VIGO PHOTONICS

FINANCIAL RESULTS FOR Q4 & FY 2023

April 25, 2024

VIGO IN A NUTSHELL

37 years of experience and operations

Headquarter in Poland
and branch office in USA

210 highly qualified and experienced experts (2 professors, 16 PhDs and >60 engineers)

25 distributors in **18** countries supporting sales of solutions

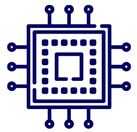
Listed on the WSE since **2014**

Approx. **PLN 400 million** capitalisation

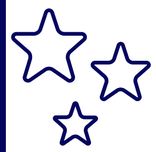
Support for stable long-term **shareholders**

VIGO IS A WORLD LEADER IN HIGH-TECH SOLUTIONS – THE MOST ADVANCED MID-INFRARED PHOTONIC DETECTORS, DETECTION MODULES AND SEMICONDUCTOR MATERIALS

Activity in the global infrared market: infrared sensors (12.3% CAGR 2020-30), semiconductor materials (17.2% CAGR 2020-27), photonic integrated circuits (20.4% CAGR 2021-30).

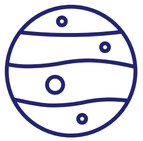


Numerous long-term technological megatrends, e.g. systems miniaturization, Internet of Things (IoT), wearables lab-on-chip, security and defense, development of the semiconductor industry in Europe.



Presence at the global forefront of industrial innovation - using a unique advantage throughout the entire VIGO photonic value chain.

An established market position reinforced by the world-class R&D department and expert technological knowledge of over 60-person team of engineers and scientists.



Addressing market needs thanks to a modern, scalable production facility, providing the most technically advanced solutions.

Implementation of an ambitious development strategy - moving VIGO to a higher utility curve in order to provide long-term value for all stakeholders.

AGENDA

1. EXECUTIVE SUMMARY
2. SUMMARY OF Q4 & FY 2023
3. FINANCIAL RESULTS FOR Q4 & FY 2023
4. PERSPECTIVES

EXECUTIVE SUMMARY

PODSUMOWANIE FY i Q4 2023

Sale

- PLN 75.4 million of consolidated revenues in 2023 (+11% y/y) - growth in industrial, rail, military and semiconductor applications and growing share of revenues in the US (+75% y/y) and Europe
- In the military segment, a new contract with PGZ worth PLN 16 million and a letter of intent with PCO for the implementation of infrared arrays

Improve operational performance

- increase in adjusted EBITDA by 34.5%, EBITDA by 32.4% and adjusted net profit by 48.7%

Increase in cash flows from operating activities

Approval by the EC of state aid in the amount of up to EUR 102.9 million under the IPCEI ME/CT for the implementation of the HyperPIC project,

Raising cash in SPOs in the amount of PLN 62.7 million

Infrared detetctors

Infrared detection modules

Epiwafers

OUTLOOK

Commencement of activities aimed at significantly increasing the activity in the USA

Accelerating Core Business Growth and New Volume Solution Sales Opportunities

Intensive development of infrared arrays for enhanced security and defence

Continued development of PICs for massive mid-infrared applications

At VIGO Ventures, carry out investments in 3 new foreign projects with reference investors in the international environment

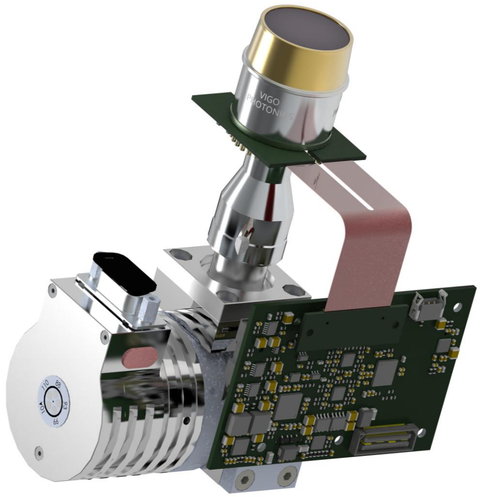
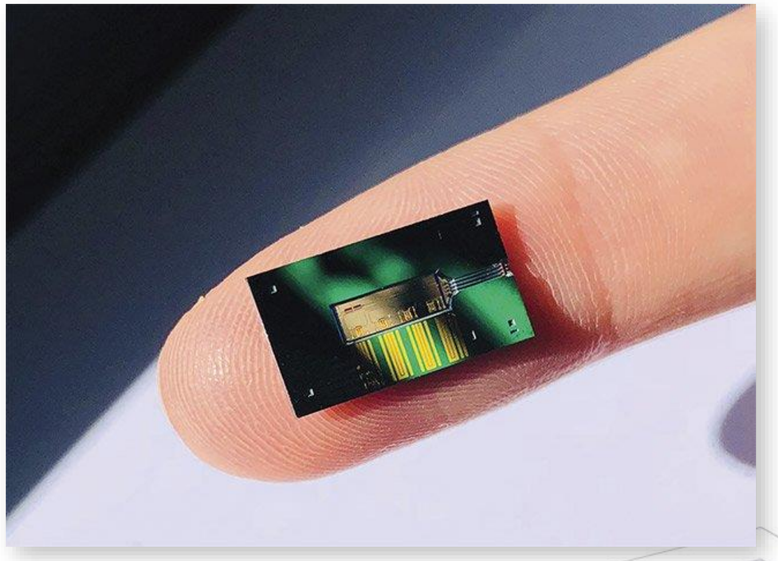
VIGO PHOTONICS

SUMMARY OF ACTIVITIES IN Q4 & FY 2023

objective

IMPLEMENTATION OF THE VIGO 2026 STRATEGY

KEY OBJECTIVES OF VIGO 2026

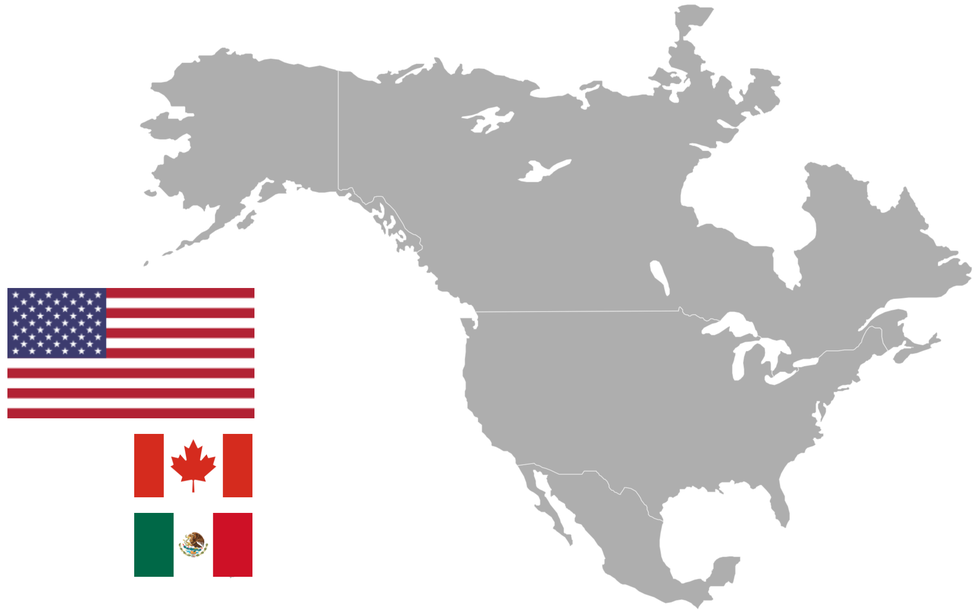
Objecti -ve	Strategic hedging of sales growth	Development of technology and activities in the field of infrared arrays	Advancing Photonic Integrated Circuits (PIC) Technology
Initiative			
Scope	• Development of VIGO's core business, including infrared detectors and modules and semiconductor materials • Accelerating expansion in the promising US market	• Development of technology and activities in the field of infrared arrays • Polonization of the production of infrared matrices and construction of a complete production line of infrared matrices	• Development of pioneering mid-infrared photonic integrated circuits (PIC) technology (currently in the early stages of development)

INTENSIVE DEVELOPMENT IN THE AMERICAN MARKET

GOAL: TO BECOME THE MARKET LEADER IN THE MID-INFRARED MARKET IN THE US MARKET

PRESENCE IN THE U.S.

