



FINANCIAL RESULTS FOR Q2 2022

19 September 2022

VIGO IN A NUTSHELL



35 years of experience
and operations

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

Headquarters in Poland
and branch offices in USA

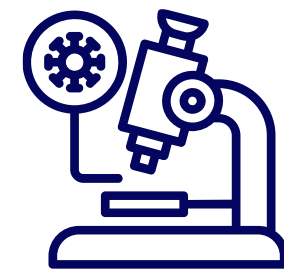
220 highly qualified
and experienced experts
(1 Professor, 14 PhDs and >60 engineers)

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

Listed on the WSE since **2014**

Approx. **PLN 400** million
capitalisation

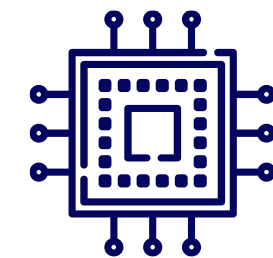
Support for stable long-term
shareholders



Operating in a fast-growing
infrared market supported by
demand and economic-
technology trends



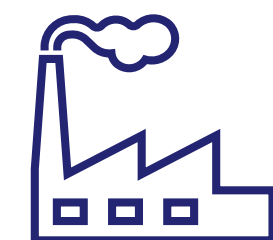
Ambitious development strategy to
maintain a 20-30% annual growth rate



Unique technology and
innovative, high-end solutions,
tailored to customer needs



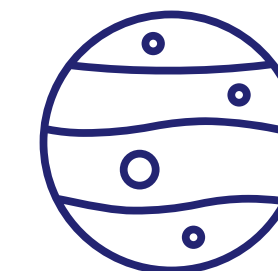
Business relationships with global
corporations (Safran, Emerson,
Caterpillar, TRUMPF, to name a few)



6,500 m² of production space -
complete production line for
semiconductors




Over 2.5 times growth in revenue
and EBITDA over the last 5 years
(2017-2021)



6 detectors successfully used in Mars
missions

AGENDA

1. EXECUTIVE SUMMARY
 2. SUMMARY OF Q2 2022 ACHIEVEMENTS
 3. FINANCIAL RESULTS FOR Q2 2022
 4. PERSPECTIVES
- 

Q2 2022 SUMMARY

- The second best quarter in terms of generated revenues of PLN 20.3 million (+13% y/y)
- Record inflow of new sales orders +30% y/y increase in Q2
- Lower operating results related to the intensive development of the Company's sales network and the preparation of further development projects
- A number of VIGO initiatives undertaken as a response to the increased volatility of the market environment
- Continuation of the development of new technologies and the commercialization process of the existing and new solutions in the framework of the VIGO 2026 Strategy
- Completion of the clean room construction and launch of the production
- VIGO detectors selected by NASA for the Orion mission
- Change of name to VIGO Photonics



Epiwafers



Infrared detectors



Infrared detection modules



SUMMARY OF Q2 2022 ACHIEVEMENTS

VIGO'S RESPONSE TO A CHANGING MARKET ENVIRONMENT AND BUSINESS OPPORTUNITIES

INCREASED VOLATILITY OF THE ENVIRONMENT

- Disrupted supply chains and component unavailability
- Increase in material and energy costs
- Increase in operating costs
- Inflation

VIGO'S RESPONSE

- ✓ Working more closely with customers to speed up deliveries and contracting new suppliers
- ✓ Active pricing policy and use of a strong negotiating position
- ✓ Scaling up production from 2023 with a new reactor
- ✓ Optimisation of energy consumption
- ✓ Cost reduction and postponement of some investments

PHOTONICS MARKET

- Strong demand trends, increasing demand for intelligent solutions to improve company efficiency, e.g. production automation
- Increasing awareness and importance of countries' security, especially in Europe, as an opportunity for growth potential in solutions for defence partners
- Strengthening the trend of relocating production to Europe - semiconductor shortage

NEW BUSINESS OPPORTUNITIES

- Significant increase in orders in many applications
- Growth potential regarding solutions for defence partners

TECHNOLOGY DEVELOPMENT

Objective of the initiative

- Exploitation of the market in its gradual fading phase by improving the customisation process and exploring uncovered market niches.
- Stabilisation of multi-element detector technology, implementation of digital solutions, development of products for military and space applications.

