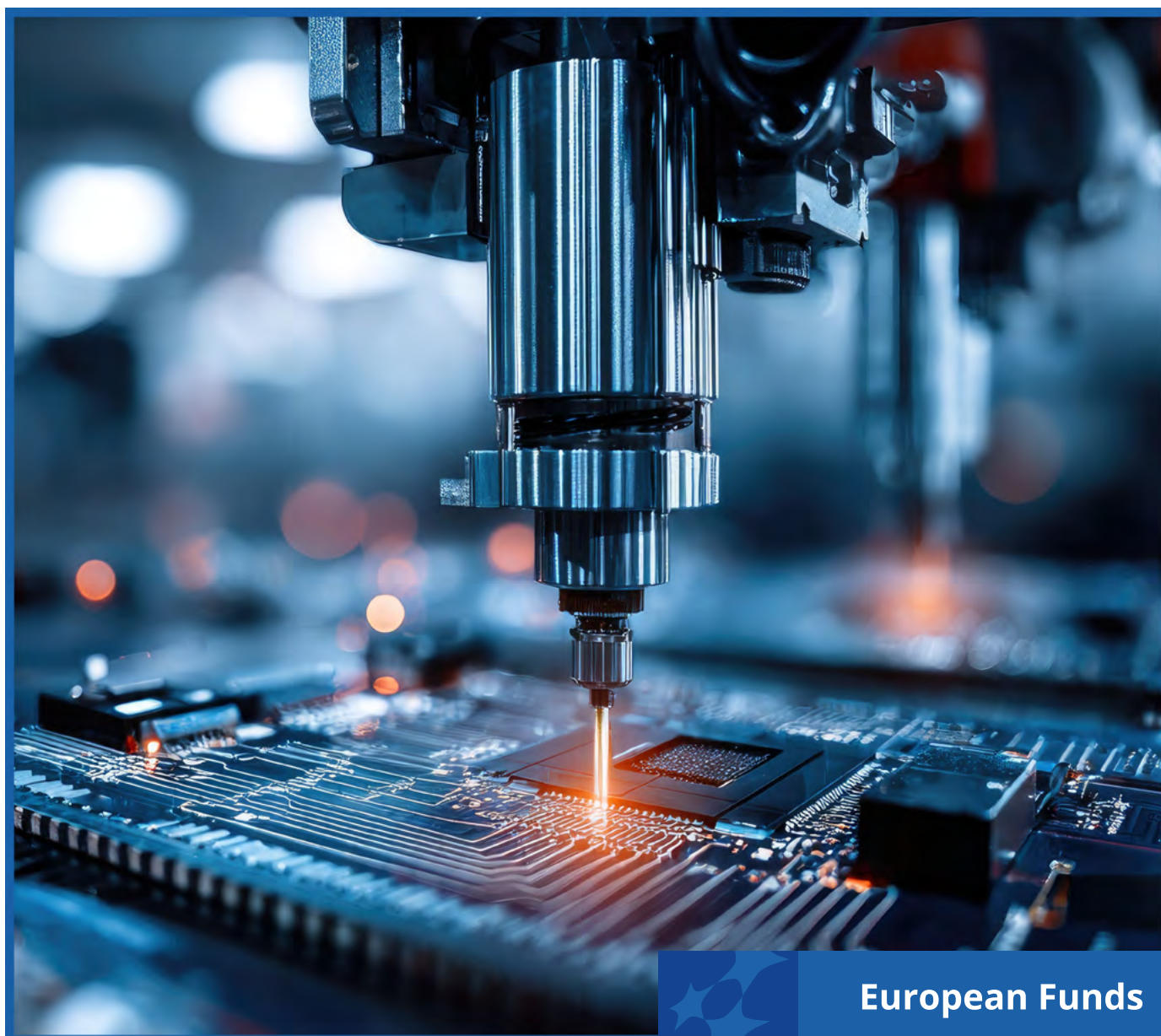


The Professional Electronics, Microelectronics and Photonics Sector in Poland



European Funds

for Smart Economy

Authors:

Joint publication of the Łukasiewicz Research Network – Institute of Microelectronics and Photonics scientific team (pages 7–39)

Success stories by:

Eryk Rutkowski, Polish Agency for Enterprise Development (pages 40–48)

Cooperation:

Monika Wysocka, Polish Agency for Enterprise Development

Published by the Polish Agency for Enterprise Development

Pańska 81/83, 00-834 Warsaw, Poland

www.parp.gov.pl



© Polish Agency for Enterprise Development 2026

© 2026. This work is licensed under CC BY 4.0.

ISBN 978-83-7633-510-0

Free copy

The views expressed in this publication are those of the authors and do not necessarily coincide with the activities or views of the Polish Agency for Enterprise Development.

All product names, logos and brands mentioned in this publication are the property of their respective owners.

The catalogue of companies and organizations is by no means a complete list of entities in the Polish Electronics & Photonics Sector. Instead, it features entries submitted by entities that chose to participate.

The content was provided by the entities themselves and was not revised by the authors of the publication.

The publication has been co-financed from the European Regional Development Fund under the European Funds for Smart Economy 2021–2027 Programme.

Design, DTP + proofreading:

www.ccpog.com.pl



European Funds
for Smart Economy



Republic
of Poland

Co-funded by the
European Union



Poland.
Business Forward

Table of contents

Foreword	4
Poland in figures (2025)	6
Professional Electronics, Microelectronics and Photonics as a Prospective Sector of the Polish Economy	7
Poland's technology ecosystem in microelectronics and photonics	8
The professional electronics and microelectronics industry in Poland	11
EMS Industry in Poland (<i>electronic manufacturing services</i>)	19
OEM Industry in Poland (<i>Original Equipment Manufacturer</i>)	21
Electronic Components Industry in Poland	24
Photonics Industry in Poland	25
Potential of the Polish professional electronics, microelectronics and photonics sector	30
Development prospects, trends and innovation in the professional electronics, microelectronics and photonics sector	35
When Physical Becomes Digital in the Utmost Detail	
The Success Story of SMARTTECH 3D	41
From Rented Premises to Global Markets	
The Success Story of Solaris Optics	43
Thinner than Human Hair: The Secret Behind Advanced Printing in Electronics	
The Success Story of XTPL	46
Polish companies and business support organizations – CATALOGUE	49



Krzysztof Gulda

President of the Polish Agency for Enterprise Development

Dear Readers,

It is my pleasure to present this publication devoted to one of the most promising and strategically important sectors of the modern economy: electronics, microelectronics and photonics. These industries form the technological backbone of digital transformation, industrial modernization and the green transition, while playing an increasingly vital role in strengthening economic competitiveness, innovation capacity and technological sovereignty.

Poland has built a strong foundation in these fields over recent decades. A dynamic ecosystem of entrepreneurs, research institutions and universities has emerged, successfully combining scientific excellence with market-driven innovation. Particularly noteworthy is the role of small and medium-sized enterprises, which constitute the vast majority of companies operating in the electronics and photonics sector. Their agility, ambition and ability to transform advanced knowledge into commercial success are among the sector's greatest strengths.

Entrepreneurship remains one of Poland's most valuable assets. Companies operating in electronics and photonics are not merely responding to global technological trends – they are increasingly helping to shape them. They develop cutting-edge solutions for industry, energy, healthcare, telecommunications, defence, aerospace and many other sectors. Through continuous investment in research and development, they create high-quality jobs, generate intellectual property and strengthen Poland's position in international technology markets.

At the same time, the photonics industry has established a strong international reputation in highly specialized areas, demonstrating that Polish companies can successfully compete in global markets through innovation, quality and technological expertise. They are becoming suppliers of advanced systems and proprietary technologies rather than merely participants in manufacturing value chains.

Another important driver of the sector's growth is Poland's vibrant high-tech startup ecosystem. Innovative startups in semiconductors, photonics, AI and other deep tech fields are transforming research into globally competitive products and technologies. At the Polish Agency for Enterprise Development (PARP), we are committed to actively supporting their international growth through European Funds, helping ambitious startups expand into global markets and strengthening Poland's position as a European hub for innovation and advanced technologies.

For over 25 years, the Polish Agency for Enterprise Development has been committed to supporting domestic businesses in their pursuit of innovation, international expansion and sustainable growth. As part of this mission, PARP empowers forward-thinking enterprises through such strategic initiatives as the Polish Electronics & Photonics Promotion Programme – a component of the SME Internationalisation “Brand HUB” Project under the European Funds for a Smart Economy 2021-2027 framework.

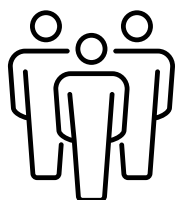
We firmly believe that strengthening sectors such as electronics and photonics will contribute significantly to building a modern, knowledge-based economy capable of competing successfully in global markets. Having witnessed firsthand the remarkable rise of the companies featured in this brochure, we highly value their technical expertise, adaptability and scaling potential.

I hope this e-book provides valuable insight into the current state of the sector while inspiring entrepreneurs, investors, researchers and policymakers to explore new opportunities for collaboration, innovation and export growth. The future of the electronics and photonics industry in Poland is being shaped today – and it is a future full of promise.

I wish you an informative and inspiring read.

A stylized, handwritten signature in black ink, appearing to read 'Paulina'.

Poland in figures

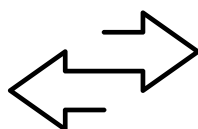


Population
37.3 m

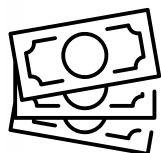


Unemployment
rate
3.2%

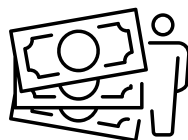
Import
373.9 bn EUR
6.1% increase yoy



Export
366.2 bn EUR
3.7% increase yoy



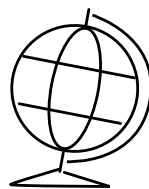
GDP total
1.03 bn USD



Per capita
31.24 k USD
(current prices)



GDP growth in 2025
according
to the flash estimate:
3.6%



21st largest economy
in the world by
nominal GDP
and **6th** largest
economy in the EU

Sources: Statistics Poland, International Monetary Fund, World Bank, Eurostat, 2025

Professional Electronics, Microelectronics and Photonics as a Prospective Sector of the Polish Economy

Author:

Joint publication of the Łukasiewicz Research Network
– Institute of Microelectronics and Photonics scientific team

Poland's technology ecosystem in microelectronics and photonics

The microelectronics ecosystem in Poland is characterized by a complementary mix of R&D institutions, technical universities and companies involved in integrated circuit design.

A key role is played by research centres such as the Łukasiewicz Research Network – Institute of Microelectronics and Photonics (Łukasiewicz – IMiF), which develops micro- and optoelectronic technologies, semiconductor materials (for example, GaN and graphene) and fabless integrated circuit designs for educational and commercial purposes. The institute also develops and fabricates sensors for industries operating in both civil areas of application (IoT, systems, medicine and R&D) and critical sectors (energy, security, defence and many others). Łukasiewicz – IMiF acts as an important bridge between scientific research and industrial deployment.

The second pillar of the ecosystem consists of academic institutions, in particular the CEZAMAT Centre for Advanced Materials and Technologies at the Warsaw University of Technology. Other academic institutions, such as the AGH University, Gdańsk University of Technology and Wrocław University of Science and Technology, provide highly skilled engineers and expertise in microelectronics design, especially in ASICs and microelectronic systems, forming the talent backbone of the

semiconductor ecosystem in Poland. The third component comprises commercial companies, including the R&D centre of Synopsys, as well as fabless entities such as ChipCraft, Digital Core Design, OmniChip and Silicon Creations, specializing in IP development and commercial ASIC design.

The strategic importance of possessing a semiconductor industry capable of mass-producing integrated circuits is a major factor behind current initiatives and measures taken in Poland to rebuild manufacturing capacity and develop a strategy centred on the establishment of infrastructure for manufacturing application-oriented silicon integrated electronics. Transitioning from an outsourcing-based model to domestic manufacturing is the key to achieving complete technological sovereignty in defence, energy and critical infrastructure. Developing local production capabilities – especially in specialized and niche technologies – guarantees supply chain resilience, accelerates time-to-market and ensures full lifecycle control of integrated circuits.

At the same time, the development of a strong domestic OEM (Original Equipment Manufacturer) segment is equally important. Polish OEMs – particularly in sectors such as industrial automation, automotive electronics, defence systems and IoT – can act as anchor customers for locally designed and manufactured chips. Their presence creates stable demand, justifies investment in design and fabrication, and enables tighter integration between hardware, software and system-level innovation. A robust OEM base also accelerates commercialization, shortens feedback loops between designers and end-users, and strengthens the overall value chain. Without a sufficiently developed OEM segment, even advanced design and manufacturing capabilities risk remaining underutilized, limiting the growth and long-term sustainability of the national microelectronics ecosystem.

The challenge for the 21st-century economy is to achieve high production efficiency, quality and effectiveness by combining low manufacturing costs with a flexible, customer-tailored range of products and services. This will be possible through the implementation of intelligent manufacturing solutions and widespread digitalization, automation and decentralization of production. These developments will, in turn, bring a series of challenges related to processing and transmitting vast amounts of data, monitoring process states, developing fast and non-destructive product testing methods, and powering autonomous

systems, machines and vehicles. Another challenge is to ensure comprehensive manufacturing safety and supply chain security, and to protect against threats associated with advancing globalization. The new industrial revolution will encompass not only high-tech industries, the automotive industry and ICT, but also other sectors of the economy such as agriculture, forestry, mining, chemicals and pharmaceuticals. This will also involve a shift from fossil fuels to “green” or renewable energy sources, including photovoltaics and hydrogen energy, as well as the transition of entire branches of industry to new sources of electrical energy. In addition to new digital technologies, the implementation of this vision requires the application of intelligent and energy-efficient electronic and photonic systems and autonomously operating circuits.

The Internet of Things (IoT) and the fourth industrial revolution (Industry 4.0) are becoming a reality. An obvious outcome of these developments will be countless innovative products combining advanced integrated circuit solutions with sensors and MEMS-type elements that together form smart sensors. Ensuring the participation of Polish entrepreneurs and engineers in the full value chain of these revolutionary transformations requires broad access to semiconductor components designed and manufactured in Poland. Observation of global changes and technological progress indicates that microelectronics and photonics will

be present in every area of life. Objects connected through IoT and 5G networks will likewise become ubiquitous. Furthermore, subsequent generations of mobile technologies already emerging today will require new and reliable security technologies.

The domestic localization of production for components used by the professional electronics sector, as well as critical technologies for national defence and security, is a subject of high-level national debate concerning both hardware and software security. Critical infrastructure systems should remain under the full control of state authorities at both the hardware and software levels. Mitigating risks associated with components of unknown origin and undisclosed functionalities forms the core foundation of modern national security. Developing domestic capabilities in verifying printed circuit boards (PCBs), cabling and integrated circuits guarantees complete resilience against hardware implants. Leveraging its advanced engineering expertise, Poland is positioned to become a leader in delivering fully verified, secure and trusted technological solutions specifically designed for critical infrastructure.

Professional electronics, microelectronics and photonics encompass advanced technologies for applications in

environments requiring high reliability, precision, performance and broad certification. These fields also include devices used in civilian and military critical infrastructure and combat equipment. The ability to develop and manufacture devices belonging to the field of professional electronics and photonics is inextricably linked to the availability of microelectronic and photonic technologies in the broadest sense. And this is not just about the availability of components employing such technologies – as they can be purchased on the open market – but, strategically, about the domestic availability of key technologies.

The integration and development of key technologies within Poland is essential if the country is to become a major technological player. The main challenge is establishing domestic production capacity for key electronic components in Poland. Recent disruptions in the global semiconductor market have clearly demonstrated the need for change and decisive action. Initiatives such as the Chips Act programmes in Europe and the US highlight a shared commitment to innovation and self-reliance. This is a moment of transformation in which market challenges are perceived as catalysts for progress, resulting in technological advancement.

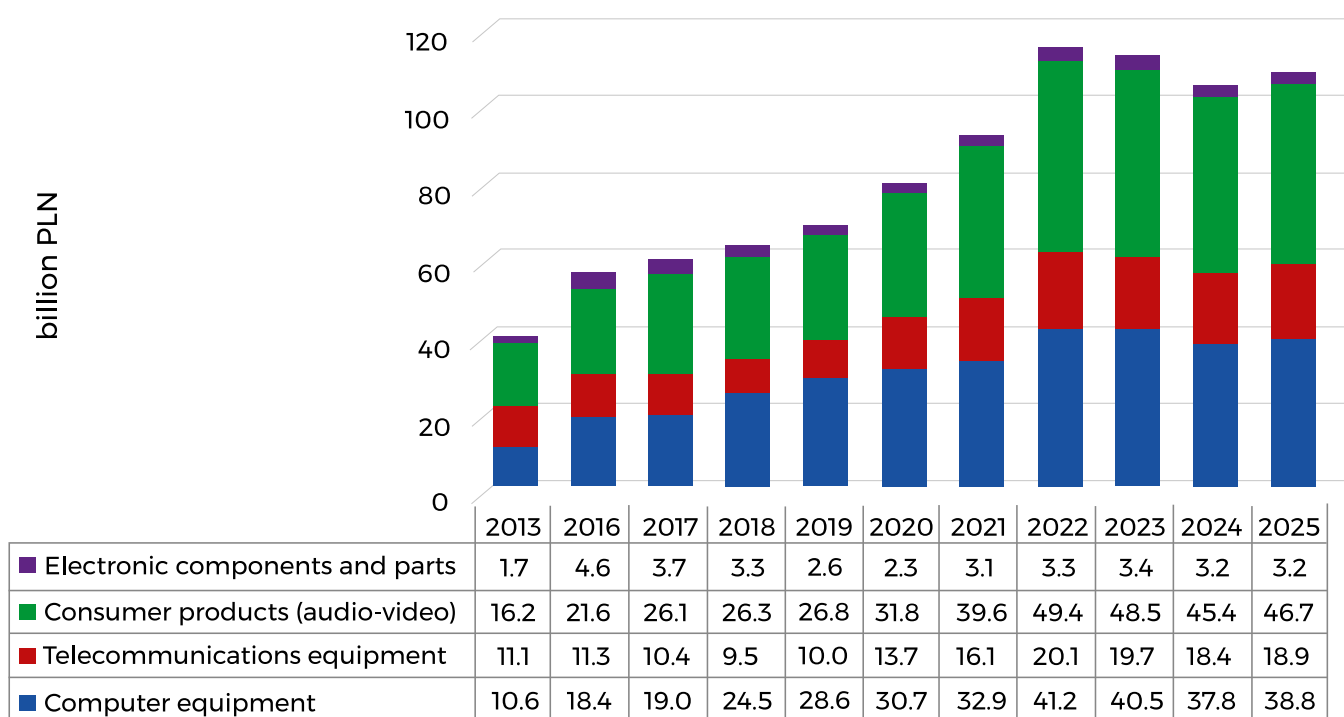
The professional electronics and microelectronics industry in Poland

According to the Polish Classification of Activities, the electronics sector is broadly defined as the “Manufacture of computers, electronic and optical equipment”.

