OF POLAND'S BIOTECH MARKET

Acellmed

In Poland since	**2019**
Field of expertise	» **liposomes** » **3D printing** » **liposome-based carriers** » **ophthalmology**
Partner in	Ophthalmology

Characteristics	Acellmed is a Polish biotech start-up focused on developing innovative therapeutic solutions using liposomal carriers, stem cells, microRNA and 3D printing. With a strong emphasis on ophthalmology, we are devoted to designing personalized therapies for viral, bacterial, and rare eye diseases. Our mission is to introduce innovations that improve people' health and the quality of life.
Website	**www.acellmed.pl**

Ardigen

In Poland since	**2015**
Field of expertise	» **AI & ML in Drug Discovery** » **bioinformatics** » **phenotypic drug discovery** » **software engineering and data management** » **biologics**
Partner in	AI CRO in drug discovery and development
Characteristics	Ardigen is a leading AI Contract Research Organisation (CRO) dedicated to increasing the success rate of drug discovery. Recognized among the top 5% of AI in drug discovery companies worldwide, Ardigen integrates expertise in biology, bioinformatics, machine learning, and software engineering to deliver advanced computational solutions exclusively tailored for the biotechnology and pharmaceutical sectors. Over the past 10 years, we have earned the trust of over 100 clients, including 16 major pharmaceutical companies, by providing exceptional in silico research and data engineering services.
Website	**www.ardigen.com**

Auxilius Pharma

In Poland since	**2018**
Field of expertise	» **value-added medications** » **cardiology** » **virtual biotech** » **clinical trials** » **angina pectoris**
Partner in	Out-licensing, co-development
Characteristics	We are dedicated to addressing unmet medical needs in cardiovascular health by optimizing and enhancing existing medications. We are developing a de-risked stable angina pipeline. Our lead asset, AUX-001, is a once-daily antianginal agent with outcome benefits, having completed Phase 1 studies. In the U.S., it will be classified as a New Molecular Entity.
Website	**www.auxiliuspharma.com**

BioResearch Pharma

In Poland since	**2021**
Field of expertise	» **quality of life** » **novel treatments in dermatology** » **high unmet medical need**
Partner in	Dermatology products development expertise
Characteristics	BioResearch Pharma is a pharmaceutical company specializing in novel topical dermatological therapies. Repurposing of known, clinically tested medicinal substances is the foundation of BRP's business model, which is to enable faster commercialization – bringing effective and safe therapies to the market. The company is currently conducting projects to develop innovative drugs for topical treatment.
Website	**www.bioresearchpharma.com**

Bioton

In Poland since	**1989**
Field of expertise	» **biotech** » **insulin** » **API** » **CMO/CDMO** » **biosimilars**
Partner in	CMO/CDMO, scale-up, biotech API manufacturing, sterile dosage forms, QA/QC services, MCB and WCB preparation
Characteristics	Bioton S.A. – European Biotech Company producing human insulin: API and finished forms in cartridges and vials. For over 23 years, Bioton has provided safe and effective medicines for diabetes. As a leader in Poland and among the top eight global manufacturers of recombinant human insulin, Bioton advances Polish biotechnology, develops recombinant proteins and offers CMO/CDMO and QC services.
Website	**www.bioton.com**

Celon Pharma

In Poland since	**2002**
Field of expertise	» **biotechnology** » **drug development** » **drug manufacturing** » **innovative medicine**
Partner in	Therapies in neuropsychiatry, oncology and metabolic disorders
Characteristics	Celon Pharma S.A. is an integrated pharmaceutical company which conducts advanced research and manufactures modern drugs. The company has a hybrid business model. We are successful in developing, manufacturing, and marketing generics products in Poland and over 20 countries abroad. Our huge advantage is strong research and development facilities which allow us to create whole new classes of effective drugs which have the potential to treat cancers, neurological diseases, diabetes and other metabolic disorders.
Website	**www.celonpharma.com**