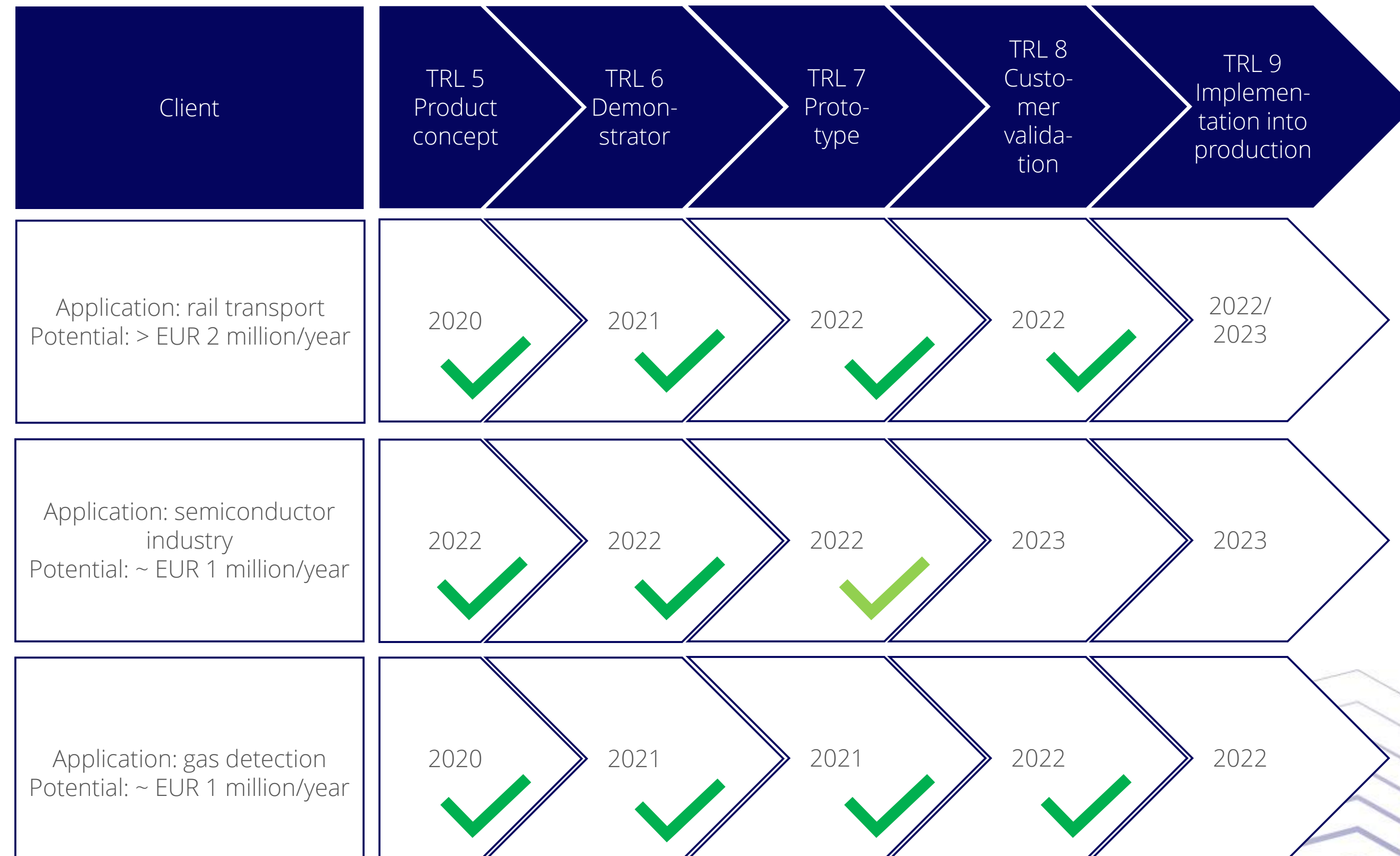
Achievements in Q2 2022

- New development project with one of the largest spectrophotometer manufacturers on the supply of detectors. Sales potential >1000 units/year (EUR 1 million).
- Positive verification of MCT detectors in Polish military project, planned sale from June 2023.

Plans for 2022

- Optimisation of the existing product range on new processing and assembly technologies.
- Acquisition of new key customers.

COMMERCIALISATION - SAMPLE PROJECTS



TECHNOLOGY DEVELOPMENT

Objective of the initiative

- Gaining the No. 1 position in the market for manufacturers of III-V detectors in the MidIR range. Implement T2SL supergrid technology (matching MCT performance), achieving technical performance superior to competitors across the MidIR range.