- Since 1987 - presence in the USA, currently own company VIGO Photonics Corp
- team of 4 people
- PLN 11.7 million – sales value in 2023 (75% increase y/y)
- Direct sales and presence at the most important global trade shows in the USA m.in. SPIE Photonics West



SHORT-TERM GOALS

- Increase brand visibility in the U.S. market
- Acquiring new projects in the defence sector and accelerating the implementation of those already launched
- Increasing the team to approx. 7 people (sales and technology)
- Accelerate product development by strengthening partnerships with the scientific community and U.S. system designers and integrators
- Increasing sales to the European level (PLN 40-50 million) by the end of 2026

KEY PRODUCT AREAS

- Defense sector (enormous expenditures and shortages in the local production potential)
- Civil sector i.e. measuring equipment, semiconductor market, environmental applications - strong environmental initiatives and expansion of semiconductor factories

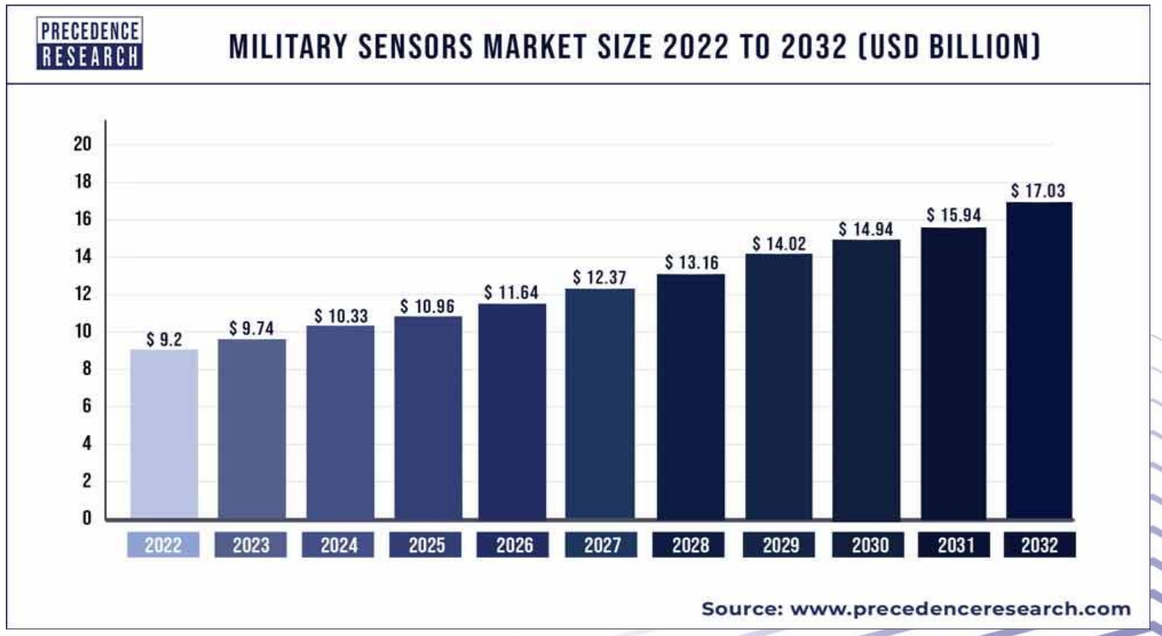
SALES OPPORTUNITIES IN THE U.S. DEFENSE SECTOR

TOP 10 LARGEST U.S. COMPANIES IN THE MILITARY SECTOR

LOCKHEED MARTIN
NORTHROP GRUMMAN
RTX
leidos
BAE SYSTEMS
BOEING
GENERAL DYNAMICS
L3HARRIS™
HII
amentum

POTENTIAL FOR COOPERATION

- The potential of the U.S. arms market is greater than that of Europe
- Increasing expenditure on optoelectronics with the introduction of new technologies and modernization of previous equipment
- Cooperation with four companies from the TOP 10 largest companies in the military sector from the USA has already begun.



SALES OPPORTUNITIES IN THE CIVILIAN SECTOR

AGRICULTURAL APPLICATIONS

- Crop quality monitoring
- Irrigation Efficiency Monitoring
- Pest and disease detection
- Weed Identification
- Soil Temperature Monitoring
- Identification of animal health problems

MEDICAL APPLICATIONS

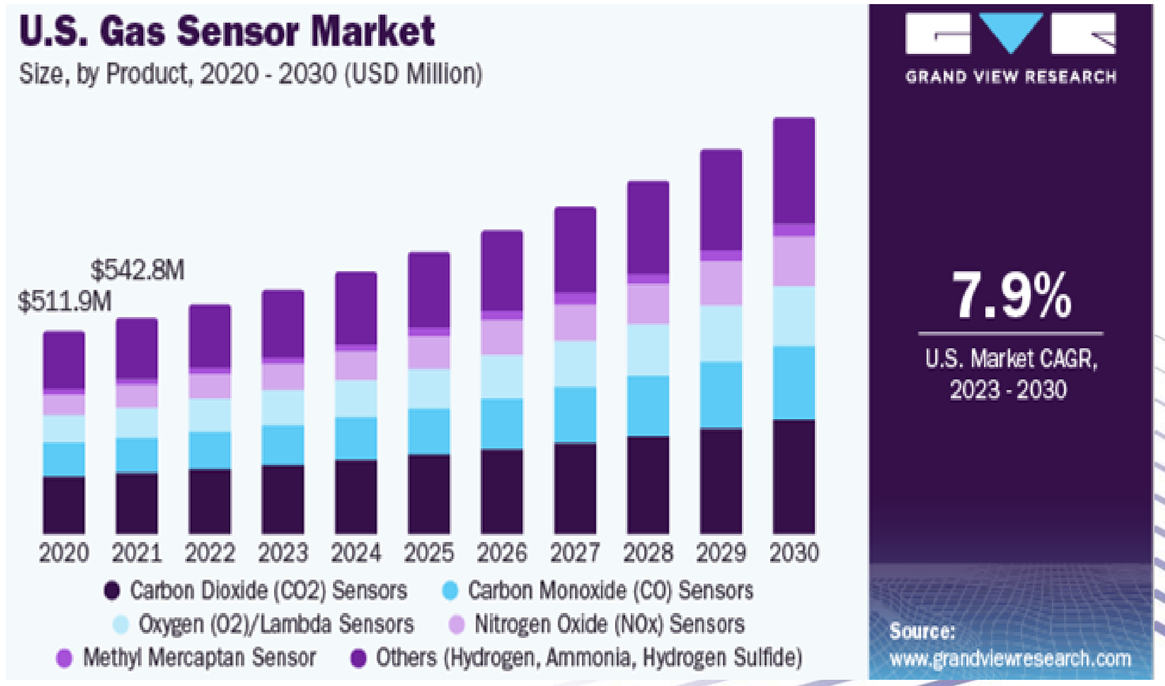
- air quality monitoring in medical facilities
- Early detection of cancer markers
- non-invasive blood test
- control and monitoring of laser radiation during surgical, dermatological and ophthalmological procedures

INDUSTRIAL APPLICATIONS

- monitoring of production processes
- production quality analysis
- identification of defects
- gas analysis, spectroscopy
- Food quality analysis

POTENTIAL FOR COOPERATION

- Continuous development of cooperation with existing customers (mainly from the gas sensing industry)
- New products in 2024 for the instrumentation and semiconductor industries
- New opportunities in the gas analysis, agriculture and medical markets



ACTIVITIES ON THE U.S. MARKET

MARKETING ACTIVITIES:

- USA – SPIE Photonics West – participation in the largest photonics industry fair and wide promotion of the VIGO Photonics brand at the event and accompanying events.
- USA – Global Force Symposium & Expo – Presentation of VIGO Photonics products for military applications.

Upcoming events:

SPIE. DEFENSE+ COMMERCIAL SENSING

SOF WEEK TAMPA, FL 6 - 10 MAY 2024

ATC

BORDER SECURITY EXPO

OFFSHORE TECHNOLOGY CONFERENCE

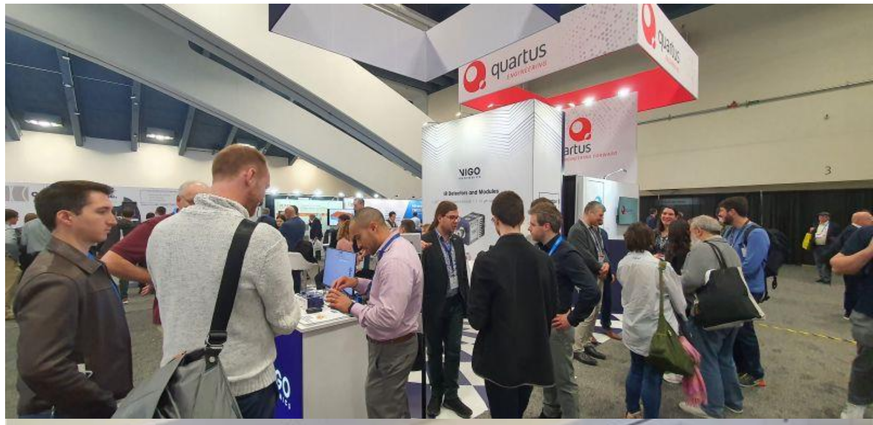
STRENGTHENING THE POSITION ON THE DEFENCE MARKET