ExploRNA Therapeutics

In Poland since	**2019**
Field of expertise	» **mRNA synthesis** » **cap analogs** » **in vitro transcription** » **mRNA vaccines** » **mRNA therapeutics**
Partner in	mRNA therapeutics and vaccines efficiency and safety improvement, mRNA preclinical development, mRNA CMC, mRNA manufacturing
Characteristics	ExploRNA Therapeutics brings innovations to mRNA vaccines and therapies. Our proprietary technology increases performance of mRNA in vivo while improving the safety profile of the medicines. ExploRNA's cap analogs are a result of 20+ years of scientific research. This global scale innovation enabled 40+ collaborations in the US, EU and Asia, including a grant from Bill & Melinda Gates Foundation.
Website	**www.explorna.com**

FiLeClo

In Poland since	**2018**
Field of expertise	» **small-molecule drugs** » **oncology** » **cancer** » **biotech**
Partner in	Medicinal chemistry, small-molecule drug development
Characteristics	FiLeClo is a biotech startup developing a small-molecule drug platform with the most advanced oncology program entering a Phase I trial. It is targeting various types of solid tumors and cancer stem cells, and the results suggesting a paradigm shift in chemotherapy. With strong global IP protection, FiLeClo is actively seeking partners to pave its way to market.
Website	**www.fileclo.pl**

Human Biome Institute

In Poland since	**2019**
Field of expertise	» **drug development** » **drug discovery platform** » **microbiome-based donor-independent therapies**
Partner in	Cutting-edge drug discovery technology for developing microbiome-based biotherapeutics
Characteristics	Human Biome Institute (HBI) is pioneering a breakthrough drug discovery platform at the intersection of AI, high-throughput automation, and synthetic biology. HBI has developed the first fully biosynthetic, microbiome-based drug development system, capable of designing, generating, analyzing, isolating, and synthesizing targeted microbiome therapeutics with unprecedented scale and precision.
Website	**www.human-biome.com**

JJP Biologics

In Poland since	**2016**
Field of expertise	» **clinical stage biotechnology company** » **development of novel, „first-in-class" biological therapeutics (mAb, bsAb)** » **development of pre-selected companion biomarker**
Partner in	After obtaining positive Proof-of-Concept results, the developed programs will be subject to commercialization, including licensing to a selected partner
Characteristics	Product pipeline: most advanced, JJP-1212, a first-in-class anti-CD89 antagonizing mAb for the treatment of various autoimmune and fibrotic diseases, and JJP-1008, a first-in-class CD270 immune checkpoint inhibiting mAb with various oncological indications. Every program comes with a companion diagnostic. The EMA granted JJP-1212 the orphan designation for the treatment of linear IgA dermatosis patients (LAD). With the recent phase I clinical trial, JJP-1212 became the first novel biologic treatment in the history of the Polish biotechnology to enter the clinic.
Website	**www.jjpbiologics.com**

MediSensonic

In Poland since	**2018**
Field of expertise	» **medical devices** » **needle-free glucose measurement** » **non-invasive microwave technology** » **cardiology** » **dental**
Partner in	R&D partner for ISO13486-certified medical devices and dual-use products
Characteristics	MediSensonic is a highly specialized company developing non-invasive medical diagnostic devices based on microwave technology. These cutting-edge devices deliver fast and precise measurement results, enhancing the accuracy and efficiency of medical diagnoses. We use advanced algorithms and neural networks, to develop our devices.
Website	**www.medisensonic.com**

Molecure

molecure

In Poland since	**2012**
Field of expertise	» **small molecules** » **first-in-class drug candidates** » **protein inhibitors** » **chitinases** » **mRNA**
Partner in	OATD-01 (CHIT1), Sarcoidosis, other ILDs, MASH; OATD-02 (ARG1/ARG2), Immuno-oncology Program; Undisclosed mRNA Platform; USP7, Immuno-oncology Program; USP21 Inhibitors Program for Cancer metabolism; YKL-40 Program for Immuno-oncology
Characteristics	Molecure is a clinical stage biotechnology company, that uses medicinal chemistry capabilities to discover and develop small molecule drug candidates that directly modulate underexplored protein targets and the function of RNA to treat multiple incurable diseases. OATD-01, the lead drug candidate developed by Molecure, is a dual chitinase inhibitor, in phase 2 clinical trials for the treatment of pulmonary sarcoidosis and the potential to treat MASH.
Website	**www.molecure.com**