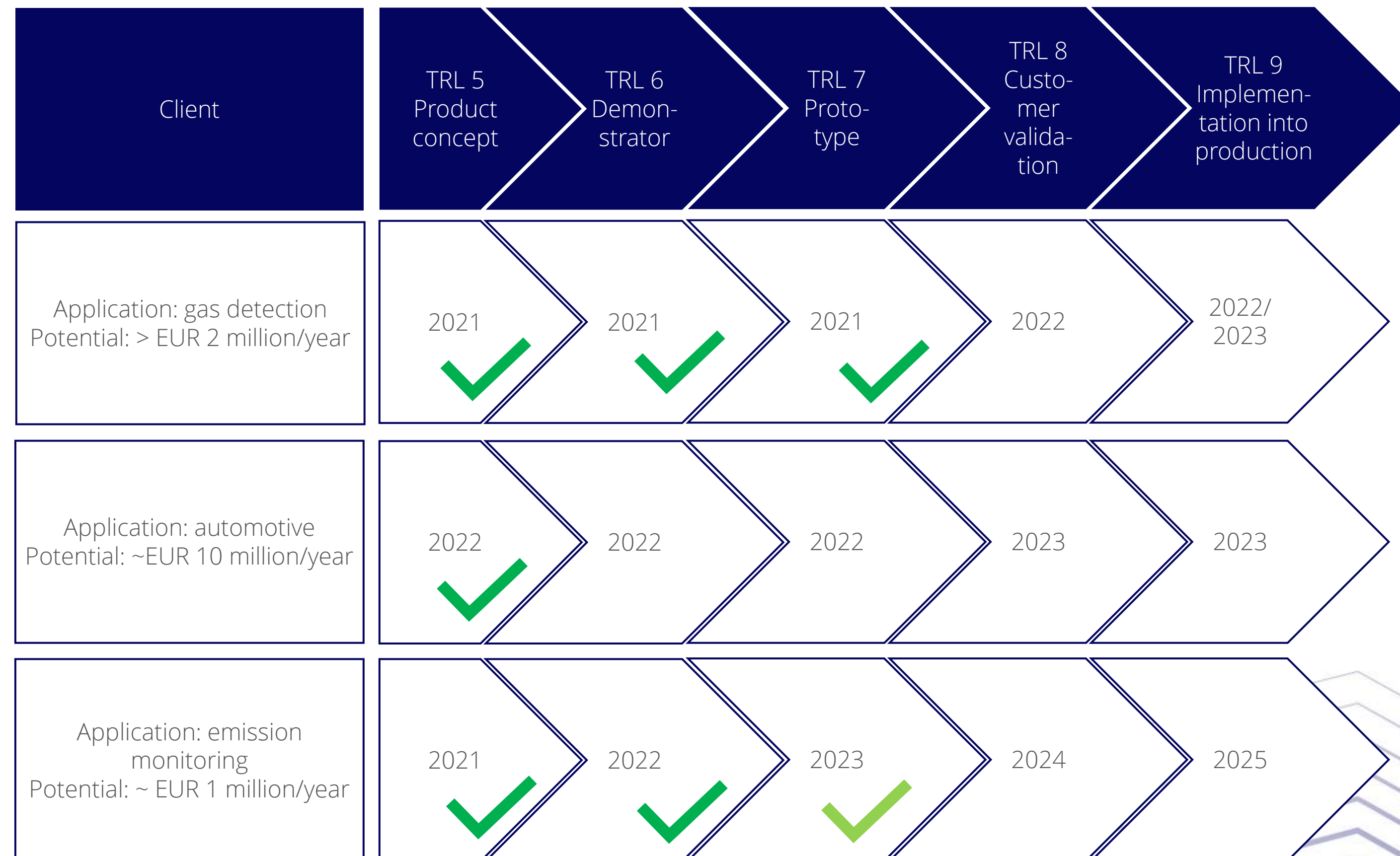
Achievements in Q2 2022

- Preparations for production of first orders for the Low-cost Detector Module (all components ordered and detector tests performed, adapted for soldering with electronics)

Plans for the upcoming quarters of 2022

- Preparation of TMD production stations for larger volumes and stabilisation of the supply chain.
- Development of long-wavelength supergrid detectors, flat optics

COMMERCIALISATION - SAMPLE PROJECTS



III-V InGaAs DETECTORS AND DETECTION MODULES INITIATIVE



TECHNOLOGY DEVELOPMENT

Objective of the initiative

- Entering the market for III-V InGaAs detectors

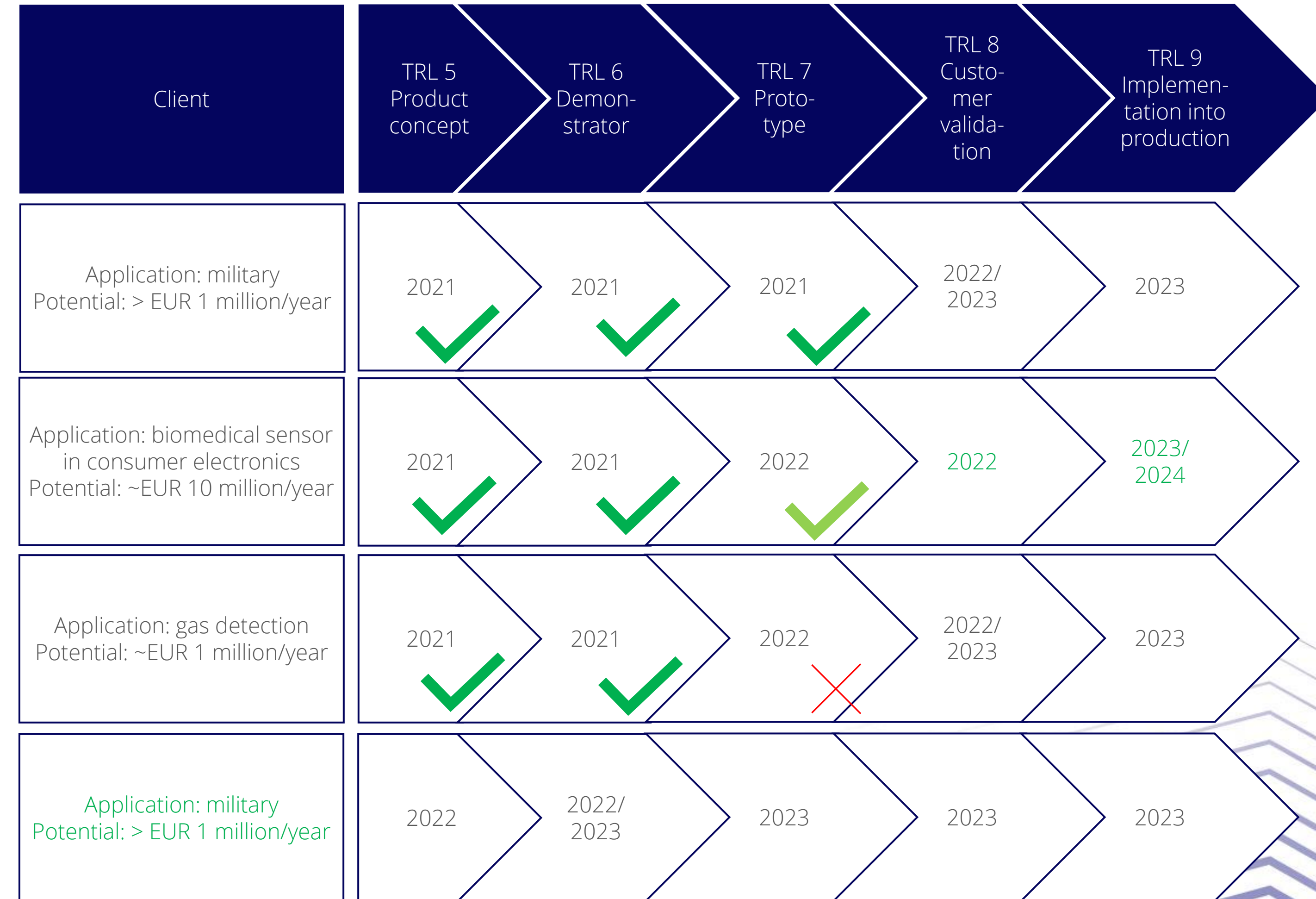
Achievements in Q2 2022

- Prototypes of eInGaAs detectors sent for testing to the client. InGaAs 1.7 prototype for military applications undergoing validation with the customer
- Commencement of development of balanced eInGaAs detection module for LIDAR imaging
- A number of new sales projects for military, biomedical and industrial applications
- Application submitted for Raven project (Eureka) - PLN 750k to finance eInGaAs development work.

Plans for 2022

- Development of stable mesa and planar technology
- Validation of eInGaAs and 1.7um prototypes with the customers.