The term encompasses:

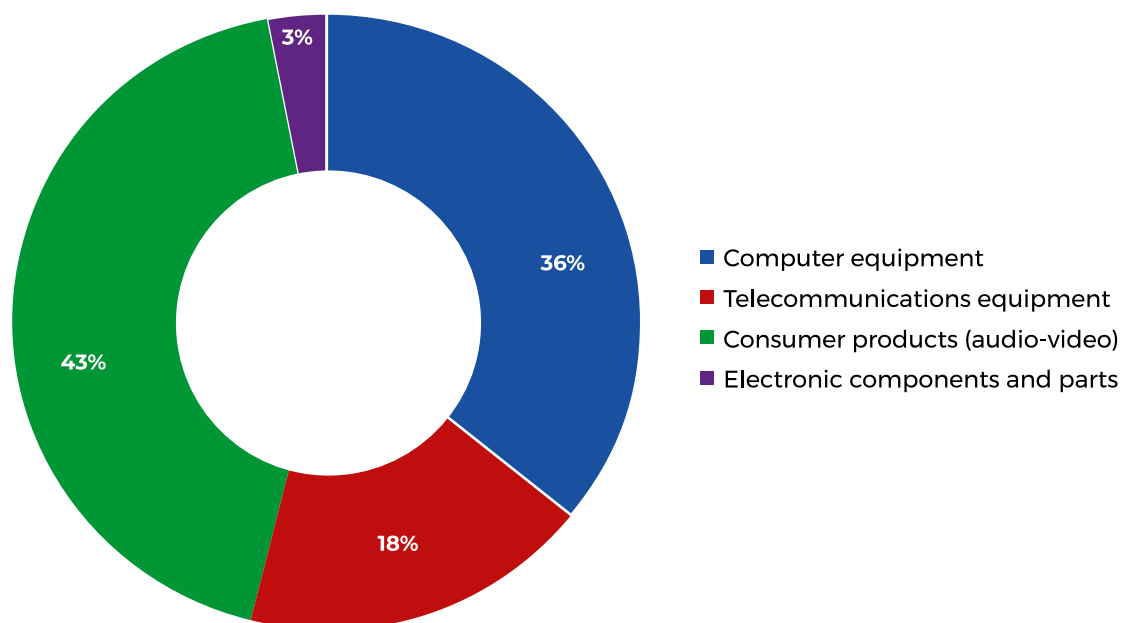
-  telecommunications equipment,
-  computer equipment,
-  electronic components and parts,
-  consumer products (audio and video equipment),
-  control and measurement equipment.

Exports of the electronics sector



Source: Statistics Poland (GUS) – Information society in Poland in 2014–2026

Exports 2025



In 2025, consumer products (audio-video) (43%) and computer equipment (36%) accounted for largest share of exports, followed by the telecommunications equipment (18%), with the smallest share being electronic components and parts (3%), whose production in Poland is minimal.

Category	2021 (PLN bn)	2021 share	2025 (PLN bn)	2025 share
Computer equipment	32.9	35.9%	38.8	36.1%
Telecommunications equipment	16.1	17.6%	18.9	17.6%
Consumer products (audio-video)	39.6	43.2%	46.7	43.4%
Electronic components and parts	3.1	3.4%	3.2	3.0%
Total	91.7	100%	107.6	100%

Source: Statistics Poland (GUS) – Information society in Poland in 2022 & 2026

Although the group of end products classed as electronic goods is constantly expanding due to product digitalization, more and more electronic production is taking place outside the electronics sector as

such (activity code PKD 26). Some such products are registered under codes from division 27 (manufacture of electrical equipment), division 29 (manufacture of motor vehicles) or as medical devices (PKD 32.5).

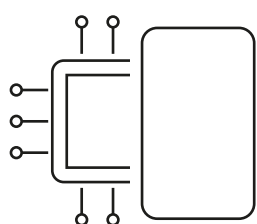
New interdisciplinary areas of technical sciences are emerging, such as mechatronics, which combines the fields of mechanics, electronics, automation and computer science.

Following its political transformations in the late 20th century, Poland attracted significant foreign investment in the electronics sector. The sector has since become one of the fastest-growing industries in Poland, characterized by a high level of technical and technological advancement.

The overwhelming majority of enterprises, especially large ones, are foreign-owned.

Poland boasts a robust electronics manufacturing sector, which, coupled with the right support strategies, can attract foreign semiconductor companies looking to expand into new markets. By aligning with initiatives such as the European Chips Act, Poland can position itself as an attractive destination for investment in semiconductor technology, fostering innovation and economic growth in the process.

Poland: Electronics & Photonics – Sector Overview 2015–2024



Electronics & Communications – Key Indicators 2024

Electronics & Comm. exports

EUR 9.27 bn

24.9% of high-tech exports

Electrical & electronic goods

EUR 42 bn

all electrical,
elec. & EVbatteries

Domestic electronics market

EUR 24.1 bn

4th largest in EU (2023)

EMS sector revenue

EUR 5 bn

300+ EMS firms,

50 000+ jobs

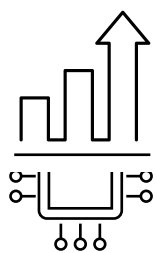
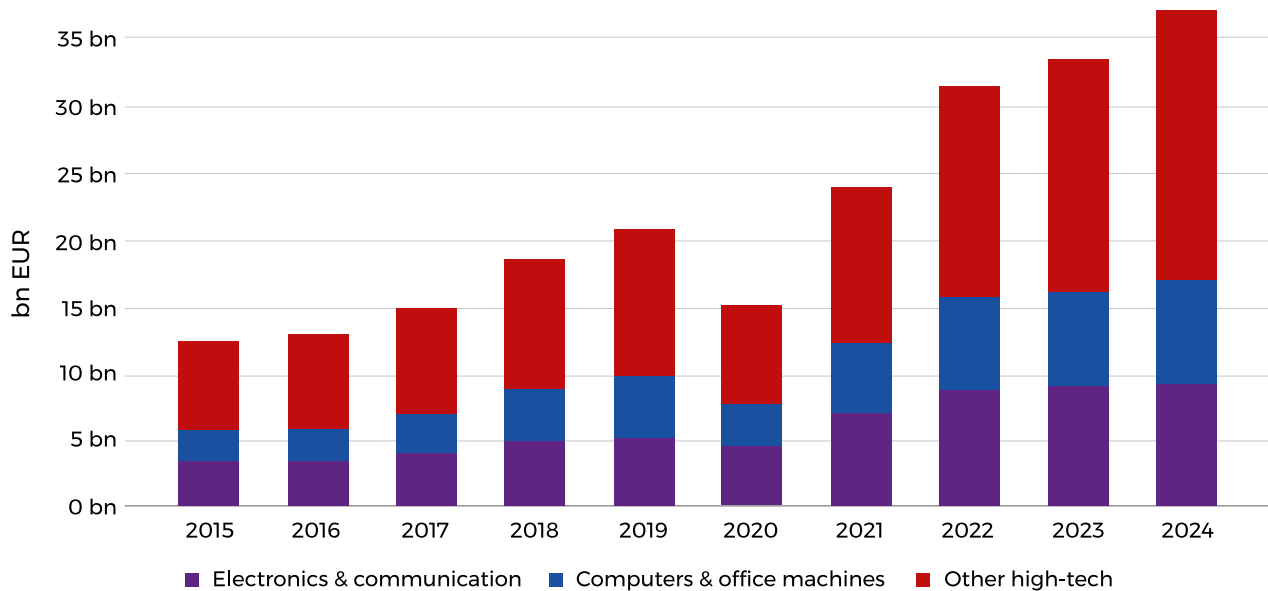
Poland's electronics sector has grown into one of Central Europe's most significant export platforms, driven by large-scale EMS manufacturing

and a deepening component supply chain. The photonics segment, while smaller in absolute terms, represents a strategically differentiated niche.

Poland holds a genuine European leadership position in mid-infrared detection technology, with demand

increasingly underpinned by defence procurement across NATO member states.

High-Tech Exports 2015–2024 (EUR bn)



Polish high-tech exports nearly tripled over the decade, rising from

EUR 12.6 bn

in 2015 to a preliminary

EUR 37.25 bn

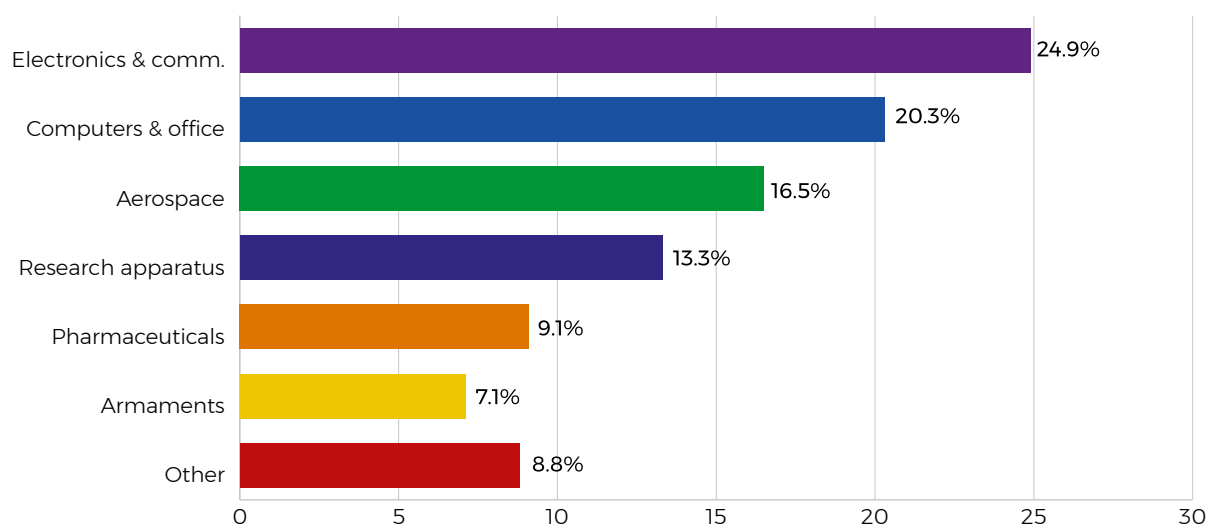
in 2024 – a compound annual growth rate of approximately

12.8%.

The trajectory was interrupted only once, in 2020, when pandemic-related supply chain disruptions caused a

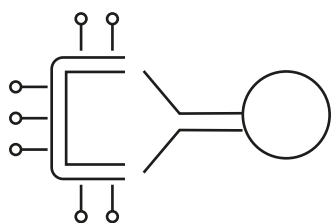
26.4% contraction. Recovery was swift and structural: the 2021–2024 period delivered sustained double-digit growth, with 2024 marking a new historical record. Notably, the electronics and communications sub-category maintained a relatively stable share of total high-tech exports (24–30%), indicating that growth was broad-based across the high-tech basket rather than concentrated in a single category. The decline in electronics' share to 24.9% in 2024 reflects the faster rise of armaments and aviation rather than any weakening of the electronics base.

High-Tech Exports Structure (%), 2024



Electronics and communications (24.9%) and computers and office machines (20.3%) together account for nearly half of all Polish high-tech exports – reinforcing the sector’s central role in the country’s technology export profile. The most significant structural shift since 2021 is the emergence of armaments at 7.1%, up from a negligible base, directly linked to Poland’s accelerated defence spending following the Russian invasion of Ukraine. Aviation (16.5%) remains a durable pillar, anchored by established Tier 1 and Tier 2 suppliers concentrated in the Podkarpacie region.

Germany absorbs the largest share of Poland’s specialist electronics exports by a wide margin, reflecting deep integration into German industrial and automotive supply chains. The Netherlands’ prominence is partly attributable to its role as a logistics and re-export hub rather than final consumption. The United States, ranked sixth, represents the most strategically significant growth market given its scale and Poland’s strengthening transatlantic trade ties, though absolute volumes remain modest relative to the EU core.



Industrial Photonics – Key Indicators

Professional electronics
& photonics exports

USD 511 m (PAIH 2022,
growing **4%** p.a.)

VIGO Photonics revenue

USD 20 m (2024,
+8% y/y; WSElisted)

PPTF cluster members

80+ firms, universities
& institutes

VIGO HyperPIC EU aid

EUR 103 m approved
EC IPCEI ME/CT 2023

The Polish photonics ecosystem is characterized by a single listed anchor company (VIGO Photonics) surrounded by a cluster of highly specialized SMEs. Most operate in narrow, defensible niches – precision coatings, specialty fibres and laser systems – with limited direct competition from domestic peers but significant exposure to global technology incumbents. The strategic

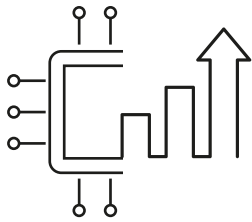
relevance of this cluster has increased markedly since 2022; several companies (PCO, VIGO and Fluence) are direct or indirect beneficiaries of elevated European defence and security spending. The absence of a second publicly listed photonics company limits the available investment instruments, although M&A interest from European and US strategic buyers has reportedly increased.

Notable Polish Photonics Companies

VIGO Photonics Global leader in uncooled mid-IR detectors. Supplies NASA (Curiosity rover), Safran, PGZ. EUR 1 bn investment secured in 2025 for a new semiconductor fab (production from 2029).	Solaris Laser & Solaris Optics World-class lenses, mirrors, IR filters & thin-film coatings. Solaris Laser: industrial & scientific laser systems. Both are globally active.
Fibrain One of only three fibre-optic cable manufacturers in Poland. Full range of fibre-optic cables and network components for FTTx and 5G deployment.	Fluence Technology Ultrafast fibre lasers for precision material processing (all optics embedded in fibre). Serves semiconductor, medical and industrial sectors globally.
Airoptic Tunable diode laser (TDL) gas analysers for industrial process control and emission monitoring. Up to 8-component detection in a single device.	Noctiluca & QNA Technology Noctiluca: novel OLED emitter materials. QNA: colloidal quantum dots for displays and sensing. Both are born-global companies, with teams in Korea, the US and Germany.

Poland's competitive positioning within European photonics is highly concentrated: the country's clear leadership in mid-IR detection (score 92/100) stands in contrast to nascent capabilities in photonic integrated circuits and quantum photonics – both of which are among the fastest-growing segments in the global photonics market. The IPCEI HyperPIC grant (EUR 102.9 million awarded to VIGO)

represents a deliberate policy bet to close this gap by funding the transition from discrete detectors to integrated photonic chips. If successful, this would position Poland to capture higher-margin, higher-volume markets currently dominated by US and Taiwanese players. Fibre-optic components and precision optics (scores 70–74) represent solid, commercially mature capabilities with established export pipelines.



Sector Strengths & Outlook

Core competence

Mid/near-IR detection

Decades of research at WAT & Lukasiewicz; world-leading uncooled IR detectors

Growth driver 2024–30

Defence & space

Military IR: **+78%** revenue 2022–24 at VIGO; IPCEI photonic ICs funding secured

Investment pipeline

EUR 1+ bn

VIGO fab (EUR 1 bn, 2025–29); HyperPIC (EUR 103 m EU aid); ELI Beamlines Poland node

European photonics CAGR

8.3%

2024–29 forecast; Poland among the **top 3** alongside Germany and Switzerland

Sources:

Statistics Poland (preliminary 2024);

Eurostat [ds-059331];

Polish Development Fund (PFR), *A Decade of Uninterrupted Growth*, March 2025;

Polish Agency for Enterprise Development (PARP), *Professional Electronics, Microelectronics and Photonics Sector 2024*;

Polish Trade and Investment Agency (PAIH);

VIGO Photonics financial results;

PAIH / trade.gov.pl, April 2025.

EMS Industry in Poland (electronic manufacturing services)

The EMS industry plays a key role in providing end-to-end manufacturing solutions for companies in sectors ranging from telecommunications through automotive to medical.

It encompasses companies that specialize in outsourced electronics manufacturing services. They offer a wide range of services, from design through assembly to the testing and delivery of finished products. EMS companies provide end-to-end manufacturing solutions, allowing their customers to focus on innovation, marketing and sales without having to invest in their own manufacturing facilities. EMS companies are flexible and able to customize their services to meet individual customer needs, regardless of order size or product specifics. The EMS industry continually invests in the latest manufacturing technologies, enabling even the most advanced electronic projects.

Companies in the Electronics Manufacturing Services (EMS) sector provide contract manufacturing services for electronic products, including printed circuit board assembly (PCBA), testing, system integration and logistics. EMS providers play a critical role in global electronics supply chains, supporting original equipment manufacturers (OEMs) across industries such as automotive, industrial electronics, telecommunications and consumer devices

Over the past three decades, Poland has emerged as one of the most important EMS production hubs in Europe, benefiting from a combination of competitive labour costs, strong engineering capabilities and strategic proximity to Western European markets.