NanoGroup

nanoGROUP

In Poland since	**2016**
Field of expertise	» **respiratory gases transportation fluids** » **organ perfusion technologies** » **dextran nanoparticles in healthcare**
Partner in	Drug discovery process with the use of nanoparticles, nanonization of existing drugs, development of solutions requiring fluids transporting respiratory gases, CDMO services and gateway to polish biotech environment
Characteristics	NanoGroup is a public listed company (WSE: NNG), combining the highest transparency and governance standards with modern risk-management approach. We specialize in pioneering biotechnology solutions that address critical healthcare challenges. With expertise in advanced organ perfusion, oncology and radioisotopes, NanoGroup is at the forefront of developing life-saving medical systems.
Website	**www.nanogroup.eu**

NaturalAntibody

In Poland since	**2021**
Field of expertise	» **bioinformatics** » **structural biology** » **immunology**
Partner in	Antibody discovery
Characteristics	Streamlining Antibody Discovery with Data & Machine Learning Solutions.
Website	**www.naturalantibody.com**

Personather

In Poland since	**2015**
Field of expertise	» **targeted cancer therapy** » **personalized medicine**
Partner in	Drug development, stem cell research, CAR-T, toxicity, iPSCs
Characteristics	Personather was founded in 2015 to develop original, innovative, targeted anti-cancer therapies. Team members have extensive experience in designing anti-cancer therapies and regenerative medicine (stem cells). Personather provides services in these areas.
Website	**www.personather.com**

Pikralida

Pikralida

In Poland since	**2019**
Field of expertise	» **neuroprotection** » **stroke** » **snakebite envenoming** » **drug development**
Partner in	Dual-use therapies for military and civilian applications, NATO's armies, pharmaceutical companies targeting stroke treatment and neuroprotection, pharmaceutical companies targeting tropical disease treatment
Characteristics	Pikralida is a science-driven & result-focused clinical-stage biotech company based in Poland /EU/. We are dedicated to developing breakthrough therapeutic solutions with first-in-class and dual-use potential to address unmet medical needs, primarily in the fields of neurology and snakebite envenoming.
Website	**www.pikralida.eu**

Polbionica

POLBIONICA

In Poland since	**2019**
Field of expertise	» **bionic pancreas** » **biomaterials** » **bioprinting** » **bioreactor** » **biotech**
Partner in	Drug development process
Characteristics	POLBIONICA's mission is to commercialize our proprietary 3D bioprinted pancreas. We have already successfully transplanted it in mice, and porcine. Now we are preparing for transplantation in humans. Our goal is to introduce bioprinted organs, tissues, and biomaterials into healthcare. We support clinical needs in transplantation, regenerative medicine, drug development, and scientific research
Website	**www.polbionica.com**

Ryvu Therapeutics

In Poland since	**2007**
Field of expertise	» **oncology** » **immunology** » **drug discovery & development**
Partner in	Ryvu Therapeutics has partnered with several companies and organizations to advance its research and drug development programs. Key partnerships include: Menarini, BionTech, Exelixis, Merck
Characteristics	Ryvu Therapeutics is a clinical-stage drug discovery and development company focused on novel oncology therapies that address emerging targets in oncology. Internally discovered pipeline candidates at Ryvu use diverse therapeutic mechanisms driven by emerging knowledge of cancer biology, including small molecules and antibody-drug conjugates directed at kinases, synthetic lethality, and immuno-oncology targets.
Website	**www.ryvu.com**

SyVento BioTech

In Poland since	**2015**
Field of expertise	» **preclinical & clinical drug development** » **RUO/GMP-grade mRNA synthesis** » **liposomal/LNP formulation development** » **manufacturing of GMP commercial/ clinical batches** » **aseptic fill & finish**
Partner in	Development, formulating and manufacturing of next-generation RNA-based products and advanced medicines
Characteristics	SyVento BioTech specializes in development and manufacturing of RNA-based products and innovative medicines. With a modern facility located in the EU, company provides comprehensive services: preclinical/clinical drug development, RUO/GMP-grade API synthesis, liposomal/ LNP formulation development, GMP manufacturing of commercial/ clinical batches, and aseptic fill & finish – all under one roof.
Website	**www.syvento.com**