- Hiring a BDM responsible for the military market - Q4 2023
- CMMC Certification - Essential for Delivery for U.S. Companies security and defence sector (Q3 2024)
- Acquisition of new projects for the defence sector - 2024

ITAR Registered
International Traffic in Arms Regulations

EXPANSION OF THE TEAM IN THE USA

- Expansion of the team to about 7 people (business developers and application engineers) by the end of 2024
- Intensification of market building activities and creation of the VIGO Photonics brand in the USA.
- Cooperation with universities and research units conducting R&D activities for industry.
- Cooperation within the Smart Business Research Program to obtain grants for development activities in the USA



IMPLEMENTATION OF DEVELOPMENT PROJECTS

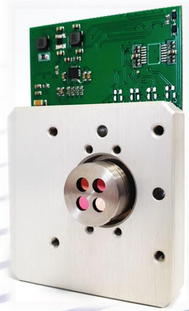
2023

- 1 successfully commercialized project (detectors for automatic fire detection systems in military vehicles, contract with PGZ)

- 3 new major opportunities acquired in 2023, incl. 2 from the defense market (USA and Europe)

2024

- 3 new projects in Q1 2024 (Europe & China Rail Market, China Gas Analyzer Market)
- 20 active projects in progress worth approx. PLN 200 million for the next 3 years
- 2 projects planned for completion in 2024:
  - cryogenically cooled (LN2) detectors for control and measurement equipment manufacturers (Q3 2024)
  - detectors for a semiconductor manufacturing equipment manufacturer (Q4 2024)
  - Epiwafers - structures of Quantum Cascade Lasers (QCLs) – maintaining the developed position and level of revenues and passing the initial qualification to start production in 2025.

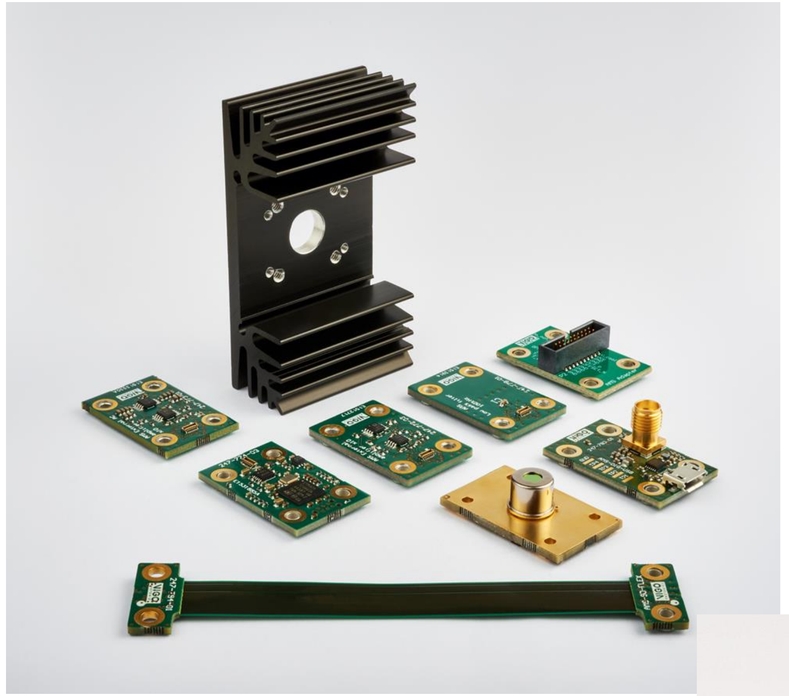


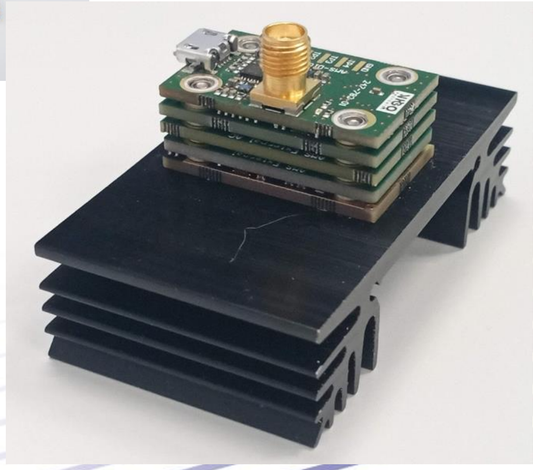
NEW OPPORTUNITIES FOR LOW-COST MODULES

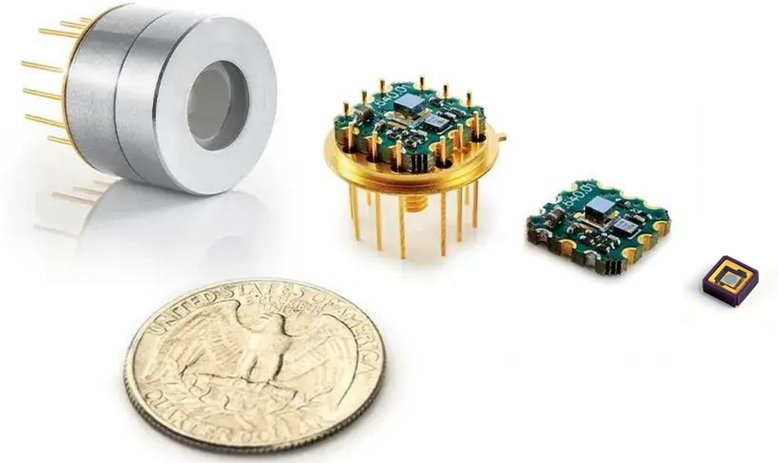
COMMERCIALIZATION OF HIGH-VOLUME SOLUTIONS

New sales opportunities for volume solutions

- A series of low-cost detection modules
  - CO Detection Detectors for Mining Industry, project after Customer's positive qualification
  - detectors for medical applications, new project
- A series of chips in SMD packages, enabling automatic assembly in customer systems - detectors for medical applications, new project







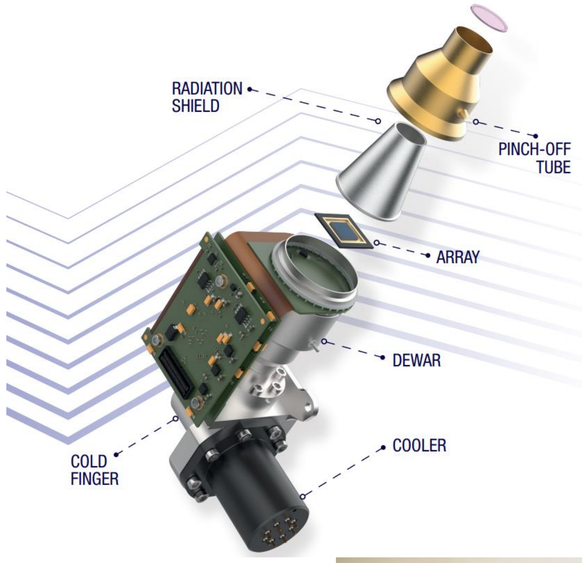
INFRARED ARRAYS FOR THE SECURITY AND DEFENSE INDUSTRY

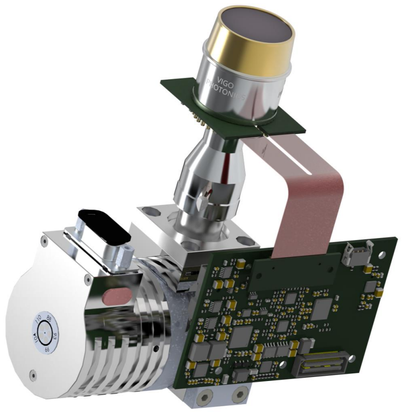
INFRARED ARRAY INITIATIVE OVERVIEW

- Arrays of infrared detectors containing hundreds of thousands or millions of active pixels, used to build thermal imaging cameras for space and military applications, in which the semiconductor layer is made of III-V materials (InAsSb - MWIR, LWIR, or InGaAs - SWIR)
- The products are based on the same technologies used for the production of single-element detectors and adapted to the specific needs of the customer
- Industries & Applications: Military, Space - Thermal Camera Detectors

OBJECTIVES OF THE INFRARED ARRAY INITIATIVE

- Development of technology and competence in the production of matrix detectors, both cooled (thermal imaging) and uncooled (SWIR InGaAs), epitaxy, high-density processing, ROIC, hybridization, encapsulation
- Gaining the position of the main supplier of detectors for the Polish military/defense industry, as well as gaining customers outside Poland (industry, space)
- Polonization of technology, increasing the potential of the Polish army, enabling the export of Polish optoelectronic solutions