Between 2018 and 2022, the Polish EMS sector experienced steady expansion, reflected in both increasing output and a growing share of the European market. During this period, Poland's contribution to European EMS production rose from approximately 6.1% to a peak of 8.4%.

Since 2023, however, the sector has been in a phase of contraction. Industry data indicate a decline of approximately 6.2% in total EMS revenues in 2023, followed by a decrease of around 14% in 2024. This downturn reflects a broader weakening of demand across sectors such as automotive, telecommunications, industrial, and consumer electronics.

A defining characteristic of the Polish EMS sector is the dominant role of foreign-owned firms, accounting for approximately 84–85% of total revenues.

Global EMS companies such as Flex, Jabil, Kimball, Scanfil, LG Innotek and Kitron dominate production. Polish-owned firms represent around 15% of the market and are typically smaller but more flexible, with a slightly lower rate of decline (approximately 11.8% vs. 14.6% for foreign firms in 2024). Among Polish-owned EMS companies, the market is led by Fideltronik, which is widely recognized as the largest domestic EMS provider, with revenues exceeding PLN 1.3 billion in recent years and a significant share within the local EMS segment. Other major Polish players include InterPhone Service and Assel, which consistently rank among the top domestic providers, although their individual revenues are significantly lower than the market leader, indicating a relatively fragmented structure within the domestic EMS segment. Additionally, a growing group of mid-sized companies – such as Elhurt EMS, TSTRONIC and JM Elektronik – forms an emerging “second tier”, collectively contributing to the expansion and increasing maturity of the Polish-owned EMS ecosystem.

Poland’s EMS share in Europe increased to 8.4% before declining to about 7.5% in 2024. The sector underperformed relative to Europe (a decline of approximately 4.5% vs. 14% in Poland). Key challenges include dependence on the automotive industry, rising labour costs and regional competition.

The long-term outlook remains positive due to nearshoring, the development of higher value-added activities (R&D and design), and synergy with the semiconductor ecosystem in Poland. Future growth depends on diversification into industry, energy and telecommunications.

The Polish EMS sector remains a key component of European electronics manufacturing, where strong fundamentals persist despite a cyclical downturn. Moving forward, its future competitiveness will depend on continuous technological upgrading, efficient cost management and the strategic leveraging of nearshoring trends.

References:

L. Jaeszke, **Polska branża EMS traci udział w europejskim rynku**, tek.info.pl, 2025.

Ranking polskich firm EMS 2025, tek.info.pl, 2025.

PAIH & Łukasiewicz – IMiF, **Dorobek i perspektywy branży produkcji półprzewodników w Polsce**, 2024.

Polish Technological Platform of Photonics, www.pptf.pl

OEM Industry in Poland (Original Equipment Manufacturer)

The OEM sector plays a key role in providing innovative electronic solutions and supporting the development of many sectors of the economy. The flexibility, innovation and high quality of the products offered allow the OEM industry to remain competitive in the global market.

Poland's OEM sector for electronic components and semiconductors plays a significant role both domestically and in European markets. Where electronics and semiconductors are concerned, the industry encompasses a wide range of manufacturing activities, from integrated circuits and electronic components to advanced electronic systems.

Poland is home to numerous R&D centres focusing on innovation in electronics and semiconductors. Companies such as Samsung and Nokia both operate research centres in Poland. The country also features well-developed manufacturing infrastructure, producing a variety of electronic components, from simple passive elements to advanced integrated circuits. Global corporations including Samsung, LG and Philips have established branches in Poland, making significant investments in production and technology development. Alongside these giants, there are many local companies specializing in the production of electronic components, among them Amica, Wilk Elektronik and APS Energia.

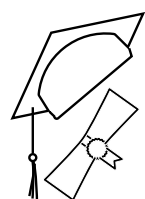
Poland is an important part of many global supply chains, especially for the European market. Components manufactured in Poland are supplied to producers of consumer electronics, automobiles and industrial equipment worldwide.

It is worth noting that there is growing interest in the Polish market among Taiwanese companies. In 2025, Formosa Smart Energy Tech Corporation (belonging to the Formosa Plastics Group, one of the largest industrial holding companies in Asia) and SKB Group signed an MOU to establish a strategic partnership encompassing electric buses, EV charging and integrated energy storage systems, commercial and industrial energy storage, smart energy platforms, and joint investment and industrial development. In 2026, the same company announced the relocation of its office from Germany to Poland and the commencement of investments in Łódź. Also in 2026, the Taiwan Electrical and Electronic Equipment Manufacturers Association (TEEMA) announced the

establishment of a Technology Park in Poland. The project is expected to attract billions of dollars in investment, create tens of thousands of jobs, and strengthen high-tech cooperation between Poland and Taiwan. It is worth noting that a Taiwanese – Polish semiconductor working group has been active since 2022. Its mission is to foster cooperation and facilitate the exchange of knowledge in cutting-edge technologies. Discussions are currently ongoing regarding the establishment of joint research projects between R&D units from both countries.

The sector faces challenges such as competition on the global market and the need for continuous investment in modern technologies and development of infrastructure. However, growth prospects are positive, driven by the increasing demand for advanced technologies and electronic components across various sectors of the economy.

An important aspect of Poland's competitiveness in this field is its well-educated engineering workforce, stemming from a strong tradition of technical education and collaboration between industry and institutions of higher education. Technical universities and institutes, including the Warsaw University of Technology, AGH University of Science and Technology in Kraków, and the Wrocław University of Science and Technology, train specialists for the electronics and semiconductor industry ^[4].



Poland maintains a large and well-developed engineering talent pipeline, with

approximately **1.28** million students and nearly **292,000** graduates annually, including around **39,000** in technical fields.



Engineering-related disciplines account for over **12%** of all students, while the country also demonstrates a strong STEM profile.



In addition, **41.5%** of graduates in science and technology fields are **women** – well above the EU average of 32.8%.

In summary, the OEM electronic components and semiconductor sector in Poland is developing rapidly and has substantial growth potential, supported by a strong educational foundation, foreign investment and favourable business conditions.

The year 2024 was a record year for Polish OEMs in terms of revenue, with some companies growing at an astronomical rate. The revenues of most (67) companies in the TOP100 increased that year, whereas those of 33 firms declined. A similar trend was observed in 2023, although more companies (75) recorded growth a year earlier, in 2022. This indicates that the largest companies (such as WB Electronics and Apator), primarily in military electronics (the military sector is responsible for as much as 79% of the growth of the entire Polish OEM sector) and the energy sector, are responsible for the record increase in revenue.

The total revenue of the TOP100 Polish OEMs in 2024 was PLN 17.1 billion – a 19.5% increase relative to 2023. This was by far the largest increase in real terms since 2018, and in terms of nominal growth, 2024 was also a record year. However, there are two extremely important factors that must be kept in mind: inflation and the rise in component prices, which often significantly exceeded the rate of inflation. The table below presents total sector turnover alongside nominal and real growth, that is, adjusted for the inflation rate.

	2019	2020	2021	2022	2023	2024
Total revenue (PLN)	8.4 bn	8.5 bn	9.8 bn	12.0 bn	14.3 bn	17.1 bn
Nominal growth	6.1%	1.3%	12.5%	18.6%	16.1%	19.5%
Average annual inflation rate	2.3%	3.4%	5.1%	14.4%	11.4%	3.6%
Real growth	3.8%	-2.1%	7.4%	4.2%	4.7%	15.9%

Source: tek.info.pl, *TOP100 polskich OEM 2025 [Top 100 Polish OEMs 2025]*, https://tek.info.pl/article/4903/top100_polskich_oem_2025

References:

[4] Instytut Rozwoju Szkolnictwa Wyższego, *Szkolnictwo wyższe w Polsce 2024/2025: więcej studentów, mniej absolwentów*, 2025.

Electronic Components Industry in Poland

Electronic components are the basic building blocks of all kinds of electronic devices. Their development is crucial for further technological advances in various sectors of the economy and essential to innovation and the strategic resilience of the national economy.

The availability of integrated electronics development capabilities – from design to fabrication – is a key determinant of the development potential of most modern devices, from simple radio receivers to sophisticated computers or smartphones.

Components such as:



resistors,



capacitors,



inductors,



resonators,



transformers and transistors,



high-tech integrated devices incorporating microprocessors,



memory chips,



specialized analogue readouts,



drivers and communication modules,

lie at the heart of modern electronic systems and solutions.

The challenges facing the industry are balanced by the prospects for growth and innovation, making it an attractive area for investment and development.

Sources:

Statistics Poland (GUS) (<https://stat.gov.pl>), 2023-2026

Polish Investment and Trade Agency (PAIH) (<https://www.paih.gov.pl>)

Association of Electronic Components Manufacturers (ZVEI) (<https://www.zvei.org>)

European Semiconductor Industry Association (ESIA) (<https://www.eusemiconductors.eu>)

Photonics Industry in Poland

Polish photonics covers a broad spectrum of applications, from telecommunications and medical devices to precision instruments and advanced manufacturing technologies.

The industry benefits from substantial investment in research and development, supported by both governmental and private funding. This investment ensures that Polish photonics companies remain at the forefront of technological advancements, contributing significantly to global supply chains. The growth of the sector is also reflected in the increasing number of startups and small and medium-sized enterprises (SMEs) that are emerging within the photonics ecosystem. These new entrants bring fresh perspectives and innovative solutions, further driving the industry's expansion and diversification.

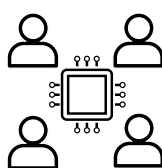
The Polish photonics ecosystem includes several hundred companies and research entities operating in areas such as infrared technologies, fibre optics, industrial lasers, optical metrology, quantum technologies, imaging systems, semiconductor lasers and photonic integrated circuits. The sector is strongly export-oriented and increasingly integrated into European semiconductor and photonics value chains.

Particularly dynamic growth is observed in infrared photonics, optical sensing, industrial laser systems, fibre-optic technologies and space-

related optoelectronics. Poland is also strengthening its position in advanced photonic integration and heterogeneous semiconductor technologies through participation in European pilot lines and Chips Act initiatives.

Highly innovative SMEs and deep-tech companies, cooperating closely with research institutes and technical universities, dominate Poland's photonics ecosystem. This structure supports rapid technology transfer and development of niche high-value products for industrial, medical, defence, aerospace and energy applications.

The European photonics ecosystem is strongly innovation-driven and SME-oriented. Of around 5,000 photonics companies operating across Europe, 55% employ fewer than 20 people.



There are approximately **300 companies** in the Polish microelectronics and photonics ecosystem, around **90%** of which are small and medium-sized enterprises focused on high-value and export-oriented technologies.

A key player in the Polish photonics industry is VIGO Photonics, which is working hard to develop the full range of technologies required for infrared detector production. The company has recently received substantial support from the Polish government and the European Commission under the IPCEI mechanism, which will finance a technological line for manufacturing photonic integrated circuits. VIGO Photonics collaborates closely on prototyping with Polish scientific institutions, including Łukasiewicz – IMiF, Warsaw University of Technology, and Lodz University of Technology. This company is an excellent example of success based on knowledge and advanced semiconductor expertise in Poland, highlighting the importance of the country's semiconductor technologies to the economy and defence sector.

It is an example of a company that, over the years, has been steadily strengthening its position in the field of III-V epitaxial structures used in advanced professional electronics, including semiconductor lasers, photodetectors, transistors and photovoltaic modules, as well as many other applications. One of the leading European manufacturers of mid-infrared detectors and photonic technologies, VIGO Photonics achieved consolidated revenues of PLN 93.1 million in 2025, representing a 19% year-on-year increase.

Overall, the photonics industry in Poland is characterized by strong export performance, robust research and development activities, and a dynamic industrial base. This positions Poland as a key player in the global photonics market, with a promising future ahead.

Sources:

<https://vigophotonics.com/vigo-revenue-estimates-for-q4-and-full-year-2025>; <https://www.paih.gov.pl/wp-content/uploads/0/150001/150077.pdf>; https://www.photonics21.org/download/ppp-services/photonics-downloads/Market_Research_Study_Photonics_2024.pdf. <https://stat.gov.pl/obszary-tematyczne/nauka-i-technika-spoleczenstwo-informacyjne/spoleczenstwo-informacyjne/spoleczenstwo-informacyjne-w-polsce-w-2023-roku.1.17.html>, p. 27

Applications of photonics in selected sectors of the economy

Photonics continues to drive innovation and transformation across diverse sectors of the economy, empowering industries to achieve new levels of performance, efficiency and sustainability.



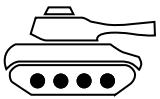
Medicine – Photonics plays a very important part in modern

medicine, revolutionizing diagnostics, treatments and surgical procedures. Laser technologies enable precise and minimally invasive surgeries, reducing patient discomfort and recovery times. Optical imaging techniques provide detailed insights into biological tissues and organs, facilitating early disease detection and personalized medicine. Semiconductor chips and

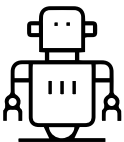
optical elements are used in all these applications.



Aviation – In aviation, photonics contributes significantly to safety, efficiency and sustainability. Light detection and ranging (LiDAR) systems use semiconductor lasers (for example VCSELs) to precisely measure distances, aiding in terrain mapping and obstacle detection for aircraft navigation. Fibre-optic sensors monitor structural health in real time, ensuring aircraft component safety and integrity.

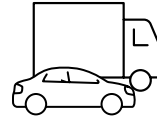


Defence – Today, photonics is an integral part of defence systems, offering advanced sensing, imaging and communication capabilities. Such systems use, for example, quantum cascade lasers as a source of radiation. Infrared imaging systems (using semiconductor detectors) enable night vision, enhancing situational awareness for military operations. Semiconductor lasers are employed for target designation, missile defence, and countermeasures against such threats as drones and missiles.



Robotics – Photonics enhances robotics with precision sensing, imaging and communication technologies. Semiconductor lasers and detectors serve as crucial elements in all these systems. Light-based sensors, such as LiDAR and structured light cameras, enable robots to perceive and

navigate their environment accurately. Optical fibres facilitate high-speed data transmission in robotic networks, improving coordination and efficiency in industrial automation and autonomous systems.



Automotive – In the automotive industry, photonics enhances safety, performance and driver experience. LiDAR systems (with semiconductor lasers) enable autonomous vehicles to perceive their surroundings and navigate complex traffic environments. Light-based sensors monitor driver attention and fatigue, contributing to accident prevention and passenger safety. Light-emitting semiconductor diodes are widely used in vehicle lighting systems.

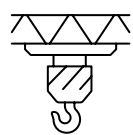


Space – Photonics plays a critical role in space exploration and satellite communication systems. Optical communication systems involving semiconductor elements facilitate high-speed data transmission between the Earth and satellites, supporting remote sensing, navigation and scientific missions in space.



Cosmetology – Advanced skincare and cosmetic treatments are enabled by photonics, guaranteeing precision and efficacy. Laser-based technologies, such as intense pulsed light (IPL) and fractional laser resurfacing, address various dermatological concerns, including hair removal, skin rejuvenation and scar reduction. Light-based imaging

systems assess skin conditions and guide personalized treatment plans for optimal results.



Industry – Photonics

technologies, especially high-power lasers, can be used in various industrial applications, for example in micromachining, cutting metals and fabrics, engraving or marking codes for industrial traceability. Photonics is used in welding metals as well as in the surface processing of various materials including glass, solar cells, wafers, semiconductors, ceramics, metals, polymers and medical supplies. Industrial lasers can also be used for high-precision dimensional measurements.

Photonic Integrated Circuits (PICs) are becoming one of the most strategic technological areas in global photonics and semiconductor industries. PICs enable the integration of lasers, modulators, detectors, filters and optical interconnects on a single chip platform, significantly reducing size, power consumption and system cost while increasing performance and reliability. PIC technologies are increasingly critical in applications such as AI datacentres, high-speed optical communication, quantum technologies, LiDAR systems, spectroscopy, sensing, aerospace and defence systems.

Poland is gradually developing expertise and building capabilities in integrated photonics through activities related to InP,

silicon photonics, Ge-on-Si photodetectors, heterogeneous integration, infrared photonics and advanced optoelectronic packaging. National research institutes and universities participate in European pilot line initiatives including PIXEurope and projects focused on photonic integration and heterogeneous semiconductor platforms.

The rapid expansion of artificial intelligence infrastructure and hyperscale datacentres is creating unprecedented demand for photonic technologies. Optical interconnects based on silicon photonics and integrated photonic circuits are becoming essential for high-bandwidth and energy-efficient data transmission.

Photonics is expected to play a key role in overcoming the power consumption and bandwidth limitations of conventional electronic interconnects. This trend is opening significant opportunities for European and Polish firms developing integrated photonics, semiconductor lasers, optical transceivers and advanced packaging technologies.

Infrared photonics represents one of Poland's strongest and most internationally recognized areas of technological expertise. Poland has established capabilities in epitaxial growth, semiconductor processing, laser and detector fabrication, optoelectronic integration and system-level applications operating from near infrared (NIR) through mid-wave infrared (MWIR) and long-wave infrared (LWIR).

Polish companies are active in the development of quantum cascade lasers (QCL), interband cascade lasers (ICL), quantum cascade detectors (QCD), HgCdTe and III-V infrared detectors, integrated sensing modules and spectroscopic systems.

Applications include environmental monitoring, industrial process control, gas sensing, defence and security systems, aerospace technologies, medical diagnostics and free-space optical communication.

Advanced photonic packaging is becoming one of the key enabling technologies for the commercialization of photonic integrated systems.

Integration of lasers, detectors, electronics, thermal management systems, optical fibres, micro-optics and RF components requires highly specialized assembly and packaging capabilities.