COMMERCIALISATION - SAMPLE PROJECTS



III-V EPITAXY INITIATIVE - SEMICONDUCTOR MATERIALS AND NEAR-INFRARED SOURCES (VCSEL)



TECHNOLOGY DEVELOPMENT

Objective of the initiative

- Gain visibility in the market for epitaxy services, exploring market niches for photonic instruments (new VCSELS, unusual solutions). Refining the technology for the production and characterisation of VCSELS.

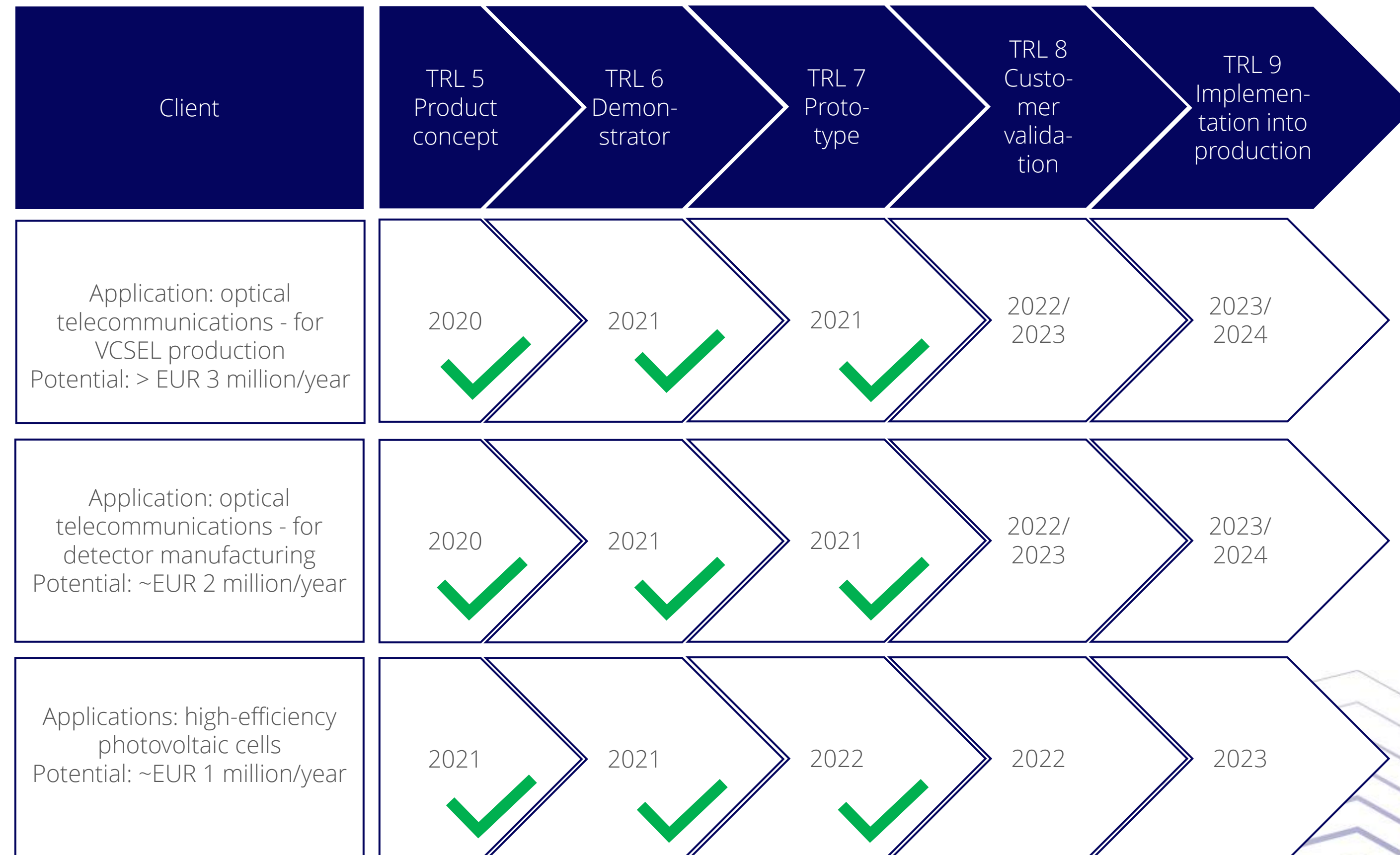
Achievements in Q2 2022

- Quantum Cascade Lasers (QCLs)* - positive roll-outs with customers, solidifying our position as a manufacturer of high-quality laser structures. Significant increase in sales revenue.
- Optical Wireless Power Transmitters (OPWTs)* - the next phase of product deployment in large global companies. Implementation batch I.
- Laser diodes (LDs)* - positive qualification of structure quality, increase in orders for laser structures in the 1200-1300nm range.
- Mastering the epitaxy technology of *ex-InGaAs (PD) 2.5micr structures*.

Plans for Q3 and Q4 2022

- Commencement of commercial technology collaboration for the introduction of *QCL* into series production.
- Finalisation of the development of *OPWTs* technology and start of implementation into production.