APPLICATION OF VIGO INFRARED DETECTOR ARRAYS

PMT PROJECTS AND PROGRAMS WITH INFRARED MATRIX TECHNOLOGY

PMT has the potential to sell several hundred arrays per year

- BWP Borsuk
- Leopard 2PL
- KTO Rosomak ZSSW 30
- KTO Rosomak HITFIST-30
  (Repairs and modernization)
- PT-91
  (repairs, maintenance of combat efficiency)
- PSRA PILICA
- KMO RAK
- Leopard 2A5
  (Repairs, maintenance and modernization)
- BSP ORLIK
- Light Tower Design for BWP-1
- Project „Nowy Czołg PL”

INFRARED ARRAYS - ACHIEVEMENTS

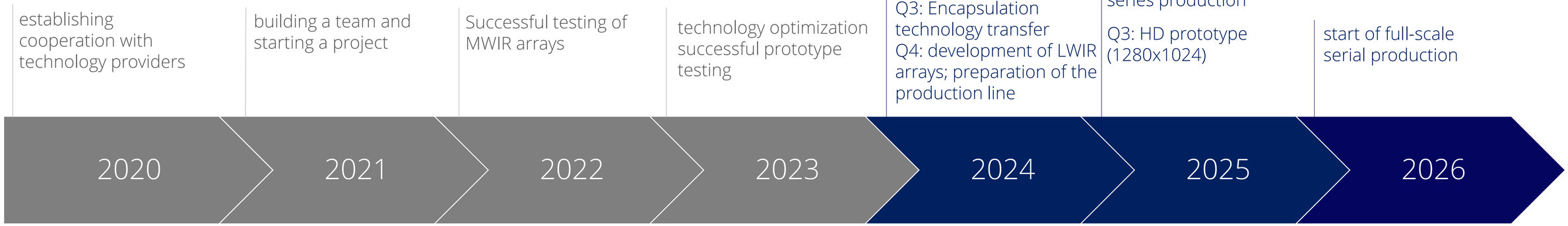
ACHIEVEMENTS IN 2023

- signing a letter of intent with PCO for the supply of focal plane arrays
- presentation of PCO prototypes for the Armament Agency - meeting the parameters required for use in optoelectronic systems in the Polish Army by the prototype MWIR VIGO array
- established cooperation with a leading supplier of missile guidance systems, including delivery of a prototype MWIR array for testing and successful completion in Q1 2024
- optimization and stabilization of individual technology elements
- commencement of work on the development of superlattice layers for the LWIR arrays

PROJECT ROADMAP

KEY MILESTONES

Technological



Commercial

HYPERPIC – HYPERDRIVE FOR VIGO PHOTONICS

IPCEI Microelectronics and Communication Technologies

VIGO PHOTONICS

PHOTONIC INTEGRATED CIRCUIT TECHNOLOGY WILL ALLOW FOR MASSIVE MID-INFRARED APPLICATIONS

PROJECT OVERVIEW HyperPIC

- Becoming the world's first manufacturer of integrated circuits for mid-infrared
- Construction of a complete production line (the first in the world) for PIC for the Mid IR range (MIRPIC)
- Building a complete supply chain for MIRPIC chips

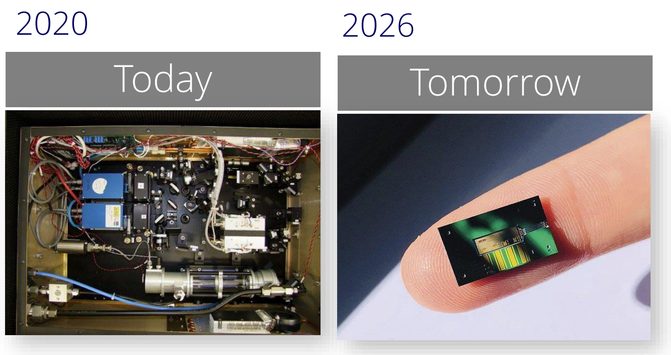
DURATION (2023-2030)

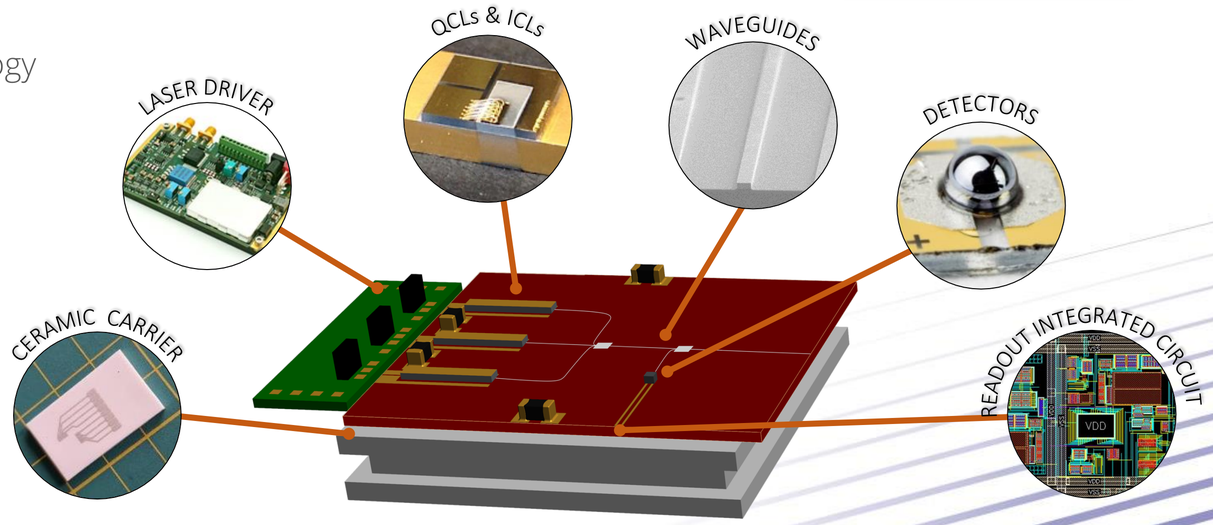
1. Phase R&D - 2023-2027
2. Phase of the first industrial implementation:
   2026-2027 (foundry construction), 2027-2030 (implementation of technology into production)
3. Mass production phase - from 2031

BUDGET

1. R&D phase – EUR 40 million
2. FID phase – approx. EUR 213 million

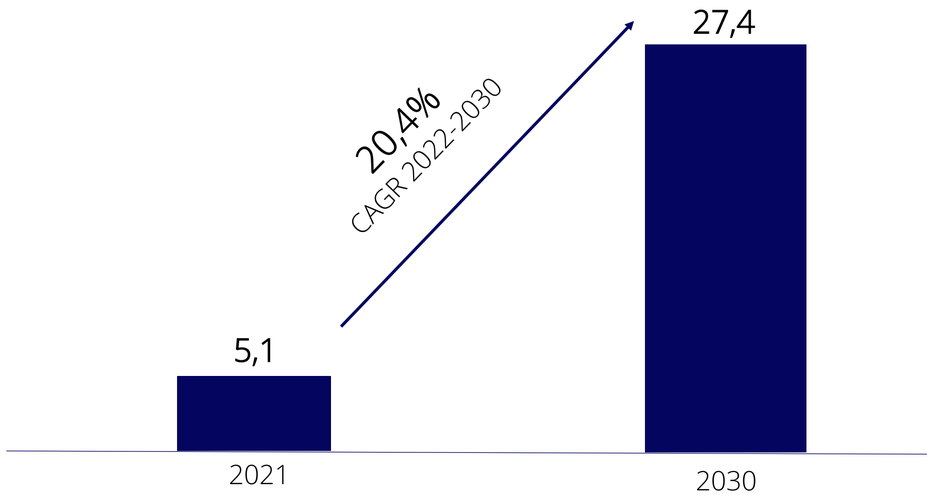
Gas sensors





MARKET POTENTIAL OF PHOTONIC INTEGRATED CIRCUITS (PICS)

PHOTONIC INTEGRATED CIRCUITS (PIC) MARKET (USD BILLION)

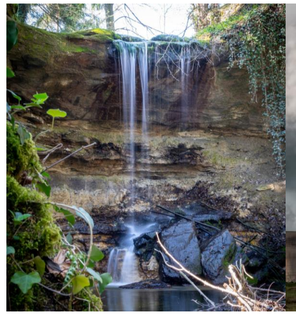


FACTORS INFLUENCING THE DEVELOPMENT OF PIC FOR VIGO

1. Positive megatrends – a surge in demand for real-world data, accelerated by the development of AI
2. Large EU funding (EUR102 million) to cover technological and commercial risks in the initial phase of the project
3. Opportunity to become a major player in the rapidly growing global photonics market