Poland possesses growing

**expertise in
high-reliability
optoelectronic
packaging,**

including hermetic packaging, flip-chip bonding, thermoelectric cooling integration, optical alignment, hybrid integration and solutions for harsh-environment applications. This expertise is particularly important for infrared photonics, aerospace systems, automotive sensing and defence applications.



Photonics technologies are increasingly recognized as critical dual-use technologies with strategic importance for both civilian and defence sectors. Infrared imaging systems, optical communications, laser sensing, LiDAR, optical countermeasure systems and photonic integrated circuits are becoming essential components of modern security and defence infrastructure.

The development of domestic photonic technologies contributes directly to technological sovereignty, supply chain resilience and the security of critical infrastructure.

Poland has a unique opportunity to establish a strong position within the European photonics and semiconductor ecosystem by combining its existing strengths in infrared photonics with wide-bandgap materials, advanced packaging, semiconductor processing and optoelectronic integration.

The growing importance of photonics for AI infrastructure, defence systems, industrial automation, quantum technologies and energy transformation is creating conditions conducive to long-term strategic development. Participation in European pilot lines and Chips Act initiatives may significantly accelerate the transition from research capabilities to scalable industrial deployment and commercialization.

Potential of the Polish professional electronics, microelectronics and photonics sectors

As of today, the professional electronics sector in Poland is performing very well. This is primarily thanks to the high qualifications and experience of both system and software designers.

Subsequent generations of advanced products offered worldwide under numerous brands are often developed in Poland. This is highly evident among both domestic (such as Amica) and international (such as Samsung) manufacturers of consumer electronics. In addition, complex systems with battlefield applications often comparable to those offered by global competitors are developed by companies in the Polish Armaments Group (PGZ).

Poland has invested heavily in cutting-edge technology centres focusing on high-impact research and technological deployment. A prime example of this success is CEZAMAT at the Warsaw University of Technology, which has successfully joined a prestigious pilot line under the European Chips Act. The FAMES – FD-SOI Pilot Line for Applications with Embedded Non-Volatile Memories, RF, 3D Integration and PMIC to Ensure European Sovereignty project aims to launch a pilot line and to develop and advance the 10 nm and 7 nm FD-SOI

technologies. The project will result in technology that is fully European, and will constitute a strategic line for the development of semiconductor technology in Europe. Complementing this is the PIXEurope – Advanced Photonic Integrated Circuits Pilot Line, dedicated to the development of photonic chip technology aimed at next-generation high-speed computing, communications and quantum information systems, among other applications. A total of 20 partner organisations from 11 European countries (Austria, Belgium, Finland, France, Ireland, Italy, Poland, Portugal, Spain, the Netherlands and the United Kingdom) are teaming up to build a unique European PIC ecosystem. By offering openaccess services to end users, the initiative seeks to establish the world's first fully integrated PIC pilot line.

It is worth noting that, for years, Poland has boasted a world-class team of talented specialists capable of meeting the high demands of microelectronics.

Notably, Professor Tomasz Skotnicki has played a pivotal role in developing the foundational FD-SOI technologies that have become the specialty of companies such as STMicroelectronics, GlobalFoundries and SAMSUNG. This expertise presents an opportunity to leverage local talent for advancing Poland's microelectronics capabilities.

The continuous worldwide development of technology highlights the importance and usefulness of producing integrated circuits, even in less advanced forms. Such technologies can offer significant benefits, ensuring Poland's participation in the global technology landscape and helping to meet domestic demand.

Advanced packaging and backend technologies will constantly need to be developed for the most demanding applications, especially in harsh environments – requiring high thermal stability, and resistance to thermal shocks, adverse environmental conditions, mechanical shocks and space radiation. These features will be essential to enable the full functionality of such devices.

Poland plays an active role in low-dimensional electronics. EU-funded activities include the design, manufacturing and validation of novel materials and devices. The 2025 edition of the “Polish Product of the Future” competition, run by PARP, acknowledged the graphene-on-SiC Hall sensor for high-temperature magnetic diagnostics in radiation-intensive

conditions of future fusion reactors.

The sensor technology mirrors years of intensive R&D and a strong record of publications in leading journals. It has become the backbone of Łukasiewicz – IMiF's own brand, GET(R) (www.graphene2get.com). At the same time, GET(R) has secured intellectual property rights for its SiC-based fast-neutron fluence dosimeter. The dosimeters are compact, pose no radiological hazard, and provide an alternative to metal foils. Unlike activation methods, which rely on secondary emissions of gamma or beta radiation, the GET(R) dosimeters use Raman response. They address the needs of traditional (fission) reactors and thermonuclear (fusion) reactors. GET(R) is also benefiting from international industrial expertise, while Łukasiewicz – IMiF is pursuing plans to spin the venture off into a limited liability company.

Gallium nitride (GaN) technology is widely used in Poland in a wide range of devices, for example in UV, violet, blue, and green LED lights as well as laser diodes and photodetectors. It is also particularly suitable for power devices like diodes and transistors that can handle high voltages and frequencies and have low resistance. GaN LED lights play an extremely important role in energy saving and have replaced traditional light bulbs. The scientists behind this technology received the Nobel Prize in Physics in 2014 for inventing a super-efficient blue LED. But GaN is not just for lights; it is also used in radar systems and base stations for

modern mobile networks. Furthermore, GaN-based power transistors have made smartphones and laptops considerably smaller by miniaturizing their power supplies. This is all thanks to research that Professor Sylwester Porowski and his team began back in the 1980s. They laid the groundwork for new GaN technologies that have become a specialty of the Polish Academy of Sciences and its spin-off company, TopGaN.

There is still vast research and implementation potential in Poland related not only to photonics but also to power electronics. The company TopGaN offers advanced visible and UV light emitters, operating in the spectral range of 395–461 nm, and including tunable wavelength laser diodes, semiconductor optical amplifiers and superluminescent diodes.

Adding to this landscape, Creotech Instruments, a domestic manufacturer of satellite systems and components, is driving innovation in the field of quantum electronics and advanced electronics for controlling quantum computer systems and other applications. The company is also developing unmanned aerial systems, for example by providing hardware and software for managing drone operations. Creotech Instruments operates its own electronics manufacturing facilities and small integration units for small satellites. It has also carried out projects for the space sector, including for the European Space Agency (ESA).

The Institute of High Pressure Physics of the Polish Academy of Sciences is currently the only European manufacturer of GaN substrates. While it produces and sells small series of two-inch conductive and semi-insulating wafers, it plans to expand and increase the diameter of the substrates it manufactures. At the same time, work on the technology of various GaN-based devices, mainly power transistors, was carried out at the Institute of Electronic Technology and the Institute of Electronic Materials Technology, which were merged in 2019 to form the Łukasiewicz Research Network – Institute of Microelectronics and Photonics. The Institute of High Pressure Physics of the Polish Academy of Sciences and the Łukasiewicz Research Network have recently become part of the pilot line under the European Chips Act on Wide Band Gap Materials, and are jointly responsible for developing crystal growth technology, epitaxial structures, and the production technology for vertical power devices such as diodes or MOSFET transistors. A multinational WBG pilot line consortium bringing together Poland, Finland, Sweden, Austria, France and Germany under the leadership of partners in Italy, will develop new technologies based on materials such as silicon carbide (SiC), gallium nitride (GaN) and aluminium nitride (AlN), and gallium oxide (Ga₂O₃), which are key components in the constantly growing automotive, industrial, renewable energy, consumer electronics and defence markets.

Polish companies and R&D institutes also offer expertise in advanced packaging, which is crucial for the stable operation of high-performance microelectronic and photonic devices, especially in the automotive and military sectors. From high-reliability soldering and precision assembly for high-power devices, through active Peltier cooling of IR optical devices (Łukasiewicz – IMIF, AGH, Vigo Photonics), passive cooling of electronic power devices, optical housing design and black coatings for enhanced contrast (PCO, Łukasiewicz – IMIF) and lens coatings for anti-reflective properties (PCO, Solaris Optics), all these elements have to be tailored to the requirements of a finished device. Thanks to the value chain and ongoing development work, complex solutions can be developed in these areas in Poland.

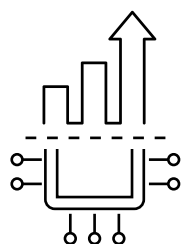
The above analysis and examples of business success, together with well-thought-out strategies based on proprietary technological infrastructure to build market independence and support product development, clearly demonstrate the vitality of the domestic professional electronics market. These companies constitute success stories in the Polish professional electronics, microelectronics and photonics sector, in which there are many other domestic firms offering an attractive and innovative range of products and services, contributing to the sector's increasingly strong position in the international market.

In summary, Poland has the potential to become a pivotal player in the microelectronics, professional electronics and photonics industries by leveraging local engineering talent and intellectual property and attracting strategic investments. Focusing on economically viable technologies and fostering an integrated national ecosystem, the country is converting market challenges into catalysts for sustainable technological advancement.

The sector's export potential: competitive advantages and collaboration opportunities

Technologies based on gallium nitride may become one of the key export drivers in Poland's microelectronics industry. Decades of research and development, specialist knowledge in the fields of physics, materials engineering, crystal growth and the design and production of GaN-based semiconductor devices all contribute to a significant advantage for the further development and implementation of new commercial solutions in both photonics and power electronics. This includes not only niche applications (such as solutions for quantum sensing, optical atomic clocks, precision metrology and quantum computing) but also global collaboration in the emerging market of vertical GaN power devices. The success of this market depends largely on the development and implementation of high-quality, large-diameter and low-cost GaN substrates, semiconductor structure growth

technology and device manufacturing technologies – areas that are becoming a specialty of the Polish microelectronics sector.



Semiconductor detectors, semiconductor lasers and photonic integrated circuits are becoming a cornerstone of Poland's photonics exports.

Further significant export potential lies in fibre-optic companies located in Poland, which collaborate closely with research institutions in the country. Moreover, innovative fibre lasers such as femtosecond lasers, with broad applications in biophotonics, medicine, science and industry, also have great export potential, offering cost-effective, dependable and stable solutions, resistant to industrial conditions, ensuring high reliability and long service life.

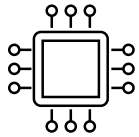
The above points to strong export potential for the Polish microelectronics and photonics sectors, supported by advanced research and development infrastructure and innovative technologies. Poland's microelectronics and photonics industries continue to show robust growth, contributing to the increasing exports of high-tech products to international markets.

Development prospects, trends and innovation in the professional electronics, microelectronics and photonics sector

The professional electronics, microelectronics and photonics sectors are evolving together to form a dynamic area of innovation that is shaping the technological future.

The development of these areas is crucial to advances in areas such as communications, industry, medicine and energy. Below is an outline of development in these sectors, including trends and innovations for the future.

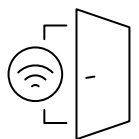
The most important trends are:



Miniaturization and Integration of Technology

– integrated circuits with

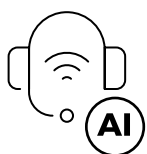
increasing integration density enable the production of more efficient and energy-saving electronic and photonic devices.



Development of the Internet of Things (IoT)

opens new opportunities for professional

electronics, microelectronics and photonics. Connecting devices via the internet requires advanced sensors, communication modules and powerful data processing systems.

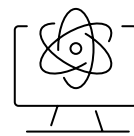


Artificial Intelligence and Machine Learning

will enable the development of

intelligent systems, the automation

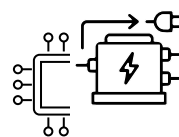
of processes and the improvement of product functionality, thereby contributing to increased productivity and competitiveness. Electronic and photonic components are used when building hardware for such applications.



Quantum computers and related technologies

are currently in the early stages of

development, although all major global players in electronics and photonics are increasing their investments in this area every year. This is because quantum technology leaders are expected to secure access to unprecedented computing capabilities, which may prove groundbreaking in many areas of life and the economy – making it possible to solve problems previously considered beyond reach because of the technical limitations of supercomputers.

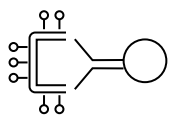


Efficient Power Electronics

Another challenge for future development will be to

ensure security in production and supply chains, and to protect against threats

related to continuing globalization. New digital technologies require the use of intelligent and energy-saving electronic systems and circuits. Therefore, current systems will have to be adapted to more demanding environmental conditions, such as operation at higher temperatures or in corrosive conditions, as well as higher exposure to electromagnetic interference. The above challenges may be addressed by modern and innovative electronic devices based on wide and ultrawide-bandgap semiconductors such as silicon carbide, gallium nitride or gallium oxide.



Emerging innovations in photonics:

lasers are used in numerous industrial applications – including telecom transmission, marking and engraving, and biosensing – usually as a standalone solution. However, new trends are emerging, combining lasers with optics and sensors, creating integrated solutions with a much wider field of application. Traditional laser

technologies such as solid-state and carbon dioxide currently account for 50% of the market, but in recent years, the number of patents granted for other laser technologies has significantly increased, mainly for fibre lasers, diode lasers and quantum cascade lasers, which indicates that their adoption in new applications will gradually increase.



Low / Ultra Low Temperature Co-fired Ceramics (L/ULTCC) technology

is a promising platform for advanced electronic systems, enabling the integration of multilayer architectures with conductive paths, passive components and microfluidic channels within a single monolithic structure. It offers significant potential for the development of high-value-added components and for strengthening national capabilities in microelectronics, particularly in space applications and in high-frequency sensing and telecommunications systems.

Emerging strategic trends in photonics and semiconductor technologies

Silicon photonics

Silicon photonics is becoming one of the most rapidly growing technology areas driven by the exponential increase in data traffic, cloud computing and artificial intelligence infrastructure. By integrating optical communication functions directly on silicon wafers, silicon photonics enables high-bandwidth, low-power and scalable optical interconnects compatible with CMOS manufacturing. The technology is increasingly adopted in data centres, telecom infrastructure, high-performance computing and AI accelerators. Europe is intensifying investment in silicon photonics pilot lines and manufacturing ecosystems to reduce dependence on non-European suppliers and strengthen technological sovereignty.

Heterogeneous integration

Heterogeneous integration enables combining different semiconductor materials and functionalities within a single integrated platform. This includes the integration of III-V materials, silicon photonics, CMOS electronics, MEMS, detectors and RF systems, allowing the development of highly advanced multifunctional devices. The approach is becoming essential for next-generation photonic integrated circuits, infrared systems, quantum technologies and advanced sensing applications. Heterogeneous integration is also considered one of the key enabling technologies for overcoming

the limitations of conventional semiconductor scaling.

Co-packaged optics

Co-packaged optics (CPO) represents a new architecture where optical interconnects are integrated directly with high-performance processors and switching systems. This approach significantly reduces the power consumption, latency and thermal bottlenecks associated with traditional electrical interconnects.

The growing scale of AI data centres and high-performance computing systems is accelerating demand for CPO solutions worldwide. The technology is expected to become one of the key drivers behind photonic integration and advanced packaging industries in the coming decade.

AI data centre photonics

Artificial intelligence infrastructure requires enormous data transfer bandwidth and energy-efficient communication systems. Photonic technologies are increasingly replacing traditional copper interconnects due to their significantly higher transmission capacity and lower power dissipation. Integrated photonics, optical transceivers, semiconductor lasers and advanced optical packaging are becoming strategic components of future AI infrastructure. This creates substantial opportunities for companies and research centres specializing in photonics integration, optical communication and semiconductor lasers.

Mid-IR integrated photonics

Mid-infrared (Mid-IR) photonics is emerging as a strategic area for sensing and spectroscopy applications because many molecules exhibit strong absorption fingerprints in this spectral range. Integrated Mid-IR photonics enables compact and highly sensitive systems for gas sensing, environmental monitoring, industrial diagnostics and medical applications.

The development of Mid-IR PIC platforms requires advanced material engineering, heterogeneous integration, infrared sources and detectors, and specialized packaging technologies. Poland possesses significant expertise in infrared photonics that can support further development in this strategic area.

Quantum photonics

Quantum photonics is expected to become one of the foundations of future secure communications, advanced sensing and quantum computing systems. Photonic platforms offer unique advantages including room-temperature operation, long coherence lengths and compatibility with integrated photonics technologies. Current research focuses on single-photon sources, quantum detectors, integrated quantum circuits, quantum communication links and photonic quantum processors. Significant investments in quantum technologies are currently being made worldwide within both civilian and defence programmes.

Integrated sensing

Integrated sensing systems combine photonic, electronic, MEMS and software functionalities into compact and intelligent sensor platforms. These systems enable real-time monitoring, high sensitivity, low power consumption and autonomous operation. Applications include industrial monitoring, environmental sensing, automotive systems, medical diagnostics, aerospace technologies and smart infrastructure. The growing implementation of Industry 4.0 and IoT solutions is substantially increasing demand for advanced integrated sensing technologies.

Neuromorphic photonics

Neuromorphic photonics aims to implement brain-inspired computing architectures using photonic devices and optical signal processing. Compared to conventional electronics, photonic neuromorphic systems may offer significantly higher processing speeds and lower energy consumption. The technology is considered particularly promising for artificial intelligence, edge computing, pattern recognition and ultrafast signal processing applications. Research activities are currently focused on optical neural networks, photonic memory elements and integrated photonic computing architectures.

Photonics for autonomous systems

Autonomous vehicles, drones, robots and industrial automation systems increasingly rely on advanced photonic technologies for perception and

navigation. LiDAR systems, optical sensors, infrared imaging and photonic communication systems are essential for safe and reliable autonomous operation. Future autonomous platforms will require highly integrated, compact and energy-efficient photonic systems capable of operating in harsh and ever-changing environments. This trend is creating strong demand for integrated photonics, advanced sensors and robust optoelectronic packaging technologies.