COMMERCIALISATION - SAMPLE PROJECTS



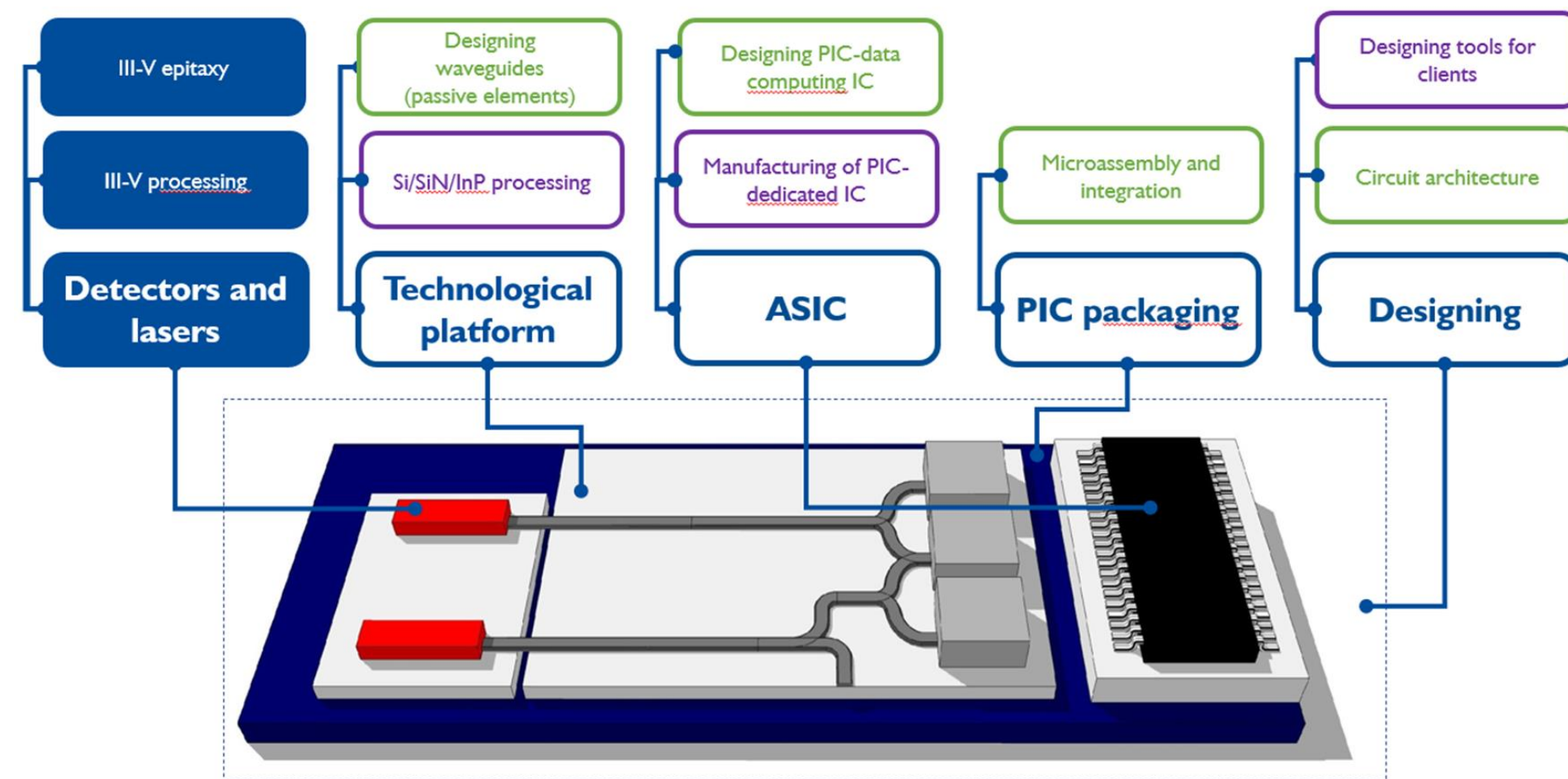
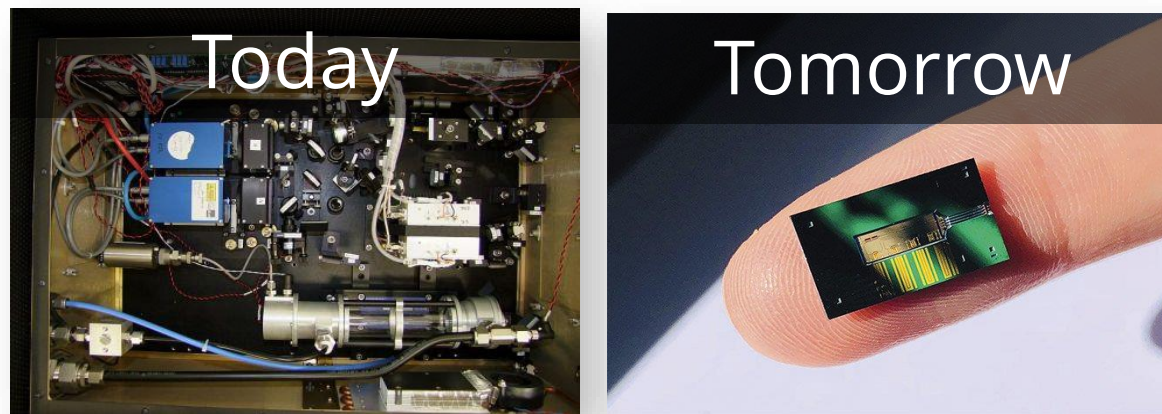
OPTOELECTRONIC SYSTEMS AND PHOTONIC INTEGRATED CIRCUITS (PIC) INITIATIVES

TECHNOLOGY DEVELOPMENT

Objective of the initiative

- Introduction, as the world's first manufacturer, of mid-infrared integrated circuits.
- Complete production line (world's first) for PICs in the MIR range (MIRPIC), complete supply chain for MIRPICs.