MAIN AREAS OF APPLICATION OF PIC – MARKET NICHES

Environmental protection

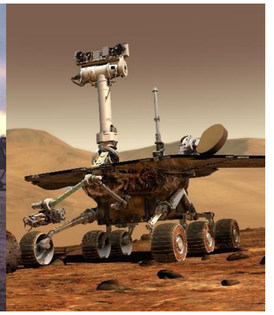


Gas emission monitoring

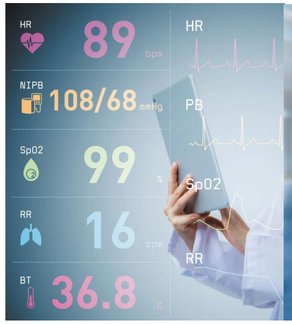
Automotive

Modern agriculture

Space



Digital Health Monitoring

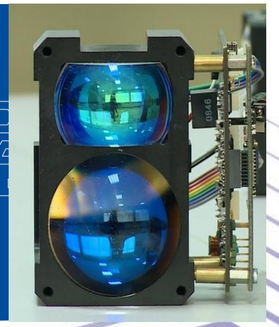


Safety

Defence

Internet of Things

FSOC



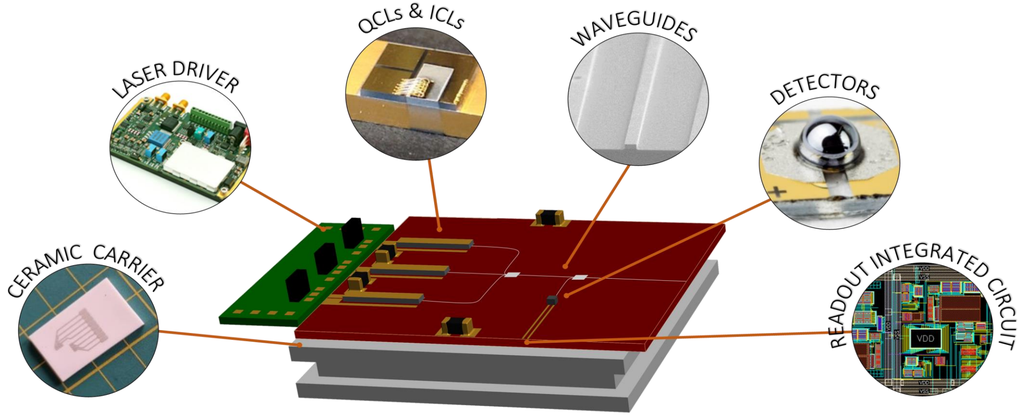
FOUNDATIONS OF PIC TECHNOLOGY

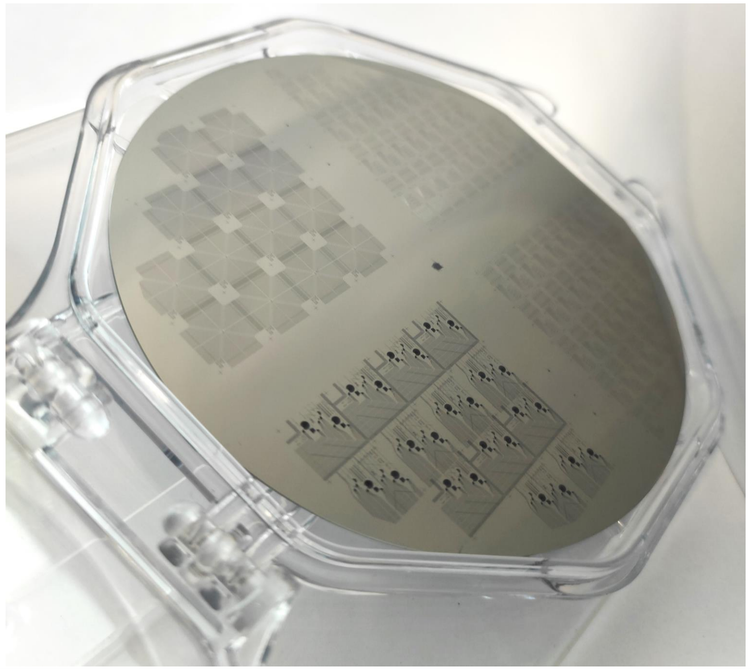
MIRPIC
PHOTONIC INTEGRATED CIRCUITS TECHNOLOGIES FOR MID INFRARED

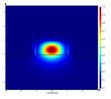
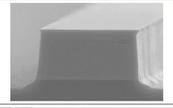
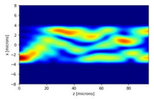
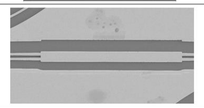
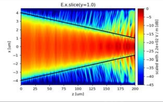
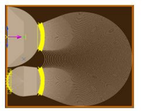
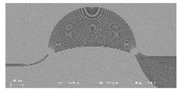
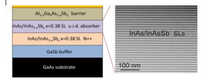
VIGO PHOTONICS

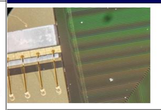
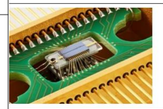
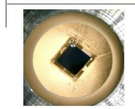
TECHNOLOGICAL ADVANCES IN PHOTONIC INTEGRATED CIRCUITS (PICS) TO DATE

- accelerated MIRPIC project (2021-) – the technological foundation for HyperPIC
- Developed core component library
- manufactured and tested individual components
- Developed integration concepts
- First integration experiments
- Technology Demonstrator Development Program





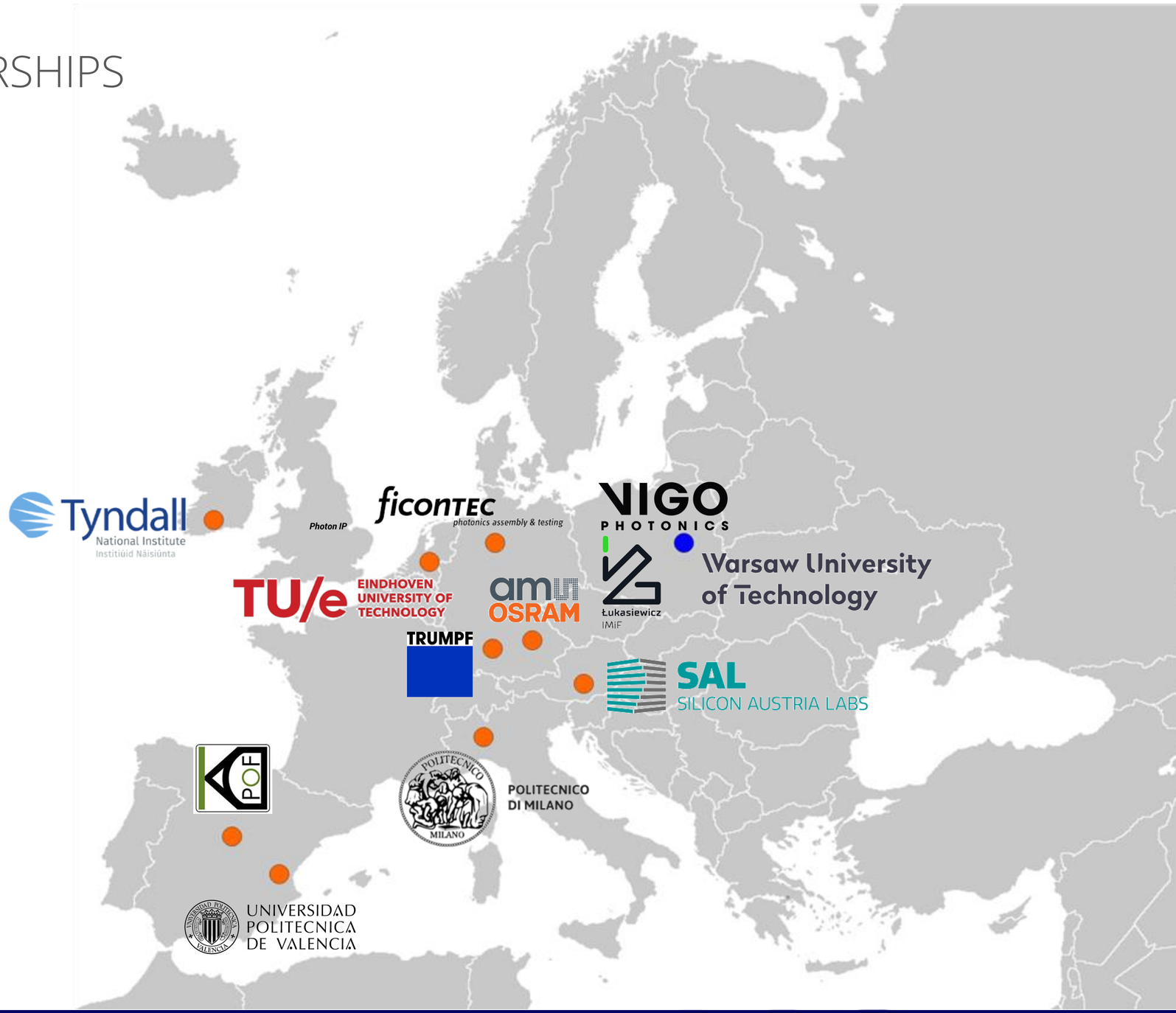
component	design	structure	parameters
Waveguide WG			▪ attenuation 2-3 dB/cm ▪ spectral range 3.0 – 5.5 µm ▪ minimum bending radius 500 µm ▪ WG width 0.8-2.4 µm ▪ Ge layer thickness 1 µm and 2 µm
Multi-Mode Interference (MMI) coupler			▪ spectral range 3.0 – 5.5 µm ▪ excess loss below 0.8 dB ▪ 1×2, 2×2 and 1×4 configuration ▪ asymmetric splitting ratio available
Spot-Size Converter SSC			▪ spectral range 3.0 – 5.5 µm ▪ transmission 90% ▪ lateral taper (w_{out} = 8 µm)
DBR			▪ spectral range: 3.0 – 5.5 µm ▪ transmission above 15%
Arrayed Waveguide Grating AWG			▪ Bragg wavelength: 3.0 – 5.5 µm ▪ reflectivity above 80% ▪ tailored spectral width ▪ side lobe suppression above 10 dB
SL antimonide detector			▪ spectral range: 3.0 – 5.5 µm ▪ insertion loss below 4 dB ▪ arbitrary λ_c, $\Delta\lambda$ and FSR
			