Space photonics

Photonics technologies are becoming increasingly important for satellite communications, Earth observation, navigation systems and space exploration missions. Optical communication systems enable significantly higher bandwidth and lower latency compared to conventional RF technologies. Photonics is also critical for space-based sensing, LiDAR, environmental monitoring and quantum

communication applications. The development of radiation-resistant photonic components and advanced packaging technologies is becoming one of the strategic priorities of the European space sector.

Edge sensing and distributed sensing

Distributed sensing systems based on photonic and fibre-optic technologies enable the continuous monitoring of large-scale infrastructure and industrial environments. These systems can measure temperature, strain, vibration, pressure and chemical composition over long distances with very high sensitivity. Edge sensing architectures combine local data processing with intelligent sensor networks, enabling rapid response and reduced communication load. Applications include smart cities, energy infrastructure, industrial safety systems, pipelines, railways and environmental monitoring.

Success stories of Polish companies

When Physical Becomes Digital in the Utmost Detail

The Success Story of SMARTTECH 3D

Having set the standard for advanced 3D scanning systems based on structured light technology, this family-owned Warsaw company has evolved into a business with global reach. Its non-contact measurement systems offer some of the highest resolutions available on the market and are becoming indispensable not only in archaeology – where the company has become a leader in 3D digitization – but also across modern industries.

“What makes our solutions unique is their ability to capture not only highly precise geometry, but also realistic colour and texture. This combination allows us to create true digital representations of physical objects with one of the highest resolutions available on the market. As a result, even the finest defects, surface details or material characteristics can be accurately reproduced,” says Anna Gębarska, Managing Director of SMARTTECH 3D.

Offering resolutions of up to 20 MP – among the highest on the market – SMARTTECH 3D’s optical 3D scanning technologies are capable of capturing both precise geometry and highly realistic textures. This enables applications that require extreme accuracy, from detecting micro-defects in industrial components to faithfully reproducing delicate cultural artefacts.

Preserving artefacts, empowering Industry 4.0

SMARTTECH 3D scanners are becoming

increasingly essential in industrial applications. The company’s products are used by household names including NASA, Boeing, General Electric, Mahle, the Polish gaming giant CD Projekt and even the U.S. Army. The systems support quality control, reverse engineering and inspection processes, helping companies improve precision, efficiency and reliability.

To keep pace with growing customer expectations and drive technological innovation in line with Industry 4.0 principles, the company developed CobotScan – an exceptionally lightweight 3D scanner engineered for seamless integration with collaborative robot arms (cobots).

“On the other hand, we also play an important role in the field of digital heritage, enabling the creation of digital twins of valuable artefacts – for purposes of both preservation and broader accessibility through virtual museums,” adds the Managing Director.

However, SMARTTECH 3D technologies go far beyond archaeology, museums and industry, finding further applications in education, medicine, criminology, industrial design and multimedia. The company is also actively developing digital spare-parts inventory systems. Combined with additive manufacturing technologies such as 3D printing, these solutions enable shorter supply chains, faster response times and greater resilience in both industrial and dual-use environments.

The company's journey began two decades ago with the acquisition of core technology through the Technology Transfer Center at the Warsaw University of Technology. From there, SMARTTECH 3D focused on developing a market-ready product – a process that required not only engineering excellence but also building trust in an entirely new category of measurement systems.

“At that time, we were pioneers of optical 3D measurement in Poland. For the first five or even ten years, a large part of our effort was dedicated to educating the market and proving that non-contact optical systems could be just as reliable and precise as traditional coordinate measuring machines. This required a great deal of determination, consistency and long-term vision,” explains the director.

From standalone devices to fully integrated systems

As a family-owned company, SMARTTECH 3D relied primarily on its own resources,

selectively supported by R&D funding programmes, including initiatives offered by the Polish Agency for Enterprise Development. After helping to educate the Polish market, the company now operates across three continents.

“International expansion remains a key priority, particularly in the United States, where we see significant opportunities but also recognize the need for stronger local operations. For this reason, we are open to strategic partnerships that could support our scale-up and accelerate growth in global markets,” Anna Gębarska explains.

The company operates internationally through a distribution network built over many years. This model enables effective scaling while maintaining strong local partnerships. Key markets include Asia – particularly Japan, Taiwan and China – where SMARTTECH 3D technology is used in demanding sectors such as aerospace and advanced manufacturing. The company is also present in other Asian countries with growing demand for advanced 3D scanning systems. In Europe, SMARTTECH 3D works through distributors across numerous markets.

“Looking ahead, we plan to further develop integrated and automated 3D measurement systems by combining scanning technologies with robotics, data processing and manufacturing operations,” Anna Gębarska explains, outlining the company's plans for the future.

From Rented Premises to Global Markets

The Success Story of Solaris Optics

Solaris Optics is the longest-running private company in Poland's precision optics industry, in continuous operation for 35 years, building a strong presence both at home and abroad. Thanks to the determination of its founders and a series of sound business decisions, the company quickly moved from rented premises into its own facilities, where it now develops advanced opto-mechanical products and systems for some of the world's most demanding industries.

"We manufacture precision optical components for both general-purpose and highly specialized applications, with parameters tailored to each customer's requirements. Our capabilities cover the full production cycle for optical elements made from nearly all types of optical glass, quartz glass, optical ceramics and crystals – from cutting raw materials into blocks or rods, through milling, grinding, polishing and optical coating, all the way to framing and precision assembly of optical systems," says Michał L. Muniak, President of the Management Board and Co-owner of Solaris Optics.

More than a decade ago, the management board under Solaris Optics' first president, Waław Muniak, made the strategic decision to equip the facility with a new-generation PVD vacuum coating machine and advanced CNC machinery. At the same time, the company expanded its production space, significantly increasing manufacturing capacity.

Located on the outskirts of Warsaw, Solaris Optics manufactures a broad range of advanced precision optics, including lenses, mirrors, optical windows, wedges, filters, polarizers, prisms, beamsplitters, optical assemblies and diffusers, as well as laser, imaging and infrared optics. This extensive portfolio gives the company a strong competitive edge and exceptional operational flexibility.

The company serves clients in industries such as semiconductors, lithography, defence, medical technology, occupational safety and photonics. Its products and technologies are used in infrared technologies, gas detection systems, machine vision, lithography equipment and medical diagnostics.

From modest beginnings

"We started modestly, in rented premises. At the time, our team consisted of just 18 people – mainly specialists from the former Polish Optical Works and the

scientific community. That combination of academic knowledge and practical expertise delivered results very quickly. Today, we employ more than 70 people and operate our own ultra-modern production facility,” Michał L. Muniak says, referring to the company’s early history.

Today, Solaris Optics is one of Europe’s leading manufacturers of precision optics, successfully competing around the world. Western Europe remains the company’s primary market, especially Germany and the Netherlands, alongside Taiwan. International contracts initially accounted for the majority of the company’s revenue, but the Polish market has been steadily gaining in importance. Geopolitical developments – including the war in Ukraine – have led to increased cooperation with Poland’s defence sector. The company also plans to strengthen its presence in Asia and the United States.

“What sets us apart is our flexibility and broad portfolio, as we are not limited to a single product category. We provide full advisory support and work closely with our clients at all stages. Our experienced team delivers not only products, but also unique know-how. We specialize in tailor-made solutions, creating custom orders tailored to individual customer needs and offering an almost unlimited number of configurations,” explains Monika Rżysko, CEO of Solaris Optics.

Technology trusted on Earth – and beyond

One of the key milestones in the company’s development was establishing cooperation with Philips, a leading Dutch photolithography company. Solaris Optics became a supplier of optical components used in advanced photolithography equipment. The partnership confirmed the company’s world-class expertise and positioned it among trusted suppliers to the high-tech industry, opening the door to further international projects.

“From both a technological and reputational perspective, our cooperation with the European Space Agency (ESA) was extremely important. The fact that our products operate in space is perhaps the strongest testament to their quality. Scientific partnerships with universities and research centres, both in Poland and abroad, have been equally significant. We have completed numerous prototype projects, often taking on challenges where others were unable to deliver,” adds Michał L. Muniak.

Yet the company’s greatest strength lies in its comprehensive approach. Solaris Optics manages the entire process – from concept to finished product – including design, metrological verification and specialized coatings. Moreover, every stage of production takes place within a single facility, ensuring greater security, efficiency and quality control.

“We want to continue investing in modern technologies and expanding our manufacturing equipment, including through European funding programmes. We are also considering opening a second location. From a technological perspective, we are focusing on materials

such as sapphire and germanium, as well as solutions for far-infrared and ultraviolet applications. At the same time, we continue to broaden our offer and reduce lead times,” Michał L. Muniak concludes.

Thinner than Human Hair: The Secret Behind Advanced Printing in Electronics

The Success Story of XTPL

No other company in the world offers microelectronics printing technology with capabilities comparable to XTPL's. Using its proprietary Ultra-Precise Dispensing technology, this Polish deep-tech company can print ultra-fine conductive lines just a few microns wide while handling exceptionally high-viscosity materials. The technology enables precise material deposition on virtually any surface – rigid, flexible or three-dimensional – and operates at room temperature without the need for electric fields or masks.

“Powering the microelectronics of tomorrow, XTPL enables advanced electronics manufacturing through ultra-precise deposition of conductive structures with single-micrometre resolution. We print electronic components that are dozens of times thinner than a human hair by precisely depositing ink onto rigid and flexible substrates, including complex three-dimensional surfaces,” says Filip Granek, founder and CEO of XTPL.

XTPL's technology is used in advanced semiconductor packaging, repair and modification of advanced electronic circuits, OLED and microLED display manufacturing, next-generation photovoltaics, Flexible Hybrid Electronics (FHE), micro-electromechanical systems (MEMS) and medical devices.

From a garage startup to a public company

XTPL was founded in 2015 by Filip Granek, PhD, a graduate of the Wrocław University of Science and Technology, who spent nearly a decade working at leading international research centres, including the Fraunhofer Institute for Solar Energy Systems ISE, the Energy Research Centre of the Netherlands (ECN), the Australian National University and Kingston Semiconductor.

After returning to Poland, instead of pursuing research within an academic institution or a corporation – which would have meant relinquishing intellectual property rights – he began working out of a converted garage. It was there, together with a small team, that the first experiments demonstrated the feasibility of printing conductive lines dozens of times

thinner than anything commercially available at the time.

“Our microprinting technology is used to create ultra-thin conductive metallic structures in applications where traditional methods such as photolithography, inkjet or aerosol jet printing are either too expensive, too slow or insufficiently precise,” he explains.

By the end of 2019, XTPL had evolved from a nanotechnology startup into a company with global reach. Its subsidiary, XTPL Inc., was established in Sunnyvale, in the heart of Silicon Valley, enabling the company to operate in close proximity to global leaders in the semiconductor and electronics industries, protect key intellectual property assets in the United States and build relationships with potential strategic partners.

XTPL's listing on the Warsaw Stock Exchange opened the door to institutional investors and strengthened the company's credibility in discussions with international industrial partners.

When R&D is part of the company's DNA

“We currently hold 47 granted patents in markets including the United States, China, Germany and Japan. We also regularly secure both national and European funding for research and development projects. At XTPL, R&D is not simply a department; it is embedded in the company's DNA and forms the

foundation of every business line,” says the CEO.

Scientists account for a significant proportion of the team: around one-quarter of XTPL's employees hold PhDs, while others are currently pursuing doctoral degrees. The company operates specialized application, materials and hardware laboratories that cover the entire process, from fundamental research and development to industrial validation with customers.

As the CEO points out, one of the company's greatest technological achievements has been raising its Ultra-Precise Dispensing technology to a level where the industrial-scale printing of conductive structures just micrometres wide is both stable and repeatable, while using metallic pastes with an extremely high viscosity of 2.5 million cP. The breakthrough nature of the technology has been recognized through numerous prestigious awards, including the R&D 100 Awards and the IDTechEx Printed Electronics Technical Development Manufacturing Award.

“We have been a global company since the beginning. Today, we commercialize our products in more than 20 countries, with East Asia, North America and Europe representing our key markets. We have achieved our first-ever industrial deployment in China, supplying UPD modules to one of the country's largest display manufacturers – a company generating annual revenues of more

than USD 20 billion,” says the CEO, adding that the company’s strategic goal is to make its Ultra-Precise Dispensing technology a global standard wherever

modern industry encounters the limits of micrometric resolution – in the manufacturing of screens, chiplets, sensors and flexible electronics.

Polish companies and business support organizations

CATALOGUE

 www.acf-solutions.pl
 biuro@acf-solutions.pl

Subsector

Electronic components, Building management automation

The mission at ACF Solutions is to provide advanced and innovative solutions in the fields of IT and electronics. The company focuses on developing proprietary building management and automation product lines, as well as the broader concept of actuator control and the creation of comprehensive systems. It also carries out demanding projects involving the design, prototyping and low-volume production of electronic devices, as well as software projects. The company combines the two domains of hardware and software. Its scope of expertise enables customer support at every stage of the project and the collaborative development of complete devices – from concept to implementation.

AEROBITS



 www.aerobits.pl
 info@aerobits.pl

Subsector

Microelectronics, Electronic components

Aerobits is a Polish technology company developing advanced avionics and airspace surveillance systems for manned and unmanned aviation. The company focuses on miniaturization and integration of air traffic monitoring technologies into compact solutions, and designs onboard and ground systems supporting UTM/U-Space and safe drone integration. Its technologies include Mode A/C/S, ADS-B, FLARM, UAT, Remote ID, multi-GNSS and MLAT, supported by LTE and Wi-Fi communication. The company's systems enable airspace monitoring, drone identification and BVLOS operations, serving customers in over 70 countries.

AG TermoPasty

Grzegorz Gąsowski



🌐 www.termopasty.com

✉ info@termopasty.pl

Subsector

Electronic components

AG TermoPasty is a brand trusted by manufacturers, service providers and technical distributors. The company supplies proven and highly consistent products that are ready for sale and for industrial applications. Its product portfolio supports the cooling, protection and cleaning of electronics – from assembly to maintenance.

AiRob



🌐 www.airob.com

✉ sales@airob.com

Subsector

AI-based industrial solutions

AiRob's mission is to pioneer the development of AI-controlled robots for the manufacturing industry. The company has created a unique AI-based manufacturing ecosystem aimed at giving robots human-like senses. It provides intelligent, self-improving processes that enable automation without the need for a team of engineers. AiRob's approach teaches robots how to think rather than simply operate according to rigid code, using vision to perform quality inspection and detect defects at every stage of production. Its products are designed for seamless adaptability and intuitive operation, redefining the efficiency and versatility of automation. The company delivers real, operational solutions – not just vague promises.

Subsector

Microelectronics, Electronic components

AIUT is one of Europe's leading engineering companies, specializing in industrial automation, robotics and advanced electronic solutions. With over 30 years of experience, the company delivers complex, end-to-end projects for global industrial clients, supporting digital transformation and Industry 4.0 initiatives. AIUT's Electronic Design & Manufacturing (EDM) division provides comprehensive OEM services for electronic devices – from concept and design to serial production and implementation. The EDM team develops tailor-made solutions for industrial applications, including hardware and firmware design, embedded software, prototyping, testing, certification and full-scale manufacturing.

Ampertronic



Subsector

Microelectronics, Electronic components, PCB

Ampertronic supports manufacturing companies in PCB design, printed circuit board production and PCBA assembly. Its strengths include a combination of engineering knowledge, rapid response and a practical approach to production problems. The company goes beyond order fulfilment; it analyses documentation, identifies technological risks, provides DFM support and helps clients transition from prototype to mass production. Ampertronic works for clients who prioritize quality, timeliness, technical communication and full accountability for the process.

🌐 <https://asselems.com/>
✉️ sales@assel.pl

Subsector

Electronics Manufacturing

Assel is a contract electronics manufacturing services provider with a primary focus on high-mix, high-complexity projects that require a strong and proactive engineering contribution, sophisticated supply chain modelling and extensive technical capabilities in the area of electronic assembly services and electro-mechanical integration. With over 45 years of experience in electronics manufacturing services, the company understands that no two customers are alike. After all, market segments, business models and products can all differ. Each customer requires an individual approach, unique business model and a tailored supply chain strategy.

Atest Gaz

🌐 www.atestgaz.pl
✉️ contact@atestgaz.pl

Subsector

Laser and fiber optic technologies/waveguides, Gas detectors

Atest Gaz is a Polish company that focuses on measuring gas composition and monitoring for and detecting hazardous gas concentrations. It specializes in innovative gas detection and safety systems that deliver dependable information on the presence of gas hazards or absence thereof. When everything is functioning normally, these systems offer reassurance; when a hazard occurs, they issue effective warnings. The mission of Atest Gaz is to provide customers and users with peace of mind by helping to protect human life and health, as well as property and the environment, from hazards associated with dangerous gases.

 www.atmsolutions.pl
 biuro@atmsolutions.pl

Subsector

Laser and fiber optic technologies/waveguides

ATMSolutions is a Polish manufacturing company offering CNC milling machines, fibre-laser cutting machines, waterjet machines and industrial milling and turning centres. Thanks to its broad product range, customers can work with a single manufacturer to design, configure and implement their entire machinery setup.

Candela Foundation

·candela·

 www.candela.org.pl
 hello@candela.org.pl

Subsector

3rd sector – NGOs

Candela Foundation is a Polish non-profit organization supporting the development of optics, photonics and light-based technologies. Its mission is to integrate the scientific community, academia and industry, and promote Poland's potential in modern technologies. The Foundation organizes lectures, conferences and training in new technologies, and educational initiatives for students, PhD candidates, young scientists and specialists. Through outreach and networking activities, Candela supports competence development, knowledge transfer and the creation of a strong photonics community in Poland.

 www.cbtg.pl
 bok@cbtg.pl

Subsector

Microelectronics, Optoelectronics, Electronic components, Laser and fiber optic technologies/waveguides, Wireless connectivity, IoT

CBTG Technologie provides a wide range of components: from passive elements and integrated circuits to advanced embedded systems, AI and wireless connectivity solutions such as 5G, LTE, LoRa and GNSS. The company's portfolio also includes industrial SBCs, SSD/DDR memory and drive systems. These solutions support various industries, including the military, automotive, medical and OEM sectors. As a fully Polish distributor, CBTG Technologie provides technical support and product life-cycle verification. It guarantees quotations within 24 hours, fast shipping and professional excess inventory management. The company operates in accordance with ISO 9001:2015 and ISO 14001:2015 standards.