Gas detectors

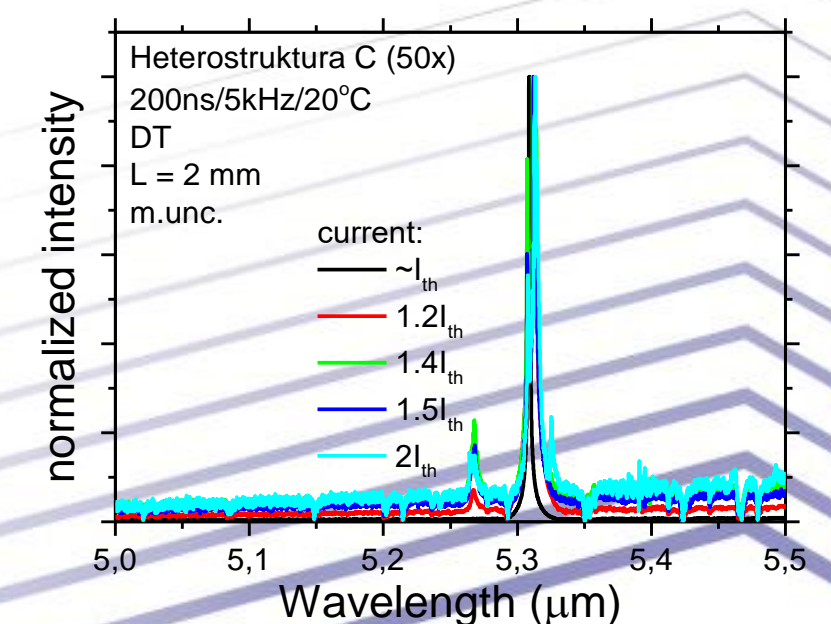
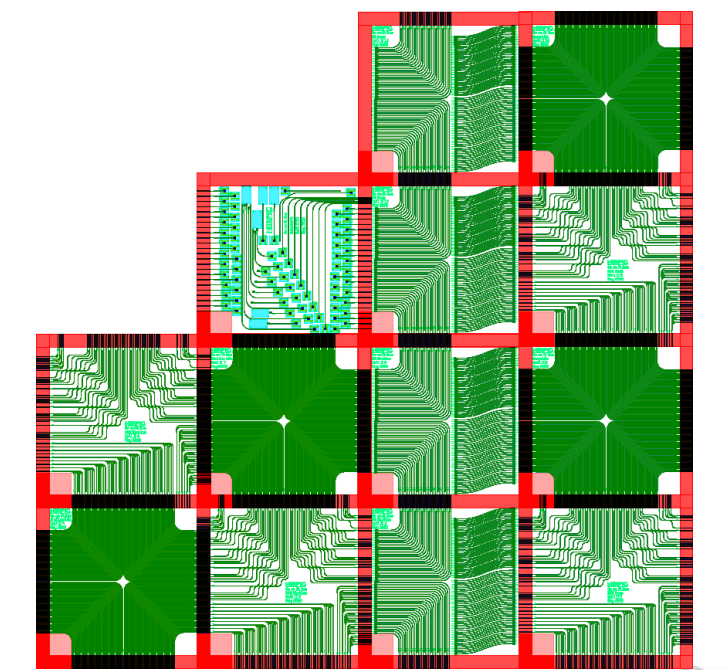


Achievements in Q2 2022

- Test structures for integration of the detector into waveguides modelled, designed and submitted to production.
- Optimisation of the Ge-on-Si technology, start-up of the second technological cycle (Ge-on-Si/2 μm).
- Full processing of Large Optical Cavity (LOC) QCL heterostructures with an emitted wavelength of $\lambda = 5.3 \mu\text{m}$, with a modified waveguide (thickness of active region).
- Final phase of QCL laser driver development.
- ROIC system designed, submitted for production.

Plans for 2022

- Preparation of the first prototypes of the device
- Seeking partners for technology development



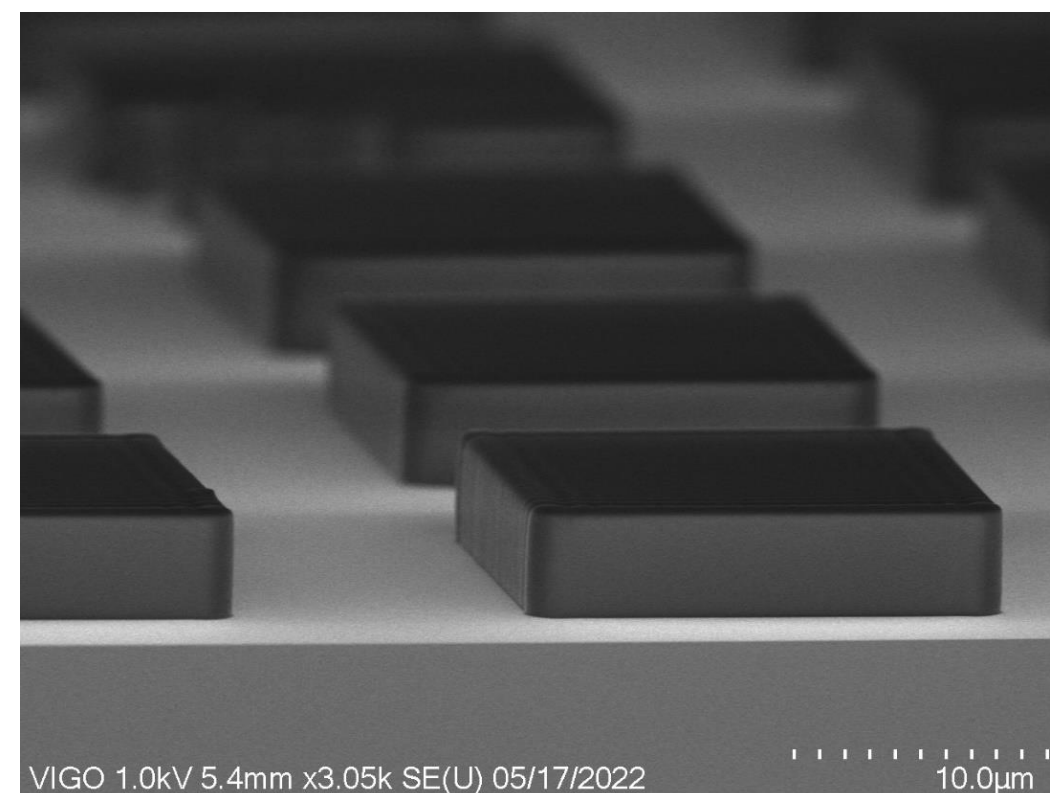
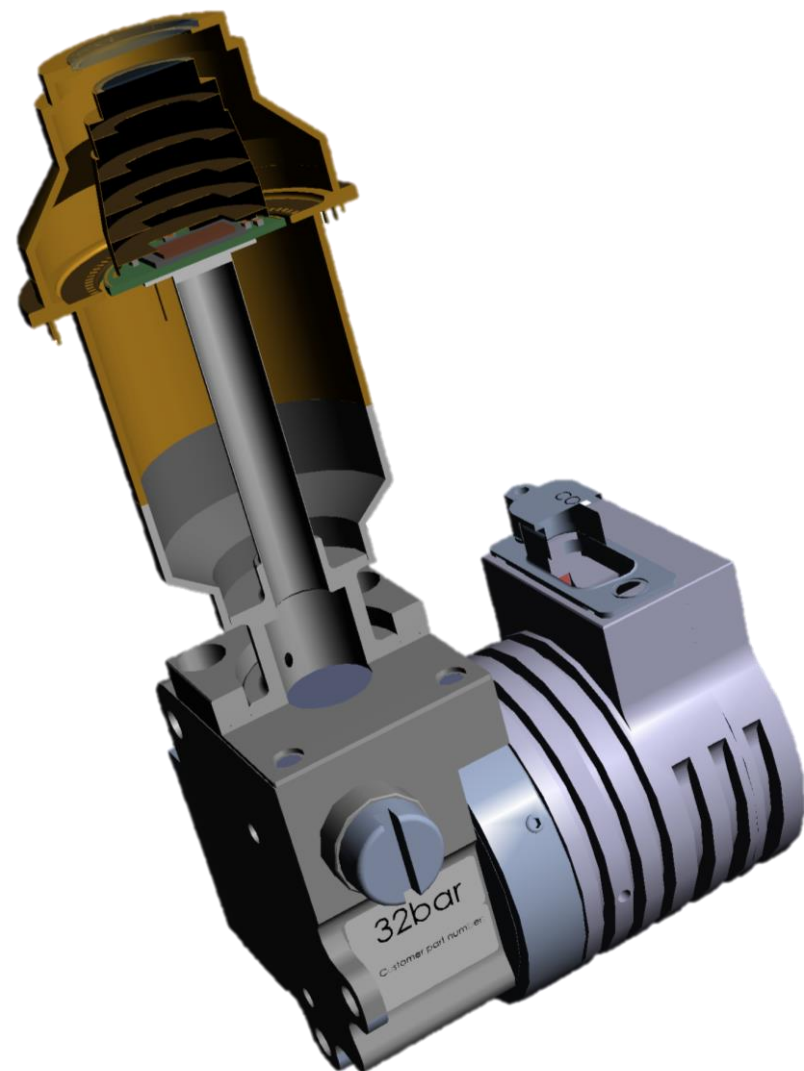
TECHNOLOGY DEVELOPMENT