structure	parameters
	▪ spectral range 4.4 – 5.2 µm ▪ pulse power up to 500 mW ▪ pulse duration 0.2 – 1.0 µs ▪ I_{th} < 3.0 A ▪ U < 18.0 V
	▪ spectral range 2 – 14 µm ▪ detectivity (room temperature) $5*10^{10}$ - $5*10^{7}$ cmHz$^{1/2}$W^{-1} ▪ bandwidth up to 2 GHz
	▪ spectral range 1.7 – 13 µm ▪ detectivity (room temperature) $5{\cdot}10^{10}$ – $7{\cdot}10^{7}$ cmHz$^{1/2}$W^{-1} ▪ bandwidth up to 5 GHz ▪ ROHS compliant

HYPERPIC TECHNOLOGY PARTNERSHIPS

TECHNOLOGY PARTNERS

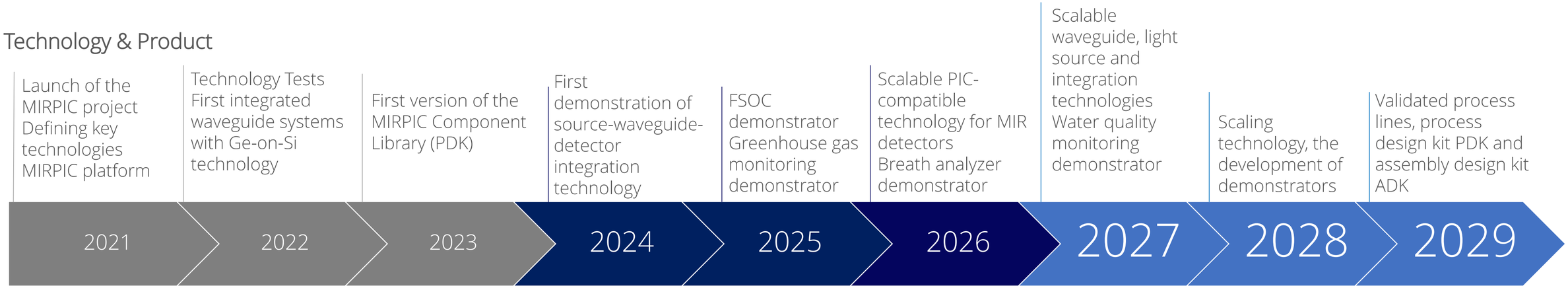
- VIGO Photonics S.A.
- Politechnika Warszawska
- Instytut Mikroelektroniki i Fotoniki SBŁ
- Universitat Politecnica de Valencia
- Eindhoven University of Technology
- Politecnico di Milano
- Tyndall National Institute
- Silicon Austria Labs
- Photon IP
- Ficontec
- KDPOF
- TRUMPF Photonic Components
- ams Osram



ROADMAP OF THE PIC PROJECT

KEY MILESTONES

Technology & Product



Financial & Investment

VIGO PHOTONICS

FINANCIAL RESULTS FOR Q4 & FY 2023

CONSTANTLY GROWING ORDER PORTFOLIO

VISIBLE CONTINUOUS DEVELOPMENT OF PHOTONICS AND MID INFRARED SOURCES MARKETS AND GROWING DEMAND FOR VIGO PRODUCTS REFLECTED IN CONSTANT INCREASE OF ORDER VALUE DESPITE CHANGABLE MARKET ENVIRONMENT

Sales orders

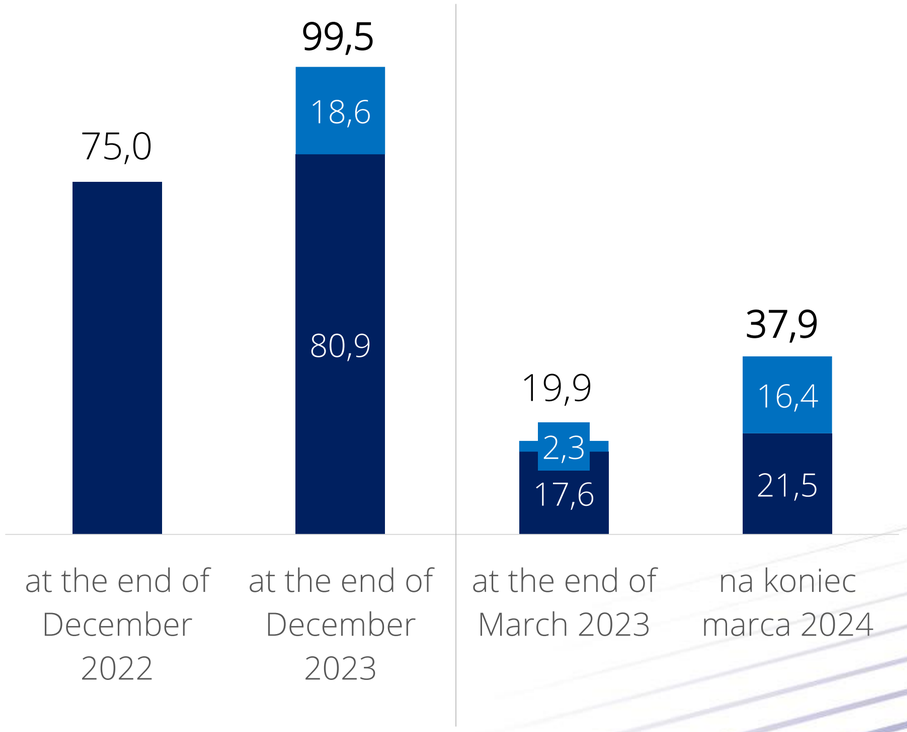
99.5 m PLN*

value of sales orders received in 2023

The continuing high demand for VIGO Photonics products proves further dynamic development of the photonics market and its good prospects.

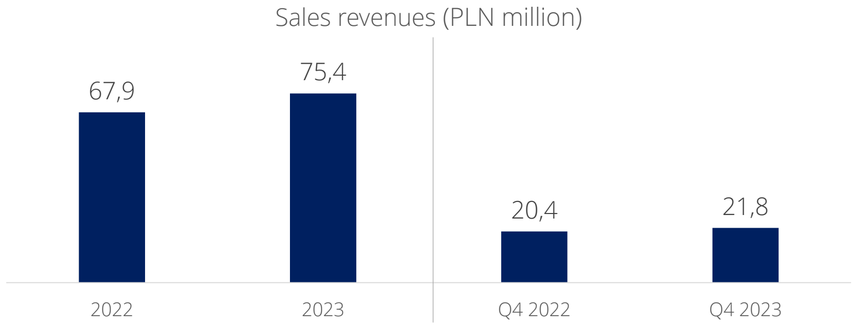
The highest value orders in industrial, military and transport applications

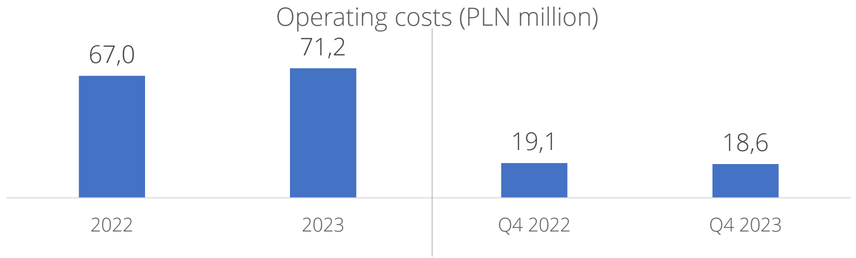
*Value of orders obtained in 2023, as well as framework contracts signed, excluding the contract with PGZ of August 29, 2023 (additional PLN 15.8 million)