CEZAMAT



 <https://cezamat.pw.edu.pl/>
 arkadiusz.hruszowiec@pw.edu.pl

Subsector

Microelectronics, Optoelectronics, Electronic components, Laser and fiberoptic technologies/waveguides, Optics/ Opto-mechanics, Microscopy/Spectroscopy and spectrometry

CEZAMAT is one of Europe's leading multidisciplinary research and development centres, established to effectively bridge advanced scientific research with industrial implementation and commercialization. As the flagship research centre of the Warsaw University of Technology, CEZAMAT operates at the intersection of industry, academia and government, serving as a catalyst for transformative change that benefits society and strengthens the country's technological sovereignty in strategic dual-use domains. Its expertise encompasses semiconductors, photonics and microelectronics technologies, as well as biotechnology and bioengineering.

Subsector

Microelectronics, Electronic components

ChipCraft is a fabless semiconductor manufacturer that specializes in GNSS technology. The company provides fully integrated, all-band, all-constellation GNSS receivers of high precision and reliability. Its flagship product is the NaviSoC, a GNSS receiver integrated with an application processor on a single silicon die that delivers high jamming and spoofing resistance intended for the mass market. The NaviSoC receiver is offered as a chip and as a module, and is dedicated to the consumer, industrial and automotive markets. ChipCraft also offers custom silicon design and development services for ASIC and FPGA, as well as silicon-proven IP blocks and IP cores, for multimarket sectors.

CortexMine



Subsector

Enterprise AI software

CortexMine is a private AI platform for organizations where data is sensitive, processes must be auditable, and mistakes carry real operational or regulatory consequences. It is deployed on premises or in a private cloud, ensuring that data never leaves the client's environment. Instead of generic AI, CortexMine provides Digital Workers: configured agents supporting service and technical documentation, quotation preparation and audits. Its clients are European manufacturers facing NIS2 obligations or IP restrictions that rule out using public AI.

🌐 www.creotechquantum.pl
✉ biuro@creotechquantum.pl

Subsector

Electronic components

Creotech Quantum designs and manufactures advanced electronics and complete technology systems, from concept to deployment. It focuses on solutions for quantum technologies and demanding scientific and industrial applications. The company's portfolio includes quantum key distribution (QKD) systems, cameras for astronomy and research laboratories, White Rabbit-based time-synchronization systems and control and measurement systems (Sinara, MTCA). Its technologies are used in science, public administration, critical infrastructure, telecommunications, finance and defence.

DCD-SEMI



🌐 www.dcd.pl, www.dcd-semi.com
✉ info@dcd.pl

Subsector

Microelectronics, IP Core & SoC

DCDSEMI is a leading Polish semiconductor company specializing in Intellectual Property (IP) cores and SystemonChip (SoC) design for global electronics and automotive markets. With over 25 years of experience, the company delivers siliconproven, synthesizable IP cores such as processors, microcontrollers, CAN XL interfaces, cryptographic accelerators and peripheral components, widely used in more than 1 billion electronic devices worldwide. DCDSEMI creates highly optimized Verilog and VHDL IP cores tailored to specific customer applications, including RISC-V, 8051based CPUs, 32bit processors, arithmetic coprocessors, UART, SPI, CAN XL and over 100 other holistic IP cores in its portfolio.

Dezynfekcja powietrzem



🌐 <https://dezynfekcjawietrzem.pl>

✉ biuro@dezynfekcjawietrzem.pl

Subsector

Photocatalysis process

The air disinfection services provided by Dezynfekcja powietrzem focus on improving indoor air quality through the disinfection of spaces and surfaces. The company specializes in eliminating bacteria, viruses, mould, allergens and unpleasant odours, especially in the agricultural and medical sectors. Its research has led to the development of highly effective devices that incorporate innovative air purification technology. In particular, the patented solutions behind its Photocatalytic Gate® air and surface disinfection technology make it more efficient than other technologies available worldwide.

Electro Welle

🇪 ELECTRO WELLE

🌐 <https://electro-welle.pl/>

✉ montaz@electro-welle.pl

Subsector

EMS, Cable harness

Electro Welle has been a cornerstone of Poland's EMS sector since 2009. Operating from a modern 6,500 m² facility in Marcinkowice, the company provides high-tech support for global industries. Its key capabilities include SMT and THT Assembly, with expertise in paste/glue, CSP and BGA technologies (including small series and mixed assembly), prototyping through the manual assembly of individual units for rapid development, and cables and housing, covering comprehensive wire processing and custom metal housing production. By combining advanced infrastructure with production flexibility, Electro Welle exemplifies the reliability and technical growth of the modern Polish electronics industry.

Elektryka Morska



🌐 <https://www.elektrykamorska.pl/en/>
✉ info@elektrykamorska.pl

Subsector

Electronic components

Elektryka Morska is a Szczecin-based company with over 18 years of experience, specializing in comprehensive electrical, power and automation solutions. Since its inception, the company has consistently developed its expertise, offering clients a full range of services – from design and component supply to assembly, switchboard production and service.

Elhurt EMS



🌐 <https://elhurtems.com/>
✉ kontakt@elhurtems.com

Subsector

Microelectronics, Electronic components

Elhurt EMS is a leading Polish provider of comprehensive Electronic Manufacturing Services (EMS), supporting international customers from various tech sectors. Backed by long-standing market expertise, the company offers end-to-end solutions, including component sourcing, advanced PCB assembly (SMT/THT), automated optical inspection (AOI) and X-ray testing. Elhurt EMS provides full engineering support, box-build integration and tailored logistics solutions. Operating from a modern production facility, the company ensures top-tier quality and full compliance with strict industry standards, making it a trusted, long-term hardware partner for demanding R&D teams.

Subsector

Electronic components

Elkat is a Polish manufacturer of electrical comb busbars and distribution blocks for low-voltage power distribution systems. With many years of experience in copper processing and electrical components manufacturing, the company supplies customers across Europe with reliable and competitively priced solutions. Its portfolio includes standard and custom busbar systems, OEM production, private branding and flexible manufacturing capabilities. Elkat's focus is on quality, short lead times, technical support and long-term cooperation with electrical wholesalers, panel builders and industrial partners.

Subsector

Laser and fiber optic technologies/waveguides, Fiber optic sensing

Endurofiber specializes in advanced metal-coated optical fibres for demanding sensing applications. The company provides optical fibres with Au, Ag, Cu, Ni, Pd and custom metallic coatings tailored to harsh environments and high-performance photonic systems. Its technology enables the coating of virtually any fibre type and geometry, including customer-drawn fibres, offering unmatched flexibility in fibre dimensions and specifications. The company's prime focus is on fibre-optic sensing technologies, in particular FBG, OFDR and DTS systems, delivering solutions optimized for structural health monitoring and for applications in aerospace, energy, industry and scientific research.

Ensemble3

 www.ensemble3.eu
 malgorzata.mroczkowska@ensemble3.eu



Subsector

Microelectronics, Optoelectronics, Electronic components, Laser and fiber optic technologies/waveguides, Optics/ Opto-mechanics

ENSEMBLE3 – Centre of Excellence for Nanophotonics, Advanced Materials and Crystal Growth Technologies, based in Warsaw, continues the legacy of Professor Jan Czocharlski, pioneering advanced materials for high-tech industries including photonics, electronics, energy, medicine, aerospace, defence and space technologies. The Centre's expertise covers the growth and development of single crystals such as III-V semiconductors (GaAs, InP, GaSb, GaP), oxides (YAG, YVO₄, CALGO), fluorides, SiC, and organic crystals. It provides laser materials, optical components, scintillators, substrates, custom crystals and collaborative R&D services.

Etronika

 <https://www.etronika.pl/start-en>
 office@etronika.pl



Subsector

Microelectronics, Optoelectronics, Optics/ Opto-mechanics,
Laser and fiber optic technologies/waveguides

Etronika is a trusted manufacturer of advanced optical and optoelectronic systems for defence and security applications. Founded in 2002, the company combines extensive engineering experience with in-house design and production to deliver reliable, mission-ready solutions. Its portfolio spans thermal imaging systems, daylight cameras, laser rangefinders, optoelectronic sensor heads and precision optics for tactical platforms. Etronika's proprietary electronics enable the seamless integration of multi-stream video and modern SoM platforms (such as NVIDIA Jetson™, Raspberry Pi and NXP i.MX), thereby supporting scalable processing and future growth. The company is certified to ISO 9001 and AQAP 2110.

Every European Digital



 <https://iota-devices.com>

 inquiries@everyeuropeandigital.com

Subsector

Wireless industrial sensors

IOTA, a brand of industrial sensors with ultra-low-power radio connectivity, is proudly manufactured by Every European Digital Poland. Designed for effortless integration and operation, IOTA sensors deliver seamless functionality with minimal maintenance requirements and multi-year battery autonomy. These wireless sensors are widely used in utilities, facility management, logistics and enterprises with large and dispersed asset bases. By providing reliable real-time environmental and operational data, IOTA devices can also serve as a valuable source of data for ML/AI models, predictive analytics, automation and intelligent infrastructure management systems.

explitia



 <https://explitia.com/>

 contact@explitia.com

Subsector

Electronic components, Industrial digitalization

explitia is a Polish technology company specializing in digital transformation and Industry 4.0 solutions for manufacturing enterprises. The company delivers advanced industrial software, AI-driven analytics, production monitoring systems, energy management solutions, predictive maintenance tools and integration of IT/OT environments. It supports industrial companies in improving operational efficiency, reducing downtime, optimizing energy consumption and building data-driven smart factory environments. explitia combines technological expertise with practical experience in industrial implementation.

Fluence Technology



🌐 www.fluence.technology

✉️ info@fluence.pl

Subsector

Laser and fiber optic technologies/waveguides

Fluence Technology redefines reliability in femtosecond lasers. The company's all-fibre, SESAM-free architecture ensures exceptional stability and shock immunity, making its systems truly service-free. Its portfolio features the ultra-compact Jasper Micro for high peak power and the industrial powerhouse Jasper X1 for 24/7 operations. With the Harmonic Module, the Jasper X1 offers four automated wavelengths: 1030, 515, 343 and 258 nm. From electronics and display cutting to battery foils and medical devices, the company delivers precision micromachining with a minimal heat-affected zone. Fluence doesn't just ship a box; it ships a solution.

GMP System



🌐 www.sakokd.pl

✉️ info@sakokd.pl

Subsector

Microelectronics, Security systems

S.A.K.O. is a leading Polish manufacturer of access control and time attendance systems. It is a technology firm specializing in the design and production of advanced Access Control (AC) and Time & Attendance (T&A) systems. The company provides end-to-end solutions that enhance security and automate infrastructure management. With its in-house engineering expertise, S.A.K.O. maintains full control over the entire lifecycle of its products – from initial concept and hardware design to software development and implementation. It specializes in RFID and biometric technologies, delivering tailored systems for modern business environments.

Subsector

Advanced Embedded Systems

GoodByte is a Polish embedded firmware and electronics design company based in Wrocław. It specializes in Zephyr RTOS and Nordic Semiconductor platforms, with multiple production projects delivered across industrial IoT, consumer electronics, wearables and marine robotics. The company's senior team (averaging nine years of experience) offers end-to-end development, from PCB design and firmware development to production-ready devices. As active Zephyr ecosystem contributors, GoodByte organizes the official Zephyr Project Meetup in Poland and trains engineers at companies including GlobalLogic. Serving clients from Poland, the USA, Norway, India and the Netherlands, the company specializes in rescuing and completing stalled embedded projects.

GRYFTEC Embedded Systems



Subsector

Services related to design mod

GRYFTEC Embedded Systems is a provider of end-to-end engineering services covering all stages of the software and hardware product life cycle, from PCB and schematic design to firmware development, operating-system device drivers and functional-layer software, including system control and communication between systems, GUIs and more. The company's services encompass support in embedded electronics design, schematic capture, PCB layout and circuit simulation; obsolescence engineering and the reengineering of existing solutions to comply with changing industry standards; and the preparation of manufacturing documentation, maintenance of developed products, and the testing and debugging of hardware prototypes.

Subsector

Microelectronics

Hener specializes in the design of advanced electronic devices and small-batch electronics production. The company develops comprehensive solutions tailored to the requirements of the most demanding industries, drawing on many years of experience in such areas as analogue and digital electronics, microprocessors, embedded systems, programmable logic circuits (FPGA), mechanics, rapid 3D prototyping, CNC, pneumatics and flow systems and optics. Hener carries out projects for customers in biotechnology, industry, mining and science, delivering products characterized by high reliability, innovation and compliance with applicable standards.

IMER Systems



Subsector

Optoelectronics, Hardware design

IMER Systems is a Polish MedTech company specializing in advanced medical instrumentation and non-invasive diagnostic technologies. With extensive expertise in analogue and digital signal processing, it develops high-precision systems for biosignal acquisition, peripheral perfusion monitoring and cardiological diagnostics. The company integrates hardware, optics, mechanics, embedded software and data analysis into cohesive solutions for clinical and research use. Its R&D has led to proprietary and patented technologies. IMER Systems offers in-house manufacturing and supports the full process from concept to finished product, delivering scalable solutions for modern healthcare and telemedicine.

INCAT



🌐 www.incat.eu

✉ info@incat.eu

Subsector

IT Solutions

INCAT is a medium-sized Polish technology company founded in Wrocław in 2016 and is fully backed by Polish capital. The company develops advanced IT solutions for the demanding financial and banking sector, with a particular focus on core banking, digital banking and cloud-native financial infrastructure. INCAT combines product development, implementation, and advisory capabilities for banks, fintechs and other regulated financial institutions. Its flagship product is BOS (Banking Operation System), a modern core banking platform built on a modular, event-driven and API-first architecture, designed for cloud deployments and digital operations.

INFRAMET



🌐 www.inframet.com

✉ info@inframet.com

Subsector

Optoelectronics, Hi-tech equipment for testing

Inframet is a manufacturer of hi-tech equipment for testing electro-optical surveillance systems (thermal imagers, night vision devices, VIS-NIR cameras, SWIR imagers, laser range finders, laser designators, multi-sensor systems, fused sensor systems, UV cameras and optical sights) and the main component blocks of such systems (image intensifier tubes, IR FPA/CCD/CMOS imaging sensors and optical objectives). This equipment is used in quality control, design optimization, manufacturing and maintenance of EO surveillance systems.

Institute of Optoelectronics, Military University of Technology



 <https://ioe.wat.edu.pl/>
 sekretariat.ioe@wat.edu.pl

Subsector

Optoelectronics, Dual-use optoelectronics

As a research unit of the Military University of Technology, the Institute of Optoelectronics (IOE) is active in applied research, component fabrication and industrial implementations of subsystems and systems. A leader in the development and application of laser technologies (including laser-based detection and measurement, generation of secondary radiation sources, nanotechnology and biomedicine applications), its collaboration with Polish and foreign industry is well established. The IOE's laboratories enable advanced research in the generation, detection and application of optical radiation. Services for industry include spectroscopic measurements and surface analyses, as well as the fabrication of components, thin-film coatings and laser systems.

Interlab



 <https://www.interlab.pl>
 interlab@interlab.pl

Subsector

Optoelectronics, Electronic components, Laser and fiberoptic technologies/
waveguides, Optics/ Opto-mechanics

Established in 1987, Interlab is Poland's leading distributor and service centre for premium photonic and fibre-optic test and measurement instruments. It supplies OTDRs, optical spectrum analysers, fusion splicers, tunable lasers, OBR systems, FBG interrogators and distributed fibre sensing (DAS/DTS) from Yokogawa, Furukawa-FITEL, AFL, LunaInnovations, NKT Photonics, OptoSigma and AEM. The company is the authorized European calibration and service centre for AEM and AFL, as well as the Polish service hub for Furukawa-FITEL, Yokogawa, FiberFox and OptoTest. Interlab's clients include universities, research institutes, telecom operators, and the energy and defence sectors across Poland and the EU.

InterPhone Service



🌐 <https://www.interphone.com.pl/>

✉ b2b@interphone.com.pl

Subsector

Electronic Manufacturing Services

For over 15 years, InterPhone Service has continuously refined its expertise to better support its clients' businesses. The company specializes in contract electronics manufacturing, delivering high-quality products tailored to individual project requirements. Its commitment is reflected not only in certifications such as ISO 45001, ISO 14001, ISO 9001 and IATF 16949, but above all in the trust it has earned from leading domestic and international brands, who value the company's flexibility and professional approach.

IQ Biozoom



🌐 <https://iqbiozoom.com/>

✉ hi@iqbiozoom.com

Subsector

Microelectronics, Electronic components, Biosensors

IQ Biozoom is a Polish deep-tech company developing non-invasive devices for at-home diagnostics of salivary biomarkers. It is building a portable analyser based on such semiconductor devices as thin-film transistor (TFT) biosensors, enabling fast, laboratory-grade measurement of hormones, cortisol, glucose and lactate. This approach supports personalized medicine, longevity medicine, sports medicine and women's health (FemTech), offering real-time monitoring, a subscription-based model and seamless integration with mobile applications and medical systems.

🌐 <https://jm-ems.pl/en/>
✉ ems@jm.pl

Subsector

Electronic components, EMS: PCB Assembly

JM elektronik is one of the leading suppliers of EMS services for the professional electronics market in Poland. It serves customers in medical electronics, industrial automation, POS and fiscal equipment, white goods, security systems and many other sectors. The company provides support for the entire logistics and production process, including the purchase of all materials, assembly of printed circuit boards, programming, testing, final assembly, packaging design and delivery, the printing of documents and JIT deliveries to customers. The core values at JM elektronik are high quality, data security, timeliness and fairness.