Objective of the initiative

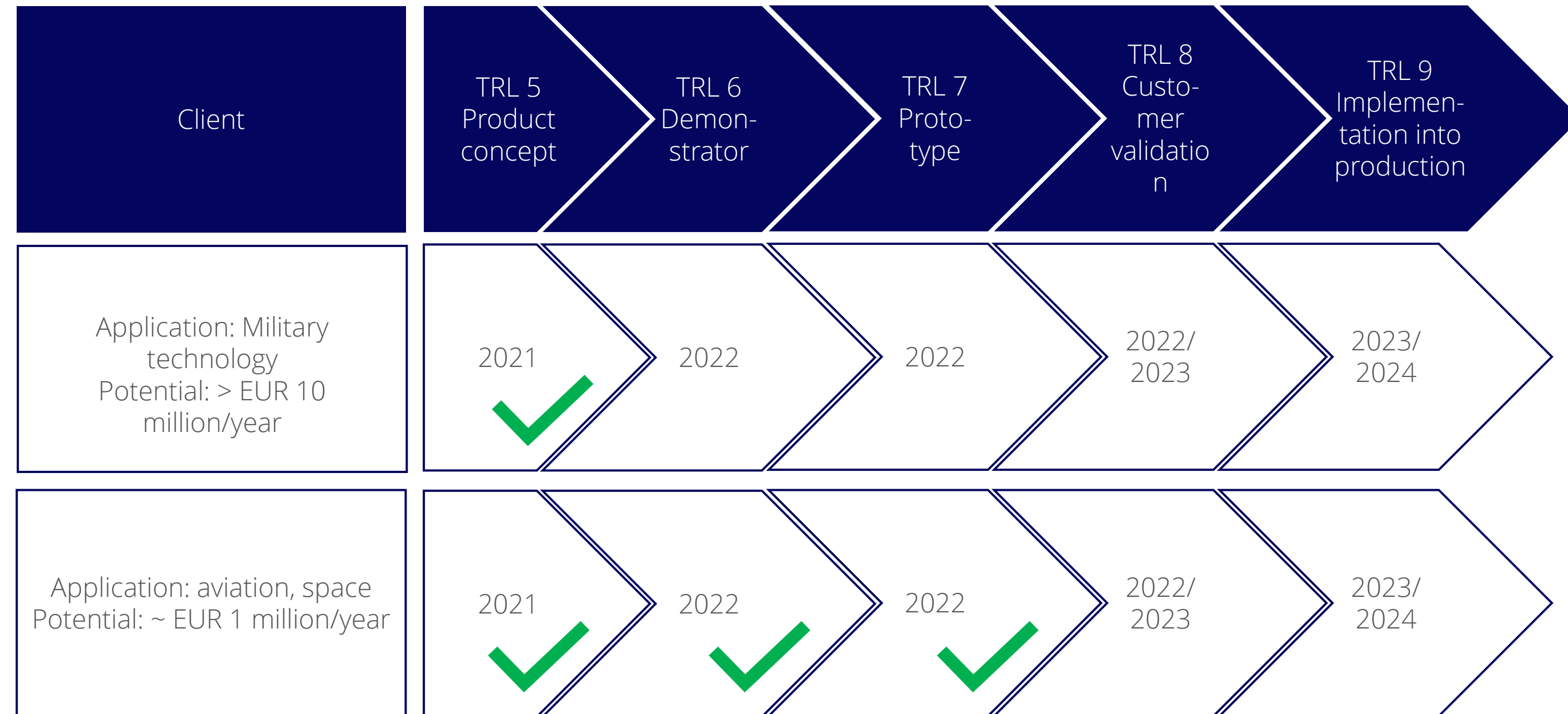
- Becoming a major supplier of detectors for the Polish army/armament industry, winning customers outside Poland (industry, space).
- Development of cooled array production technology.