WPD Pharmaceuticals

In Poland since	**2017**
Field of expertise	» **ADC** » **glioblastoma** » **cancer** » **licensing-out** » **targeted therapy**
Partner in	Glioblastoma and ADC drug development
Characteristics	WPD Pharmaceuticals Poland holds exclusive global rights to three preclinical biological ADC candidates: WPD101a, WPD103, and WPD401 for targeted cancer therapy. WPD offers licensing, co-development, and consultancy in oncology clinical trials and is well-structured to develop and implement clinical strategies, including regulatory engagement with the EMA and other authorities.
Website	**www.wpdpharmaceuticals.pl**

Wytwórnia Surowic i Szczepionek BIOMED

In Poland since	**1951**
Field of expertise	» **antitoxin** » **vaccines** » **biological product** » **pharmacy** » **botulism**
Partner in	Development of biological drugs, bacterial cultures, research involving laboratory animals, developer of immunoenzymatic methods, process validation
Characteristics	Wytwórnia Surowic i Szczepionek BIOMED sp. z o. o. is a pharmaceutical company which produces life-saving drugs that are unique on a global scale. The Plant specialises in methods of obtaining active substances from biological material and in the production of bacterial toxins, necessary for obtaining vaccines and antitoxins. GMP certificate guarantees meeting the highest quality standards.
Website	**www.biomed.com.pl**

PARTNERS

PAIH
PFR Group

The Polish Investment and Trade Agency (PAIH) is an advisory institution belonging to the Polish Development Fund (PFR) Group. This is the first point of contact for exporters and investors. It operates both in Poland and through its network of offices around the world. It strengthens the recognition of Polish brands on international markets, promotes domestic products and services as well as technological solutions made in Poland. The agency helps entrepreneurs to choose their optimal path of expansion abroad. It also supports the inflow of foreign direct investments to Poland and the implementation of Polish investments in the country. PAIH cooperates with the public sector and regional partners, offering, among other things, training, audit and promotion of investment properties, cooperation in the organization of business missions and communication support in the implementation of joint projects.

An important part of the PAIH is the **Investment Support Department,** which supports the inflow of foreign direct investment into Poland and the realization of Polish investments in the country. An experienced, business-oriented team provides comprehensive and free of charge support for the investor enabling the smooth progress of the entire investment process thanks to the support of a dedicated Project Manager and a number of instruments such as:

- location consulting,
- preparation of information packages,
- building links with research institutes and innovation centres,
- arranging location visits for potential investors,
- identification of potential business partners,
- support in contacts with the public administration,
- information on investment incentives,
- cooperation with start-ups and technology suppliers/B2B meetings,
- after-investment care.

More information:
www.paih.gov.pl

Contact us:
paih24@paih.gov.pl

The American Chamber of Commerce in Poland (AmCham) is an organization that brings together American businesses operating in Poland, representing one of the largest groups of foreign investors. U.S. companies have invested PLN 239 billion in Poland, creating 327,000 jobs across various sectors. For over 30 years, we have been committed to strengthening economic ties between Poland and the United States, improving the investment climate, and promoting Poland on the U.S. market.

Our members include the largest American investors across all sectors. To effectively address industry-specific challenges, AmCham operates through sectoral committees, which serve as platforms for dialogue, knowledge exchange, and collaboration.

Among them, the AmCham Pharma Committee brings together leading global pharmaceutical companies active in Poland. Our mission is to support a well-regulated, transparent, and innovative pharmaceutical sector that contributes to the development of the healthcare system and improves patient access to high-quality treatments.

We focus on:

Fostering a clear and transparent regulatory environment that supports business certainty and encourages open dialogue between industry and policymakers.

Enhancing the healthcare system by promoting solutions that improve patient access to modern therapies and encourage innovation in treatment options.