🌐 <https://kaleron.pl>
✉ kaleron@kaleron.pl

Subsector

Data recovery-computer service

Kaleron is a provider of laboratory-based data recovery and electronic device repair services. The company also offers training in data recovery, computer diagnostics and cybersecurity. See the Kaleron website for further information and selected publications.

 <https://tu.kielce.pl/>

 biuro@tu.kielce.pl

Subsector

Microelectronics, Optoelectronics, Electronic components, Laser and fiber optic technologies/waveguides, Optics/ Opto-mechanics, Microscopy/Spectroscopy and spectrometry, Biometric Systems, Computer Vi

The Kielce University of Technology provides research and development (R&D) services and collaborates in the commercialization of research findings in professional electronics, microelectronics and photonics, automation, robotics and information technology. These services include materials and surface engineering studies (such as PVD), tribology, laser-based technologies (for example, additive manufacturing using SLM, cleaning and marking), EMC and PV system testing, NDT inspections, CT imaging, reverse engineering, metrological and optical measurements, PCB and embedded systems design, CE marking-related testing, and the integration of AI and machine vision.

KJK Innovations



 <https://kjk-innovations.com>

 info@kjk-innovations.com

Subsector

Microelectronics, Optoelectronics, Microscopy/Spectroscopy and spectrometry

KJK Innovations is a technology company based in Warsaw that specializes in engineering services for scientific research and modern UX web development. Its expertise spans the design of custom scientific instrumentation – including visible light spectrometers and precision time synchronization hardware – alongside the development of intuitive, AI-driven digital interfaces.

 <https://ksk-dev.com/>
 pawel.jumarpol@gmail.com

Subsector

Microelectronics, Optoelectronics, Electronic components

KSK Developments designs and manufactures advanced IoT hardware systems for smart city and infrastructure applications. The company develops proprietary electronic devices, including wireless sensors, edge computing modules and AI-based data processing systems. Its core competencies include embedded electronics, low-power communication (LoRa) and scalable sensor networks. KSK solutions are deployed in real-world environments across Europe and internationally, supporting mobility, parking management and infrastructure monitoring.

Laboratory of Optical Fiber Technology, Maria Curie-Skłodowska University in Lublin



 www.opticalfibers.umcs.pl
 loft@mail.umcs.pl

Subsector

Laser and fiber optic technologies/waveguides

The UMCS Laboratory of Optical Fiber Technology (LOFT) has fifty years of experience in the development and manufacture of optical fibres made from silica glasses, high-silica glasses and polymers. It is one of a few university research units in Europe with a complete technological line for the manufacture of optical fibres. It is also equipped with instruments for characterizing the optical, mechanical and sensing properties of optical fibres. LOFT has the capacity to manufacture a broad range of standard and specialty optical fibres – from conventional optical fibres with a broad range of possible germanium doping levels (up to 30-odd per cent), through side-hole and highly birefringent fibres, to microstructured (photonic crystal) fibres.

LarsLighting



🌐 www.larslighting.com

✉ remigiusz.czerniej@larslighting.com

Subsector

Microelectronics, Optoelectronics, Electronic components

LarsLighting's Intelligent Lighting System (ILS) is an advanced LED lighting control system based on artificial intelligence that reduces energy consumption by up to 90%. The system combines motion and occupancy sensors, 5 and 24 GHz radars, daylight harvesting, dynamic colour temperature control (CCT) and BLE mesh communication. It operates autonomously at the luminaire level or within a network, ensuring high reliability, NIS2-compliant security and full integration with building management systems (KNX, BACnet). The ILS improves occupant comfort and energy efficiency, and enables space utilization analysis.

LC Elektronik



🌐 <https://lcelektronik.com/>

✉ biuro@lcel.com.pl

Subsector

Laser and fiber optic technologies/waveguides, Printed electronic, HMI panels

LC Elektronik contributes to improved comfort and quality of life by co-creating IoT devices. The company acts as a value-added integrator for its clients, combining expertise and solutions for device development. It contributes to business growth through the mutual supply of products and services, as well as the exchange of knowledge and experience. By building long-term relationships, EL Elektronik has established itself as a reliable and trusted business partner. The company enables engineers to focus on electronics while taking care of the remaining aspects of product development.

🌐 <https://www.ld4b.com/>

✉ poland@ld4b.com

Subsector

Optoelectronics

LD4B manufactures reliable optical fibre-coupled laser diodes (500-1650 nm), superluminescent diodes (670-1550 nm) and photodiodes (PIN, APD, PIN-TIA, APD-TIA) for demanding applications in telecommunications, sensors, microwave photonics, life sciences and research.

Lemontech



🌐 <https://lemontech.com.pl/en/>

✉ m.daszkowski@lemontech.com.pl

Subsector

Microelectronics, Optoelectronics, Electronic components

Lemontech is a versatile design company that provides comprehensive electronic device design services. It designs PCBs, develops prototypes and conducts device testing. It also offers device redesign services and brings completed projects into serial production.

Łukasiewicz – PORT Polish Center for Technology Development



🌐 <https://port.lukasiewicz.gov.pl/en/>
✉ promocja@port.lukasiewicz.gov.pl

Subsector

Microelectronics, Optoelectronics, Electronic components,
Laser and fiber optic technologies/waveguides, Optics/ Opto-mechanics,
Microscopy/Spectroscopy and spectrometry

The Materials Science & Engineering Center, part of the Łukasiewicz – PORT Polish Center for Technology Development, conducts research and measurement services focused on the design, fabrication, modification and characterization of functional materials with potential technological applications. The Center operates through interdisciplinary teams combining expertise in chemistry, physics and engineering. Its research includes composite materials and functional coatings such as self-cleaning, anti-graffiti and anti-icing systems, as well as luminescent, thermochromic, antibacterial, electrical and sensor materials. The Center also develops deep-UV emitters based on group-III nitrides.

Łukasiewicz Research Network – Institute of Artificial Intelligence and Cybersecurity



🌐 <https://ai.lukasiewicz.gov.pl/>
✉ sekretariat@ai.lukasiewicz.gov.pl

Subsector

Electronic components

Łukasiewicz – AI conducts R&D projects and develops solutions in artificial intelligence and cybersecurity for industry, public administration, digital society and the defence sector. The institute features an accredited Electromagnetic Compatibility (EMC) Laboratory (PCA AB 261), specializing in device emissions and immunity testing across a wide frequency range. The Laboratory's services are complemented by expertise in IT security, industrial automation and electrical machines, cables and environmental testing, gas devices and calibration, providing support for innovation across diverse industries and sectors.

Łukasiewicz Research Network – Institute of Microelectronics and Photonics



🌐 www.imif.lukasiewicz.gov.pl
✉ sekretariat@imif.lukasiewicz.gov.pl

Subsector

Microelectronics, Optoelectronics, Electronic components, Laser and fiber optic technologies/waveguides, Optics/ Opto-mechanics, Microscopy/Spectroscopy and spectrometry, Semiconductor devices

Łukasiewicz – Institute of Microelectronics and Photonics (Łukasiewicz – IMiF) is a Polish R&D centre developing semiconductor, microelectronic and photonic technologies for industry, energy, ICT, space and defence. Its expertise includes GaN, SiC and graphene materials, integrated circuits, power electronics, sensors, advanced packaging, reliability testing and photonic devices, including quantum cascade lasers (QCLs). Łukasiewicz – IMiF supports partners from design and fabrication to prototyping and technology transfer, and contributes to European WBG and photonics pilot lines under the EU Chips Act, strengthening Poland's role in the semiconductor and photonics value chains.

MILTON ESSEX

🌐 www.miltonessex.eu
✉ office@miltonessex.eu



Subsector

Optoelectronics, Biomed skin scanner, Biometric system

Milton Essex is a public med-tech and biotech company listed on the Warsaw Stock Exchange, focusing on next-generation AI-powered optoelectronic systems for healthcare and security. Its SkinLogic™ AI establishes a new standard in automated allergy diagnostics (results published in Scientific Reports). The company works closely with top-tier R&D partners, including the Institute of Optoelectronics at the Military University of Technology and the Fraunhofer Institute. Its SkinSENSIC™ is a next-generation multispectral scanner designed for non-invasive skin imaging for the detection of allergic skin reactions. Fully integrated with the telemedicine platform Allergoscope™, it enables 1-day diagnosis and the creation of digital allergy profiles. The FaceCOV™ ActiveScan™ system is a state-of-the-art biometric control and security gateway, equipped with ultra-fast scanners for biometric documents and fingerprints. Milton Essex's AI-based biometric face recognition system is the best in the world.

Mode-Locked Technology



 www.mode-locked.com
 info@mode-locked.com

Subsector

Optoelectronics, Electronic components,
Laser and fiber optic technologies/waveguides

Mode-Locked Technology is a photonics company that designs and manufactures next-generation laser systems, including ultra-low-noise CW and femtosecond sources, as well as precision control electronics. It is advancing fibre-based mode-locking methods that mitigate common SESAM degradation and free-space coupling limitations. The company's products and custom-engineering capabilities span femtosecond lasers, fibre amplifiers, nonlinear frequency-conversion modules and ultra-low-noise electronics: laser diode drivers, PID controllers and phase detectors for precise frequency stabilization. Mode-Locked Technology helps customers advance metrology, spectroscopy, biomedicine and industry with precision and reliability.

Nanotech Elektronik



 <https://www.nanotech-elektronik.pl/index.php/en/>
 office@nanotech-elektronik.com

Subsector

Electronic components, EMS (Assembly services)

Nanotech Elektronik is a Poland-based provider of comprehensive EMS solutions for the professional electronics, microelectronics and photonics sectors. The company supports customers from component sourcing and BOM optimization through PCB fabrication, SMT/THT assembly, programming, testing and conformal coating to final assembly. Nanotech Elektronik works with advanced PCB technologies, including multilayer, HDI, flex, rigid-flex, and Rogers laminates for high-frequency and microwave applications, enabling the reliable and efficient production of specialized electronic devices for industrial and other demanding markets.

Noctiluca



🌐 <https://noctiluca.eu/>
✉ dgonet@noctiluca.eu

Subsector

Organic Materials

Noctiluca is a technology company based in Toruń, Poland, listed on the Warsaw Stock Exchange. It specializes in developing proprietary advanced compounds for photonics, used by manufacturers of displays and OLED panels. The company develops and manufactures new third-, fourth- and fifth-generation OLED emitters. In addition, Noctiluca offers a wide range of chemical materials for the photonics sector and operates as a Chemical Contract Research Organization. Its scientific team undertakes R&D projects in the chemical industry to develop cutting-edge solutions, primarily focusing on high-performance materials (HPMs). The company also provides personalized sublimation services.

Nordes



🌐 www.nordesems.com
✉ marketing@nordesems.com

Subsector

Microelectronics, Electronic components, EMS

Nordes – your ideas, our solutions! Your one-stop EMS supplier! Nordes is one of the leaders in the EMS sector in Central Europe. It manufactures products for a wide variety of fields, including medicine, transport, energy, aviation and many more. The company operates in accordance with ISO 9001, ISO 13485, ISO 45001, ISO 14001 and the IPC 610 G standard. It offers comprehensive end-to-end services, from PCB production, SMT and THT assembly to testing, box building and x-ray inspection. Customers benefit from dedicated support throughout the manufacturing process.

 www.one-omega.com
 hello@one-omega.com

Subsector

Electronic components, Wire harnesses

OmegaOne is a technology company based in Poland. It has been designing and manufacturing wire harnesses and electrical assemblies for more than 30 years. With a team of 170 highly experienced and trained engineers and operators ready to take on new challenges, the company can carry out all the necessary processes at its site in Morawica; they include automatic cutting and crimping, ultrasonic welding, high- and low-pressure moulding, welding and laser marking. All process parameters, including crimp cross sections and high- and low-voltage tests, can be monitored. The matrix organization at OmegaOne supports efficient and flexible project implementation and serial production management.

OPTOMER Meller Rzetelski



 <https://optomer.pl>
 sales@optomer.pl

Subsector

Optoelectronics, Laser and fiber optic technologies/waveguides,
FTTH/FTTx fiber optics

OPTOMER is a Polish manufacturer of passive fibre-optic components, headquartered in Łódź, Poland, and operating since 1992. The company specializes in FTTH and FTTx solutions for telecommunications networks, delivering both standard and custom-designed products tailored to operator and infrastructure requirements. OPTOMER operates its own R&D facilities and is the official representative of DIAMOND fibre-optic connectors in Poland. Its products are used by leading operators, including Orange, Netia, Play, Telia and Deutsche Telekom. The company exports to over 30 countries and holds ISO 9001 and ISO 14001 certifications.

 www.optotom.pl

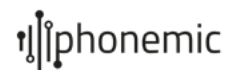
 biuro@optotom.pl

Subsector

Microelectronics, Optoelectronics, Microscopy/Spectroscopy and spectrometry, X-RAY computed tomography

Optotom Instruments specializes in advanced imaging and metrology systems for the electronics and photonics industries. The company offers Nikon optical and digital microscopes for SMT inspection, structural analysis and quality control. For 2D/3D metrology, it supplies Sensofar optical profilometers for precise topography, roughness and geometry measurements. Optotom Instruments also offers industrial computed tomography (CT) systems for non-destructive analysis of components, interconnects and multilayer systems. It provides consulting, installation, training and application support for R&D, quality control and production laboratories.

Phonemic



 www.phonemic.pl

 info@phonemic.pl

Subsector

Microelectronics, FPGA

Phonemic specializes in expert FPGA engineering, including the design and verification of digital systems. Its services cover a wide range of FPGA design, from algorithm optimization at the mathematical level, through RTL design and verification (UVM) to FPGA system integration, bring-up, and IP core development and integration. The company welcomes enquiries from organizations interested in its services.

Subsector

Microelectronics, Optoelectronics, Electronic components

Photin is an SME dedicated to the advancement of photonics through the growth of III-V semiconductors using Metal-Organic Chemical Vapor Deposition (MOCVD), the industrial workhorse for III-V photonics. Its core activity is the development and production of high-performance infrared (IR) detector materials, targeting extended Short-Wavelength Infrared (eSWIR) and Mid-Wavelength Infrared (MWIR). Photin's unique value proposition is its experience in MOCVD growth of antimonides. Unlike most other market players, which rely on Molecular Beam Epitaxy (MBE), Photin utilizes MOCVD to achieve superior semiconductors for uncooled or minimally cooled applications; they include the materials InP/InGaAsP, GaAs/AlGaAs and InAs.

Polish Technological Platform on Photonics



Subsector

Microelectronics, Optoelectronics, Electronic components, Laser and fiber optic technologies/waveguides, Optics/ Opto-mechanics, Microscopy/Spectroscopy and spectrometry

The Polish Technological Platform on Photonics (PPTF) is a leading deep-tech organization in Poland, bringing together key players in photonics, microelectronics and quantum technologies. Acting as a hub for collaboration, the Platform connects companies, research institutions and public stakeholders through networking, matchmaking and industry initiatives. It supports members with market insights, access to funding and the development of joint projects, skills and innovation-driven ventures. As the sector's recognized voice, the PPTF represents the Polish ecosystem both nationally and internationally, making it a go-to partner for organizations looking to engage with advanced technologies in Poland.

Printor



🌐 <https://printor.pl/>

✉ info@printor.pl

Subsector

Other, EMS

Printor is a contract Electronics Manufacturing Services provider with 45 years of experience, located in Łódź. Our priority is to reliably deliver high-quality electronics that meet the business expectations of our customers and we combine this with a flexible approach. The company can start cooperation at any stage: from design, through printed circuit board assembly (PCBA) of different volumes to final assembly. Everything in one place, in the center of Poland. Printor's offer includes handling of diverse high mix productions, as well as serial production tailored to individual customer needs.

Proxima Electronics



🌐 www.proxima.pl

✉ sprzedaz@proxima.pl

Subsector

Gate automation

Proxima Electronics is a company specializing in the design and manufacturing of automation systems for gates, barriers and access control systems. The company develops reliable, high-quality products tailored for residential, commercial and industrial applications. Its portfolio includes control units, radio receivers, transmitters and safety accessories. With a strong focus on innovation and durability, Proxima Electronics provides efficient solutions that enhance the security, convenience and seamless operation of automated entry systems.

 www.qnatechnology.com

 info@qnatechnology.com

Subsector

Microelectronics, Optoelectronics, Electronic components

QNA Technology is a tech company and a pioneer in the production of blue-light-emitting, heavy metal-free quantum dots, an innovative semiconductor material developed by the company primarily for the display industry. QNA develops and commercializes technology for the production of quantum dots (QNA.dots) and quantum inks (QNA.ink) that enable semiconductors to be printed on a wide range of substrates using a variety of printing techniques. At the nanoscale, semiconductors exhibit new quantum properties that open up new applications beyond the display industry and improve existing solutions on the market.

R4E

 www.r4e.com.pl

 contact@r4e.com.pl



Subsector

Electronic components

R4E is a Polish-owned highly specialised company representing overseas manufacturers in Eastern Europe and the Baltic region. The company provides engineering support across the MIL/AERO, automotive, industrial and medical sectors. Its business vision is based on the US Sales Rep model. What distinguishes it in Europe is its guiding principle: to be involved at the earliest stages of project design. The company's experienced and highly qualified team spread across Eastern Europe covers 13 countries. R4E connects Polish electronics companies with high-quality manufacturers, to the mutual benefit of all.