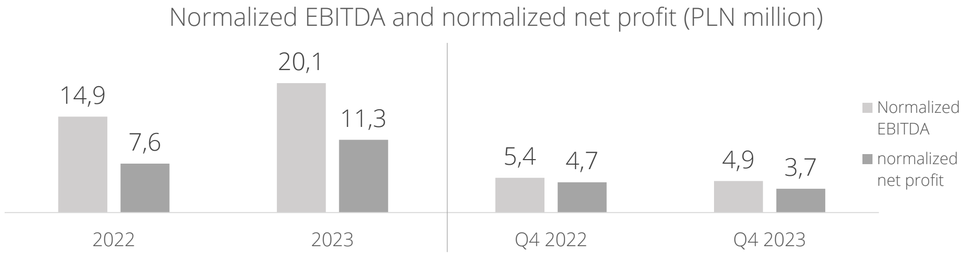


2023 FINANCIAL RESULTS

FINANCIAL RESULTS

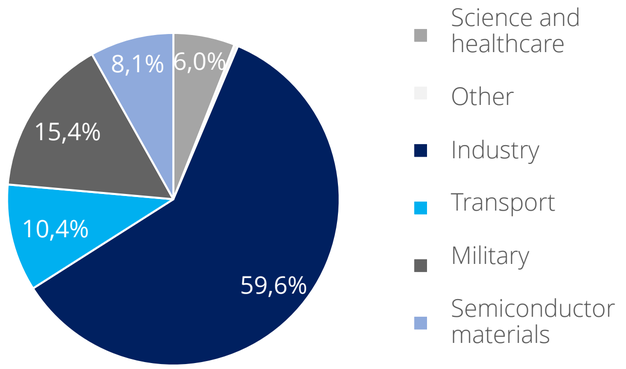




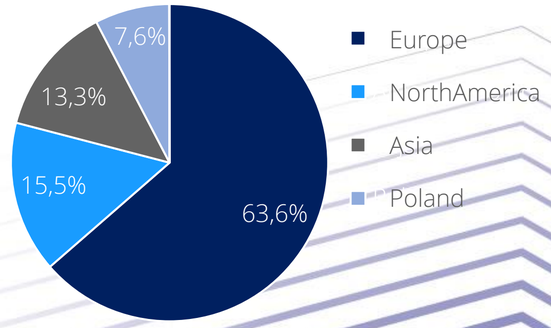


- Revenues: revenue increase (+11.0% y/y) mainly due to increases in industrial, railway, military applications and semiconductor materials, in the US and European markets;
- Total operating costs: increase by 6.3% y/y - due to volume production increase and increased costs of materials and energy consumption (+25.5%) and salary costs (+9.8%)
- Financial results: increase in adjusted EBITDA by 34.5%, EBITDA by 32.4% and adjusted net profit by 48.7%
- Cash flow: increase in operating income and decrease in investment expenditure
- Financial resources: constant level y/y; inflows from SPO were received at the beginning of 2024 (amount of PLN 62,693,570 was obtained)

SALES REVENUES BY APPLICATION IN 2023



SALES REVENUES BY REGION IN 2023



* adjusted for one-off events (excluding the recognition of deferred tax assets)

NEW PROJECTS CO-FUNDED FROM THE EU

VIGO HAS BEEN QUALIFIED FOR FINANCING UNDER EUROPEAN SUPPORT PROGRAMS RESEARCH AND DEVELOPMENT PROJECTS

R&D CO-FUNDED PROJECTS

- Implementation of 12 co-financed projects for approximately PLN 43 million of eligible costs
- Support for the implementation of projects as part of VIGO strategic initiatives
- Approx. PLN 35 million – total amount of co-financing for currently implemented projects at various stages of development

Selected projects	Segment	Application	Schedule	Programme	Grant amount
FOSMO - Development of an innovative photonic water resources monitoring system	PIC	Monitoring of water reservoirs, monitoring of groundwater, production of mineral water and beverages, sewage treatment plants, agriculture	10.2023-09.2026	Hydrostrateg	9.4 m PLN
LWIRPSBDA - Longwave detectors supported by dielectric antennas	Detectors	gas analysis, environmental monitoring, military applications, FSO	04.2023-03.2026	X competition Polish-Taiwan cooperation	0.7 m PLN
BROMEDIR - Broadband MEMS-based InfraRed spectrometers: the core of a multipurpose spectral sensing photonic platform	PIC	sustainable agriculture, health diagnostics, fuel quality control	01.2023-07.2026	Horyzont Europa	1.9 m PLN
Mini-BOT Miniaturized Board-mountable Optical Transceiver for high data rate Military Satellite Communications	VCSEL	space and military	01.2023-01.2026	European Defence Fund	2.7 m PLN
PIONEAR - A photonic microphone with better-than-human-ear sound quality	Epi III-V	consumer electronics, hearing aids, autonomous robots and vehicles, environmental monitoring, sensors: pressure, ultrasonic, biochemical, gas and aerosol sensors	02.2024-11.2025	Horyzont Europa - Pathfinder	2.0 m PLN

SIGNIFICANT NEW FINANCING FOR R&D WORKS REGARDING CASCADE TECHNOLOGY OF INFRARED DETECTORS AND MODULES

VIGO ON THE LIST OF PROJECTS TO BE FUNDED IN NEARLY PLN 9.4 MILLION UNDER THE FIRST CALL FOR THE COMPETITION OF THE SMART PATH OF THE EUROPEAN FUNDS FOR A MODERN ECONOMY PROGRAM*

- Project name: Long wavelength cascade detectors for spectroscopy and free space communication
- Eligible costs: PLN 14.0m
- Grant for VIGO: PLN 9.4m (67,1% of eligible costs)
- Schedule: 36 months, starting from 1.01.2024

- Project scope:
  - R&D, including industrial research and development works
  - Development of technology of manufacturing of cascade detectors and modules
- Planned results:
  - New products: cascade detectors based on III-V materials with T2SL superlattice structures for long wavelength ≥ 10.6 μm, working without crycooling, as well as dedicated infrared modules

New products will be intended mainly for foreign markets for manufacturers of optoelectronic systems. The result of the project will be the development of all stages of detector technology

NOWE FUNDUSZE EUROPEJSKIE
ŚCIEŻKA SMART

*A positive assessment of the project does not mean concluding a contract or granting funding. After completing the project evaluation process, PARP has now started verification activities related to granting co-financing for positively assessed projects.

INVESTMENTS IN INNOVATIVE PROJECTS - VIGO VENTURES ASI FUND

VIGO PHOTONICS

VIGO VENTURES

VIGO VENTURES ASI 2023:

- Portfolio of 9 companies from 5 countries in Europe and one in Canada
- Over 130 employees in portfolio companies
- Over 20 cooperating organizations

MANAGEMENT BOARD

Wojciech Smoliński
CEO, Managing Partner

Marek Kotelnicki
Managing Partner

SUPERVISORY BOARD

Krzysztof Dziewicki, WEG CEO
Adam Piotrowski, VIGO CEO
Łukasz Piekarski, VIGO CFO

KEY ACHIEVEMENTS 2023

- Investment in 3 new foreign projects with internationally renowned co-investors
- Financial rounds with external investors – portfolio companies raised approximately PLN 20 million
- Grant financing - portfolio companies have obtained approximately PLN 20 million and over PLN 40 million of submitted grants are currently under evaluation.
- VIGO Ventures' decision to expand the investment geographically to the USA and Canada (the first investment was made in Canada).

INVESTMENT AREAS

- Photonics, semiconductors, quantum technologies.
- Investments and development of technological projects (start-ups, spin-offs) with global potential in the field of production of technically advanced devices and components.

PORTFOLIO

Fluence
Deep Detection
QustomDot
KSM VISION
OPTICAL QUALITY INSPECTION
ChipCraft
Quantune Technologies
PHOTON IP
SpexAI
FEMTUM

VIGO PHOTONICS

OUTLOOK & SUMMARY

FURTHER DEVELOPMENT ON A WAVE OF LONG-TERM MEGATRENDS CREATING A STRONG DRIVE FOR VIGO OPERATING DEVELOPMENT

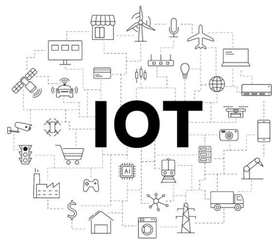
TECHNOLOGY TRENDS

SYSTEM MINIATURISATION

Miniaturization and integration are the future of IR in mass applications

INTERNET OF THINGS (IoT)

Explosion of chip applications in the IoT



- USD 114 bn - estimated value of the IoT sensor market in 2025
- 15.6% CAGR 2022-2025

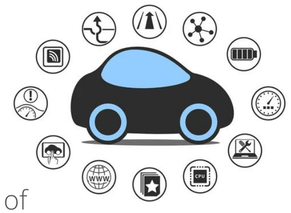
CONSUMER ELECTRONICS

IR as the catalyst of *wearable lab-on-chip* development

- USD 186 bn - estimated value of the wearables market in 2030
- 14.6% CAGR 2023-2030

AUTOMOTIVE

The growing importance of IR solutions (LIDAR sensors/ *self driving vehicles*)



- USD 4.5 billion - estimated value of the LIDAR market in 2030
- 28.5% CAGR in 2022-2030

GEOPOLITICAL TRENDS

SECURITY AND DEFENCE

Significant investments as a result of current political tensions - increase in budget spending by Western countries, incl. Poland

- 3% of GDP - planned Polish defense spending in 2024
- EUR 70 bn - planned EU defense spending until 2025

VALUE CHAIN STABILITY IN CHIP PRODUCTION AND DEVELOPMENT OF THE SEMICONDUCTOR INDUSTRY IN EUROPE AND THE USA

Securing chip production in Europe and the US and freeing from the risk of their concentration in Asia, incl. fabless manufacturing. Streams of money from governments in the form of subsidies and tax breaks for the construction of foundations in Europe (EUR 45 bn)* and the USA (USD 280 bn)*.