Strengthening support for rare diseases by exploring sustainable approaches to access and funding that reflect the unique needs of patients and healthcare providers.

The Pharma Committee companies are committed to shaping a regulatory environment that fosters innovation, investment, and better healthcare outcomes in Poland. These companies include:

AbbVie, Amgen, AstraZeneca, Biogen, Bristol Myers Squibb, Eli Lilly, Johnson & Johnson Innovative Medicine, MSD, Novartis, Pfizer, Roche, Sanofi, Takeda, UCB, Vertex, Viatris.

More information:
www.amcham.pl

Contact us:
karol.witaszek@amcham.pl

INFARMA

The Employers' Union of Innovative Pharmaceutical Companies INFARMA represents 25 leading pharmaceutical companies engaged in research and development activities and the production of innovative medicines:

> Abbvie, Almirall, Amgen Biotechnologia, Astellas Pharma, AstraZeneca Pharma Poland, Bayer, Beriln-Chemie/Menarini Polska, Biogen Poland, Boehringer Ingelheim, Bristol-Myers Squibb Polska, Chiesi Poland, Eli Lilly Polska, GSK Commercial, Ipsen Poland, Janssen-Cilag Polska, Lundbeck Poland, Merck, MSD Polska, Novartis Poland, Novo Nordisk Pharma, Pfizer Polska, Roche Polska, Sanofi-Aventis, Takeda Polska, UCB Pharma.

INFARMA's objective is taking initiatives which positively influence the creation of system solutions in the field of healthcare in Poland. Such solutions should allow Polish patients access to modern and the most effective treatments so that Polish norms of treatment meet the global standards. The main objective of the Union is: to protect rights and represent interests, including economic interests, of its member companies in Poland and in the European Union, as well as to improve the quality of healthcare and medical services in Poland, primarily through the promotion of innovations resulting from research and innovative medicinal products in line with the principles of evidence-based medicine.

Through its activities **INFARMA** would like to indicate that the presence of global pharmaceutical companies on the Polish market grants Polish patients access to modern drugs which greatly influences the improvement of public health. Furthermore, the Polish economy benefits as well – in the form of investment, taxation and transfer of knowledge.

INFARMA has been actively involved in the dialogue in the area of the health system for 30 years, supporting and initiating many activities and projects of a scientific, educational and informative nature.

INFARMA is a partner to many discussions and projects, not only relating to healthcare but also aimed at enhancing the competitiveness of Polish economy. **INFARMA** is a member of the **European Federation of Pharmaceutical Industries and Associations (EFPIA)** – an international organization of the innovative pharmaceutical industry, the **Employers of Poland (Pracodawcy RP),** the **Polish Chamber of Commerce (KIG)** and the **Warsaw Health Innovation Hub.**

More information:
www.infarma.pl

Contact us:
biuro@infarma.pl

The Polish Union of Innovative Medical Biotech Companies BioInMed is an industry organization associating Polish medical biotechnology companies that conduct R&D projects in the field of drug discovery and drug development (first and best in class), diagnostic methods based on biotechnology. **BioInMed** companies also provide tools that support R&D processes, including AI/ML, genom diagnostics or platform technology to directly label DNA lesions at an individual level.

Today, **BioInMed** has **32 member:**

22 members, which are all Polish innovative medical biotech companies (some of them operate in the area of their own innovative pipelines and some of them conduct commissioned research (CRO conducting projects from scratch).

6 academia members (universities and institutes that are willing to cooperate with business in medical biotech R&D projects)

4 supporting members (companies from the business environment of the biomedical sector)

Member companies work on projects to address unmet medical needs. **Their projects concern various technologies: small molecule drugs, biological drugs, as well as ATMP, including cell therapies, stem cells, gene therapies, nucleic acid-based therapies and others.**

The organization is an advisory body for public decision-makers – also in field of distribution of funds for medical innovations, presenting industry optics, the specificity of medical biotech projects – both from the scientific and business side.

In addition, the organization is a networking platform within which substantive partnerships are established, e.g. consortia participating in various types of calls. As part of **BioInMed,** key topics and challenges for the sector are being discussed, system solutions are being developed, bottlenecks are being identified.