Radiography and Computed Tomography Laboratory, Kielce University of Technology

 <https://cenwis.tu.kielce.pl/laboratoria/przemysl-4-0-pl/laboratorium-radiografii-i-tomografii-komputerowej/>
 wdep@tu.kielce.pl

Subsector

Microelectronics, Optoelectronics, Electronic components, Laser and fiber optic technologies/waveguides, Optics/ Opto-mechanics, CT scans of electronic components

The Radiography and Computed Tomography Laboratory, established within the Research and Implementation Center for Smart Specializations of the Kielce Region at the Kielce University of Technology, is equipped with a unique Nikon M2 LES System X-ray tomograph, three X-ray sources (225 kV microfocus, 450 kV microfocus and 450 kV minifocus) and detection panels (the VAREX 1611xp panel detector and the CLDA linear detector). The Laboratory provides commercial services, including tests that enable the determination of material discontinuities, cracks, delamination, porosity and inclusions. Reverse engineering enables the verification of the correct assembly of components in precision electronic systems.

Relpol

 www.relpol.pl/en
 relpol@relpol.com.pl

Subsector

Relays, Automation components

Relpol is a reputable European manufacturer of relays, with a history dating back to 1958. Its products are used in power engineering, automation, power electronics, industrial and consumer electronics, telecommunications and household appliances, among others. The company is listed on the Warsaw Stock Exchange. Relpol's product range includes miniature PCB power relays, industrial and interface relays, time and monitoring relays, latching relays, bistable-impulse relays, contactors, solid-state relays, surge protection devices, astronomical clocks, electric energy consumption meters and multifunction network parameter meters.

 <https://rfbenchmark.com/>
 contact@rfbenchmark.com

Subsector

Microelectronics, Electronic components, RF monitoring tools

RFBENCHMARK is a specialized provider of an integrated suite of tools for the monitoring, validation and analysis of wireless network quality in industrial environments. With over 20 years of experience, it delivers high-precision solutions for private LTE, 5G and 450 MHz networks. The company's portfolio ranges from autonomous on-site measurements and continuous SLA/QoS monitoring to AI-powered analytics and role-based reporting. It helps manufacturers and operators turn raw measurement data into reliable service confidence, enabling faster fault detection, reduced risk and confident decision-making in IIoT, automation and mission-critical applications. RFBENCHMARK is a member of the 450 MHz Alliance.

 <https://www.rimet.pl/>
 biuro@rimet.pl

Subsector

Electronic components, Optics/ Opto-mechanics, CNC machining

Rimet is a Polish manufacturing company specializing in precision CNC machining (milling and turning) and plastic injection moulding. It supports customers with both prototype and serial production based on technical documentation (PDF and STEP files). The company's services include CMM inspection, quality documentation, laser marking, glass bead blasting and additional finishing processes. Rimet works with demanding industries such as aerospace, defence, automotive, high-tech, medical and energy, where precision, repeatability and reliable communication are essential. The company focuses on long-term cooperation and flexible support tailored to project needs.

SHM System



🌐 www.nerve-sensors.com
✉ contact@nerve-sensors.com

Subsector

Laser and fiber optic technologies/waveguides, Optics/ Opto-mechanics,
Monolithic DFOS sensors

Nerve-Sensors is a European brand of advanced fibre-optic sensing technologies developed by SHM System. The company designs and manufactures proprietary distributed fibre-optic sensors (DFOS) for high-resolution, continuous monitoring of strain, temperature, displacement and damage in infrastructure. Its monolithic composite sensors provide superior accuracy, durability and integration with structures compared to conventional solutions. Nerve-Sensors' sensors enable the early detection of cracks and structural degradation across long distances, supporting safer and more efficient asset management in civil engineering, energy and industrial applications worldwide.

Silevis

.S/LEV/S

🌐 www.silevis.com
✉ office@silevis.com

Subsector

Software engineering

Silevis is an agile IT powerhouse specializing in supporting the digital transformation of the automotive and manufacturing sectors. With a strong footprint in the German market, it bridges the gap between legacy systems and modern innovation. Whether it's rescuing and modernizing complex legacy codebases or building high-performance custom software with cutting-edge user interfaces, the company delivers solutions that scale. Trusted by industry leaders, it focuses on high-reliability software that meets the rigorous standards of the production floor. From legacy modernization to bespoke development, Silevis builds the technology that drives Industry 4.0.

🌐 <https://siltegro.com/en/>
✉ produkcja@siltegro.com

Subsector

Microelectronics

Siltegro's current focus is on comprehensive Electronics Manufacturing Services (EMS) provided on several automated electronics assembly lines. Since every client is treated as a partner, each line is used to handle a different type of order, such as prototype assembly, small- and medium-batch production, and large-batch production on the company's newest line. The company's clients receive cost-optimized products that meet their requirements in every respect. With many years of experience gained through its own product development and in-house manufacturing, Siltegro offers comprehensive technical support for both minor modifications and the development of complete devices.

SMARTTECH



🌐 www.smarttech3d.com
✉ sekretariat@smarttech3d.com

Subsector

Optics/ Opto-mechanics, Optical measurement system

SMARTTECH is a Polish manufacturer of high-precision optical 3D scanning systems based on structured light, with over 25 years of experience. It combines deep-tech expertise with proprietary hardware and software to deliver complete optical measurement systems, including automated solutions for production lines. The company's technology uniquely captures both precise geometry (optical CMM) and the realistic colour and texture of measured objects, enabling the creation of accurate digital twins. Its 3D scanners support industries worldwide in efficient quality control and reverse engineering, as well as cultural heritage institutions in advanced digitization, documentation and preservation.

Subsector

Laser and fiber optic technologies/waveguides, Optics/ Opto-mechanics, Microscopy/Spectroscopy and spectrometry

Solaris Optics is a manufacturer of precision optical components with 35 years of industry expertise. It delivers complete end-to-end solutions, from raw materials to advanced optomechanical assemblies. All processes are performed in-house, including optical design, polishing, centering, coating, bonding and quality control. This full technological integration ensures precision, reliability and flexibility tailored to demanding applications. Solaris Optics' portfolio includes lenses, mirrors, windows, wedges, filters, polarizers, prisms, beamsplitters, diffusers, custom optical assemblies and more. It supports the aerospace, defence, semiconductor, biomedical and scientific sectors worldwide.

SPECTROPOL

Subsector

Microelectronics, Optoelectronics, Electronic components, Laser and fiber optic technologies/waveguides, Optics/ Opto-mechanics, Microscopy/Spectroscopy and spectrometry, AI & simulation solutions

Spectropol is a European provider of engineering simulation software, test and measurement systems, electro-optical components, and AI-driven technologies for industry, including photonics and electronics. The company specializes in optical, photonic, and electronic system simulation, supporting digital prototyping, design optimization and R&D acceleration. Its AI solutions include intelligent image analysis and predictive and automated interpretation of measurement data. Spectropol also delivers solutions for machine vision, spectroscopy, microscopy, lasers, precision positioning, photonic detectors, thermal infrared sensors and custom-built systems for scientific and industrial applications.

Subsector

Microelectronics, Optoelectronics, Electronic components, Laser and fiber optic technologies/waveguides, Optics/ Opto-mechanics, Dual-use UAV Drones

SpinRAC is a Polish dual-use R&D company focused on advanced UAV launch and mission systems based on professional electronics, embedded control, automation and fibre-optic technologies. The company develops solutions for rapid multi-UAV deployment, coordinated swarm launch, secure communications and in-flight drone management in demanding operational environments. Its technologies are designed for defence, civil security, critical infrastructure protection, emergency response, industrial inspection and other mission-critical applications.

Systerion



Subsector

Microelectronics, Optoelectronics, Microscopy/Spectroscopy and spectrometry, Measurement & data systems

Systerion is an engineering-driven technology company specializing in hardware and software development, as well as system integration for advanced manufacturing and microelectronics. It designs electronic systems and develops high-precision solutions for industrial diagnostics, measurement and process control. The company's expertise includes data acquisition, signal conditioning and signal processing for demanding technical environments. Systerion supports the full product lifecycle – from system architecture and prototyping to deployment and maintenance – ensuring reliability, traceability and compliance with international standards such as ISO 9001 and ISO 27001.

Subsector

Electronics Manufacturing Services

Techbit is a Polish Electronics Manufacturing Services (EMS) company specializing in PCBA assembly and contract electronics manufacturing. The company provides comprehensive support from prototyping and NPI processes to low- and medium-volume production for the industrial, IoT, automation and professional electronics sectors. Techbit offers SMT and THT assembly, component sourcing, testing and production process optimization. The company focuses on flexible cooperation, technical communication and high manufacturing quality, supporting customers in transforming electronic designs into reliable finished products.

TechnoSystem

Subsector

Microelectronics, Optoelectronics, Electronic components, Laser and fiber optic technologies/waveguides, EMS

Technosystem is a Polish EMS company specializing in advanced electronics manufacturing for high-tech and demanding industries. The company provides end-to-end production services including PCB assembly, prototyping, testing and full system integration, supporting clients from sectors such as defence, telecommunications, space and industrial technologies. Alongside its manufacturing expertise, Technosystem develops advanced control and measurement solutions for scientific and research applications, combining engineering know-how with flexible production capabilities. By turning complex ideas into reliable electronic systems, the company helps bring next-generation technologies to life.

 <https://www.telmor.pl/>
 marketing@gmail.com

Subsector

Optoelectronics, Electronic components, Laser and fiber optic technologies/
waveguides, Optics/Opto-mechanics

With seven decades of experience, Telkom-Telmor is a trusted partner for electronics manufacturing, product development and telecommunications solutions. The company combines proprietary R&D and electronics production with mechanical manufacturing and tooling design under one roof, ensuring full control over quality and delivery. It specializes in active RF and optical devices, broadband infrastructure, SMATV and HFC technologies. Through OEM and ODM cooperation, system integration services and collaboration with partners worldwide, the company helps transform innovative concepts into reliable, scalable products manufactured in Europe.

University of Rzeszów



 www.ur.edu.pl
 info@ur.edu.pl

Subsector

Optoelectronics

The Centre for Microelectronics and Nanotechnology at the University of Rzeszów conducts research, development and education in microelectronics, nanotechnology and materials engineering. The Centre specializes in MBE growth, fabrication and characterization of advanced semiconductor structures, including III-V and II-VI materials for infrared applications. It specializes in the fabrication of semiconductor wafers based on type-II InAs/GaSb superlattices (T2SL) for infrared applications in the SWIR, MWIR and LWIR ranges. The Centre also develops bulk HgCdTe wafers with compositions tailored to a broad infrared spectrum, enabling advanced detector and photonics applications.

VIGO Photonics



🌐 <https://vigophotonics.com/>
✉ info@vigophotonics.com

Subsector

Microelectronics, Optoelectronics

VIGO Photonics is a European technology company specializing in infrared photonic detectors and detection modules operating at wavelengths of 1–20 μm . It also provides epitaxy services, delivering semiconductor wafers tailored to customer specifications, and develops advanced solutions such as focal plane arrays (FPA) and photonic integrated circuits (PICs). Its products are distributed worldwide, particularly in Europe, North America and Asia. Headquartered in Ożarów Mazowiecki, with a US subsidiary, the company operates a complete, fully integrated semiconductor production line serving the most demanding applications in defence, industry, space and medicine.

WiRan



🌐 <https://www.wiran.pl/en>
✉ sales@wiran.pl

Subsector

Microelectronics, Electronic components, Space, R&D, EMC & IoT tech

WiRan – turning ideas into innovations! WiRan is a premier design office with over 20 years of expertise in high-reliability RF systems. A trusted partner of the European Space Agency, the company provides flight-proven (TRL 9) hardware for CubeSats and satellite platforms, including antennas and components for L, S and X bands. Beyond the space sector, WiRan serves the defence, maritime and Industry 4.0 sectors with comprehensive R&D services, supported by its specialized EMC laboratory (ELAB) and ISO Class 7 clean room. As a leader in the Polish electronics sector, WiRan delivers mission-critical solutions, combining advanced engineering with rigorous testing to drive global innovation.

 <https://www.albapcb.com/pl>

 pcb@eltar.pl

Subsector

Electronic components

WM Eltar is a Polish provider of advanced PCB solutions and a member of the Alba PCB Group. It specializes in the production and supply of multilayer printed circuit boards, including HDI, rigid-flex and high-reliability solutions. By combining the capabilities of its own factory in Italy with a global network of trusted partners, the company delivers an optimal balance of quality, price and lead time. It provides technical support through its Polish engineering team, while offering flexibility and an individual approach at every stage of the project.

XTPL



 www.xtpl.com

 info@xtpl.com

Subsector

Microelectronics, Optoelectronics, Electronic components

XTPL is a deep-tech company developing Ultra-Precise Dispensing (UPD), an additive method for depositing conductive and functional materials at micrometre resolution onto demanding substrates. Applications include semiconductor packaging, display repair, printed electronics and high-frequency interconnects. The company's product portfolio spans the entire process from R&D to production. The Delta Printing System (DPS) serves research laboratories. The ODRA system is an industrial-grade tool for high-mix, low-volume production. UPD modules are designed for direct embedding into customers' production lines. All three platforms run on proprietary nanoinks. XTPL is headquartered in Wrocław and listed on the Warsaw Stock Exchange.

 www.pozyton.com.pl

 pozyton@pozyton.com.pl

Subsector

Electronic components

Pozyton is a Polish producer of electricity meters with 37 years of experience, a highly qualified workforce and its own research and development (R&D) units along with accredited metrology laboratories. The company's product range includes electricity meters, communication devices and IT systems for managing energy and other industrial utilities. In addition, it offers a variety of services such as the legalization, calibration and technical assessment of electricity meters, the installation of metering systems, and operational support and maintenance. Pozyton's experts help customers select solutions tailored to their individual requirements.

Infographics: Poland in figures.

Sources: Statistics Poland, International Monetary Fund, World Bank, Eurostat, 2025

//Data from the infographics are presented in the table.//

Population	37.3 mln
Unemployment tare	3.2%
Import	373.9 bn EUR; 6.1% increase yoy
Export	366.2 bn EUR; 3.7% increase yoy
GDP total	1.03 bn USD
GDP per capita	31.24 k USD (current prices)
GDP growth in 2025 according to the flash estimate	3.6%
21st largest economy in the world by nominal GDP and 6th largest economy in the EU	

[Back to the text](#)

Chart: Exports of the electronics sector.

Source: Statistics Poland (GUS) – Information society in Poland in 2014–2026

//The data from the bar chart are presented in the table. The figures shown are in billions of PLN.//

Electronics sector	2013	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Computer equipment	1.7	4.6	3.7	3.3	2.6	2.3	3.1	3.3	3.4	3.2	3.2
Telecommunications equipment	16.2	21.6	26.1	26.3	26.8	31.8	39.6	49.4	48.5	45.4	46.7
Consumer products (audio-video)	11.1	11.3	10.4	9.5	10.0	13.7	16.1	20.1	19.7	18.4	18.9
Electronic components and parts	10.6	18.4	19.0	24.5	28.6	30.7	32.9	41.2	40.5	37.8	38.8

[Back to the text](#)

Chart: Exports 2025.

// The data from the pie chart are presented in the table.//

Computer equipment	36%
Telecommunications equipment	18%
Consumer products (audio-video	43%
Electronic components and parts	3%

[Back to the text](#)

Infographics: Electronics & Communications – Key Indicators 2024.

//Data from the infographics are presented in the table.//

Electronics & Comm. exports	EUR 9.27 bn; 24.9% of high-tech exports
Domestic electronics market	EUR 24.1 bn; 4th largest in EU (2023)
Electrical & electronic goods	EUR 42 bn; all electrical, elec. & EVbatteries
EMS sector revenue	EUR 5 bn; 300+ EMS firms, 50 000+ jobs

[Back to the text](#)

Chart: High-Tech Exports 2015–2024 (EUR bn).

// The data from the bar chart are presented in the table. The values are approximate and expressed in billions of euros.//

High-Tech sector	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Electronics & communication	3.5	3.5	4.0	5.0	5.0	4.5	7.0	8.3	9.0	9.3
Computers & office machines	2.5	2.5	3.0	4.0	5.0	3.0	5.3	7.0	7.1	8.0
Other high-tech	6.3	7.3	8.0	10.0	11.0	7.5	12.0	16.0	17.3	20.5

[Back to the text](#)

Chart: High-Tech Exports Structure (%), 2024.

//The data from the bar chart are presented in the table.//

Electronics & communication	24.9%
Computers & office	20.3%
Aerospace	16.5%
Research apparatus	13.3%
Pharmaceuticals	9.1%
Armaments	7.1%
Other	8.8%

[Back to the text](#)

Infographics: Industrial Photonics – Key Indicators.

//Data from the infographics are presented in the table.//

Professional electronics & photonics exports	USD 511 m (PAIH 2022, growing 4% p.a.
PPTF cluster members	80+ firms, universities & institutes
VIGO Photonics revenue	USD 20 m (2024, +8% y/y; WSElisted)
VIGO HyperPIC EU aid	EUR 103 m approved EC IPCEI ME/CT 2023

[Back to the text](#)

Infographics: Sector Strengths & Outlook.

//Data from the infographics are presented in the table.//

Core competence	Mid/near-IR detection; Decades of research at WAT & Lukasiewicz; world-leading uncooled IR detectors
Investment pipeline	EUR 1+ bn VIGO fab (EUR 1 bn, 2025-29); HyperPIC (EUR 103 m EU aid); ELI Beamlines Poland node
Growth driver 2024-30	Defence & space; Military IR: +78% revenue 2022-24 at VIGO; IPCEI photonic ICs funding secured
European photonics CAGR	8.3%; 2024-29 forecast; Poland among the top 3 alongside Germany and Switzerland

Sources: Statistics Poland (preliminary 2024); Eurostat [ds-059331]; Polish Development Fund (PFR), A Decade of Uninterrupted Growth, March 2025; Polish Agency for Enterprise Development (PARP), Professional Electronics, Microelectronics and Photonics Sector 2024; Polish Trade and Investment Agency (PAIH); VIGO Photonics financial results; PAIH / trade.gov.pl, April 2025.

[Back to the text](#)