- USD 1,033 bn - estimated value of the global semiconductor market in 2031
- 20-30% - target of EU share in the global semiconductor market by 2030 (from 9% currently)

ECOLOGICAL TRENDS

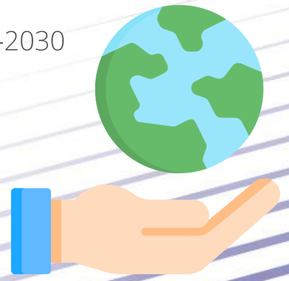
ROHS AND ECOLOGY

RoHS** changes the mid-infrared (MIR) market – introduced i.e. ban on the use of mercury, cadmium, lead in industrial applications. Still a possibility of use in the military, aerospace and large industrial infrastructure.

ENVIRONMENTAL PROTECTION

The growing importance of environmental protection in many industries, incl. air and water quality monitoring, gas analysis, CO_2 emissions.

- USD 33 bn - estimated value of the gas and oil analytics market
- 23.8% CAGR 2022-2030



Sources: Research and Markets, Precedence Research Persistence Market Research * The European Chips Act in UE, the Chips and Science Act in USA, **Restriction of Hazardous Substances

IMPLEMENTATION OF AN AMBITIOUS DEVELOPMENT STRATEGY ADDRESSING LONG-TERM MARKET MEGATRENDS

CONTINUE TO EXECUTE THE 2023 AND 2026 STRATEGY WITH A FOCUS ON STRATEGIC INITIATIVES AND PRODUCTION EFFICIENCY BASED ON VIGO'S UNIQUE TECHNOLOGIES AND ACCELERATE COMMERCIALISATION OF NEW SOLUTIONS IN A FAST-GROWING AND FORWARD-LOOKING PHOTONIC MARKET, SUPPORTED BY NUMEROUS MEGATRENDS

MARKET

- ✓ a number of business opportunities enabling further dynamic growth of operations on the global, intensively developing markets of photonics and mid-infrared sources
- ✓ global increase in spending in the defense segment, caused by the renewal of stocks and the implementation of new technologies
- ✓ numerous market megatrends supporting dynamic development: system miniaturization, Internet of Things (IoT), consumer electronics, automotive, environmental protection
- ✓ global trends in securing the value chain in chip production and the development of the semiconductor industry in Europe and the USA, as well as significant investments in security and defense

COMPANY

- ✓ presence at the global forefront of industrial innovation - the company has only 3 direct competitors
- ✓ a unique advantage using an integrated value chain and a full range of product applications for customers from numerous industries, including their customization
- ✓ established market position and brand recognition - over 30 years of experience in the production of semiconductor materials, with a world-class R&D department
- ✓ investments made in recent years allow for long-term scaling of production

STRATEGY

- ✓ implementation of an ambitious development strategy addressing market changes and challenges in the long term, using a unique advantage in the value chain that will move VIGO to a higher utility curve (infrared matrices, PIC)
- ✓ active sales development and acquisition of new customers, including a growing portfolio of orders
- ✓ an appropriate level of investment in R&D and infrastructure in order to maintain a strong market position
- ✓ investments in innovative projects through the VIGO Ventures ASI fund

VIGO PHOTONICS

Q&A

LEGAL DISCLAIMER

This study has been prepared for information purposes only, contains only summary information and is not exhaustive in nature, nor is it intended to be the sole basis for any analysis or evaluation. VIGO Photonics S.A. makes no representations (express or implied) about the information presented in this study and no reliance should be placed on any information contained herein, including any forecasts, estimates or opinions. VIGO Photonics S.A. does not assume any responsibility for possible errors, omissions or inaccuracies contained in this document. The sources of information used herein are considered reliable and accurate by VIGO Photonics S.A., however, there is no guarantee that they are exhaustive and fully reflect the facts. This study does not constitute an advertisement or an offer of securities in public trading. The study may contain forward-looking statements that constitute an investment risk or a source of uncertainty and may differ materially from actual results. VIGO Photonics S.A. is not liable for the results of decisions, which were taken on the basis of this study. The responsibility rests solely with the user of the study. The study is subject to protection under the Act on Copyright and Related Rights. Duplication, publication or distribution requires written consent of VIGO Photonics S.A.

VIGO PHOTONICS

THANK YOU FOR YOUR ATTENTION

Contact for investors:

Małgorzata Młynarska

Investor Relations Manager, cc group

e: malgorzata.mlynarska@ccgroup.pl

m: +48 697 613 709

VIGO PHOTONICS IS A PART OF IPCEI, ONE OF THE MOST IMPORTANT ISTRUMENT TO SUPPORT A NEW ECONOMIC AND COMPETITION POLICY OF THE EUROPEAN UNION

IPCEI ME/CE IS ONE OF THE MOST IMPORTANT EUROPEAN INSTRUMENTS THAT SUPPORTS THE WHOLE EUROPEAN MICROELECTRONICS, PHOTONIC AND SEMICONDUCTOR INDUSTRIES

Commission approves up to €8.1 billion support by 14 Member States for an IPCEI in Microelectronics and Communication Technologies ("IPCEI ME/CT")

SENSE — novel sensors to collect data

THINK — chips to process and store data

ACT — microelectronic systems performing actions

COMMUNICATE — systems for fast, secure and reliable transmission of information

- Contributes to key **EU objectives**
- Boosts breakthrough **innovation**
- Generates **positive spill-over effects** across the EU
- Ensures **proportionate public spending**
- Ensures **fair competition**

- **14 Member States:**
- **56 companies** of all sizes
- **68** research, development and first industrial deployment **projects**
- **30+ associated partners**
- Around **600 indirect partners** all over Europe
- Expected to unlock **€13.7 billion** of private investments

Wider IPCEI ME/CT Ecosystem

S SENSE · T THINK · A ACT · C COMMUNICATE · Research Organisation

Direct Participants

ADVA C · Airbus C · Aledia A · Analog Devices A · ASML T
AT&S STAC · AVL STAC · Bizzcom T · Black Semiconductor T
Bosch STAC · Carl Zeiss T · Codasip CT · Cognitive Innovations C
Cologne Chip T · Continental Automotive AT · Continium Technologies CT
EEMCO A · Elmos Semiconductor STA · Ericsson C
Ferroelectric Memory ST · Freiberger Compound Materials AC
GlobalFoundries TAC · Infineon SA · Innova IRV Microelectronics C
KDPOF SC · Lynred S · MEMC A · Menarini Silicon Biosystems S
mi2-factory A · Mycroft Mind ST · Nearfield Instruments T · Nokia TC
NXP STAC · Openchip T · Orange C · OSRAM Opto Semiconductors S
Renault A · Rohde & Schwarz C · Semidynamics Technology Services T
Semikron Elektronik TA · SGL Carbon A · SIAE Microelettronica C
Soitec STAC · STMicroelectronics STAC · Sunlight Group T
Tachyum TC · Teledyne STC · ThermoFisher ST · Trumpf Photonic SC
United Monolithic Semiconductors C · Valeo A · Vigo Photonics S · Vitesco A
Wacker Chemie STC · X-FAB STAC · ZF Friedrichshafen A

Associated Participants

Akronic C · Analog Devices T · Ansys Hellas C · Applied Materials ST
ATEP-AMKOR STAC · BelGan STAC · Beyond Semiconductor C
CEA STAC · DAS Photonics C · Derivados del Flúor STC
Elaphe Propulsion Technologies A · Fondazione Bruno Kessler S
IMT Bucharest A · iPronics C · Latvijas Mobilais Telefons
Murata STA · Nanometrisis T · Nordic Semiconductor T
NXP STAC · OPTOI S · PIC advanced C
Silicon Austria Labs SAC · SINTEF S · Soitec SAC
Swissbit Germany · Tungsram · UJP Praha
VLC-Photonics · Vodafone C · Wooptix

Around 600 indirect partners