BioInMed also establishes international relations promoting the achievements of the Polish medical biotechnology industry on international arena, supporting the search for partners, but also aiming at including Polish companies in transnational projects.

More information:
www.bioinmed.pl

Contact us:
biuro@bioinmed.pl

bioForum
Związek Firm Biotechnologicznych

BioForum is the leading Association of Biotechnology Companies in Poland, representing over 40 members from **across the life sciences sector.** As an active member of EuropaBio – the European Association for Bioindustries – we advocate for policies that support growth, innovation, and global competitiveness of Polish biotechnology on European level.

We act as the collective voice of the industry, engaging with government bodies, policymakers, and **regulatory authorities at both national and European levels.** Our goal is to create a favorable environment for biotech development, raise awareness of its strategic importance, and support our members in navigating regulatory and market challenges.

Our core activities include:

Representing and promoting the Polish biotech environment.

Participating in regulatory and policy discussions to shape a supportive framework for biotech growth.

Enhancing knowledge and awareness among policymakers and public authorities about the role of biotechnology.

Supporting members in product registration and **market entry within the European Union.**

Facilitating networking and knowledge-sharing among member companies.

Central to our activities is **CEBioForum,** Poland's **premier biotech conference and networking platform.** Since 2000, CEBioForum has connected biotech leaders, innovators, and researchers **from around the world,** including the UK, USA, EU, China, and more. The event attracts over 500 participants annually, offering opportunities to showcase technologies, build partnerships, and explore new markets. CEBioForum encourages cross-sector collaboration across medical, agricultural, industrial, and environmental biotechnology.

Through **BioForum and CEBioForum,** we are shaping a strong, collaborative, and globally engaged Polish biotech ecosystem and serve as an **entry point to the European market.**

More information:
www.cebioforum.com

Contact us:
info@cebioforum.com

HAYS

About Hays

Hays is the world's leading organisation in recruiting qualified, professional and skilled workers. We have dedicated teams specialising in life sciences recruitment and workforce solutions, partnering with pharmaceutical, biotech, medical devices, and research and development companies.

Our global network and 50 years of industry expertise enable us to connect you with top talent, driving innovation and success. We partner with various organisations, from pioneering startups to established industry leaders, to meet their hiring and wider workforce management needs.

With a presence in 33 countries worldwide, we stay ahead of industry trends and advancements, ensuring we attract professionals at the forefront of innovation. From cell and tissue engineering, pharmacogenomics, and building the latest MRI scanners and X-ray machines, we want to help you construct a team that excels.

We provide investors with talent location strategy services that based on their project assumptions and needs, enable them to select the best country or city in Europe for talent availability.

Our services in Poland

Since launching our first office in Poland in 2002, we are proud to have grown into the top specialist recruitment organisation in the country. We provide recruitment services in the private and public sectors by implementing projects for permanent, temporary and contract work. Our service portfolio also includes HR consulting, Recruitment Process Outsourcing and Managed Service Programme.

Partner with Hays to find the talent and workforce solutions that will propel your business forward in the dynamic life sciences landscape in Poland.

For further information please send **inquiry online**

Łukasz Grzeszczyk
Executive Director Central and Eastern Europe – Investors Consulting & Talent Location Strategy
grzeszczyk@hays.pl

Justyna Chmielewska
Director – Permanent Recruitment Poland
chmielewska@hays.pl

Mariusz Popin
Executive Manager – Life Sciences Permanent Recruitment Poland
popin@hays.pl

Report Authors:

The Polish Investment and Trade Agency: Monika Grzelak, Jan Napieraj, Radosław Pituch, Aneta Sierant, Joanna Wilińska, Robert Zając

The American Chamber of Commerce in Poland: Karol Witaszek

The Employers' Union of Innovative Pharmaceutical Companies INFARMA: Michał Byliniak, Anna Kacprzyk PhD

The Polish Union of Innovative Medical Biotechnology Companies BioInMed: Marta Winiarska

The Association of Biotechnology Companies BioForum: Magdalena Kulczycka

HAYS: Paulina Białowarczuk-Korbas, Aleksandra Figielska, Łukasz Grzeszczyk, Mariusz Popin, Iwona Szulc

AstraZeneca: Urszula Żurek-Kucharska, Magdalena Drązikowska

GSK: Krzysztof Kępiński, Wojciech Skrudlik

MSD: Marcin Bodio, Katarzyna Kozłowska

Roche: Grzegorz Byszewski

Report Coordinator: Joanna Wilińska, The Polish Investment and Trade Agency

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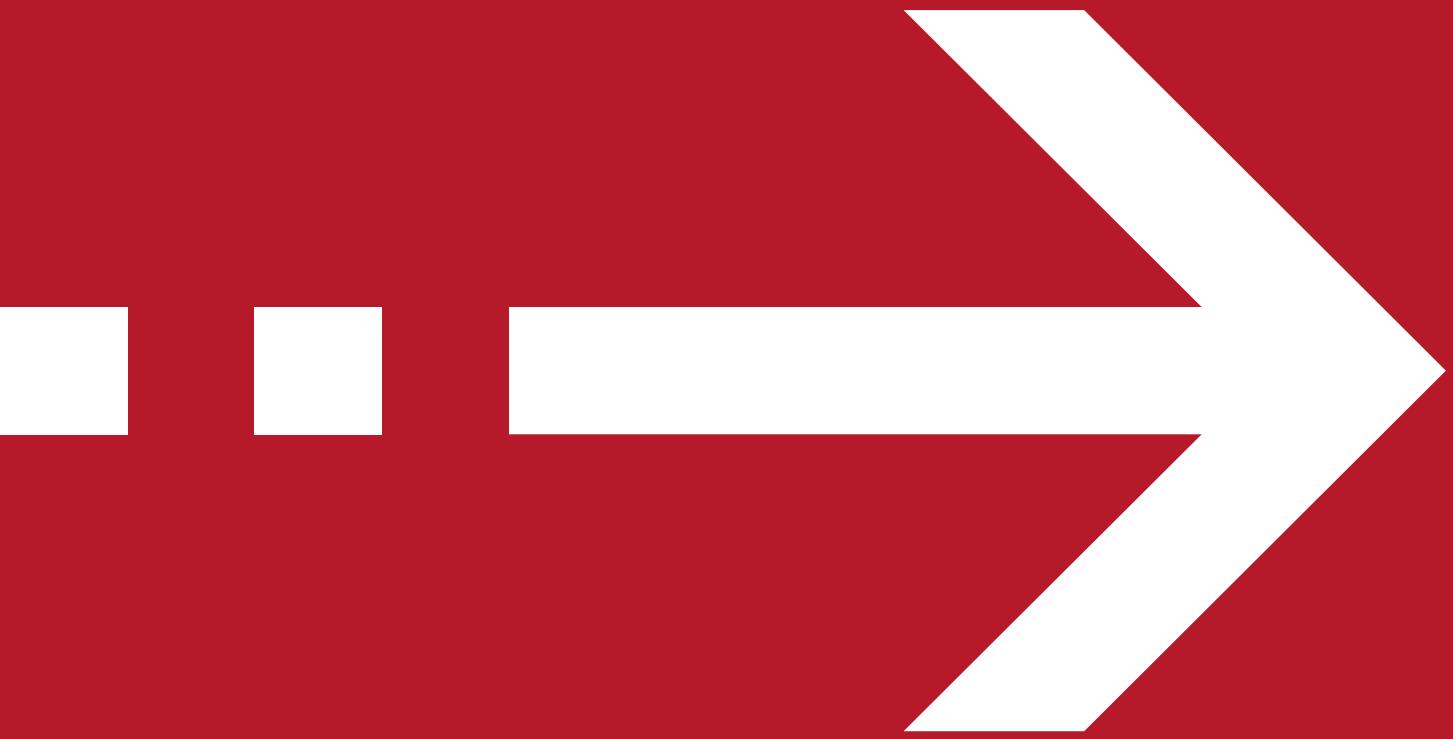

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