Achievements in Q2 2022

- Optimisation of processing for sensors with high pixel density.
- Demonstrator of a commercial InGaAs array, design of a hermetic casing for a cooled array.



COMMERCIALISATION - SAMPLE PROJECTS

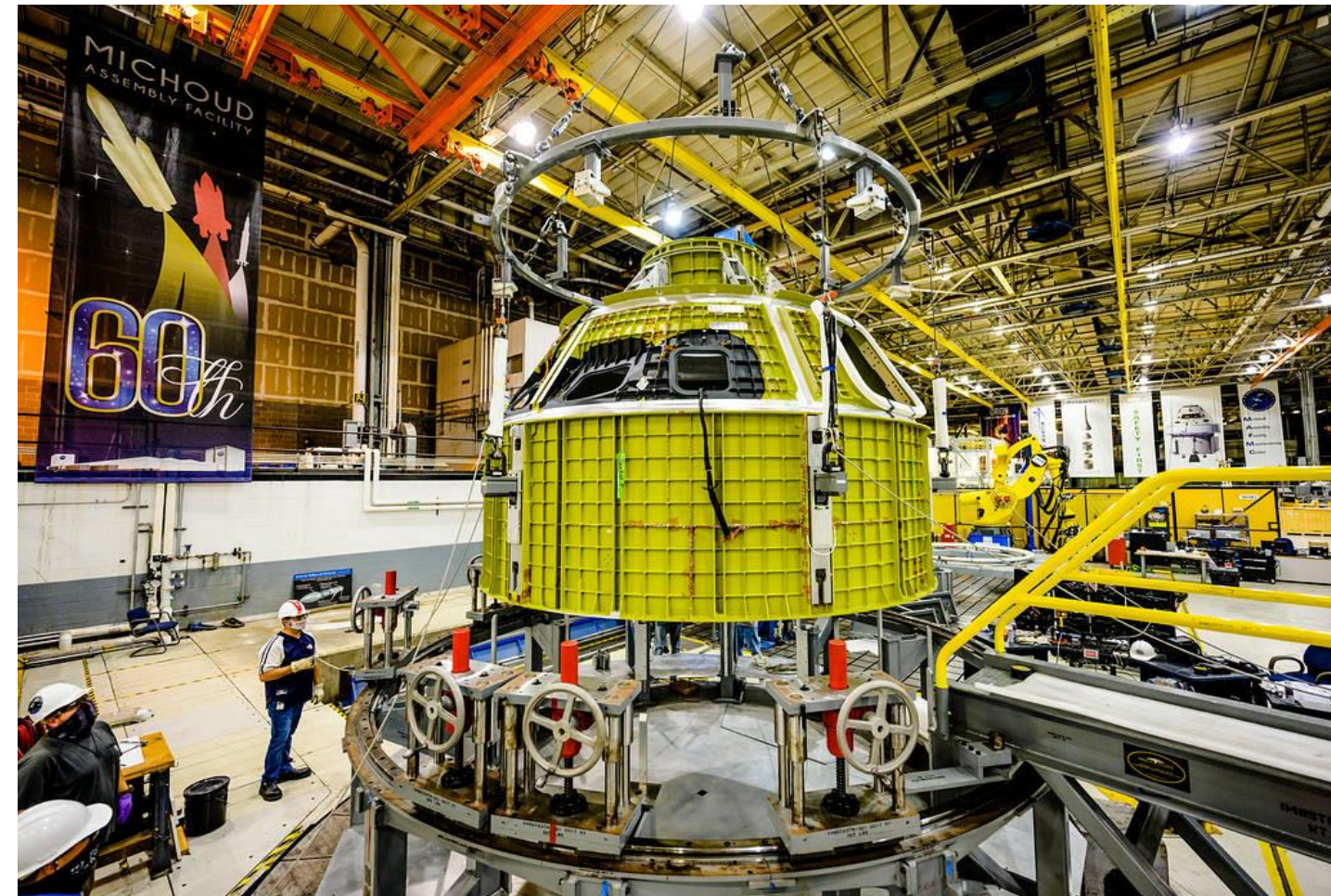


VIGO DETECTORS ON BOARD ORION TO SUPPORT NASA MISSION

ARTEMIS PROGRAMME MISSION WITH VIGO DETECTORS

- VIGO infrared detectors selected by NASA for use on board its Orion space vehicle
- Orion's upcoming Artemis mission is expected to orbit the Moon and return to Earth after travelling nearly 2 million kilometres in 4-6 weeks
- VIGO detectors mounted in the Laser Air Monitoring System (LAMS)
- LAMS enables the measurement of carbon dioxide (CO₂), water vapour (H₂O) and oxygen (O₂) concentrations inside the flight deck and space suits.
- the objective of the Artemis programme is, inter alia, long-term and sustainable exploration of the lunar orbit and surface, as well as the preparation and execution of manned flights

6 VIGO detectors have already been successfully used in space missions to Mars.



LAUNCH OF DETECTOR CHIP PRODUCTION - SUPPORT FOR 2.0 PROCESSING

SIGNIFICANT INCREASE OF VIGO'S PRODUCTION CAPACITY - ENABLING THE MANUFACTURE OF UP TO 100,000 DETECTORS PER YEAR

April 2022 - completion of the construction and equipping of the cleanroom dedicated to detection chips and start of the process of putting the individual process lines into production

OBJECTIVE OF THE INVESTMENT

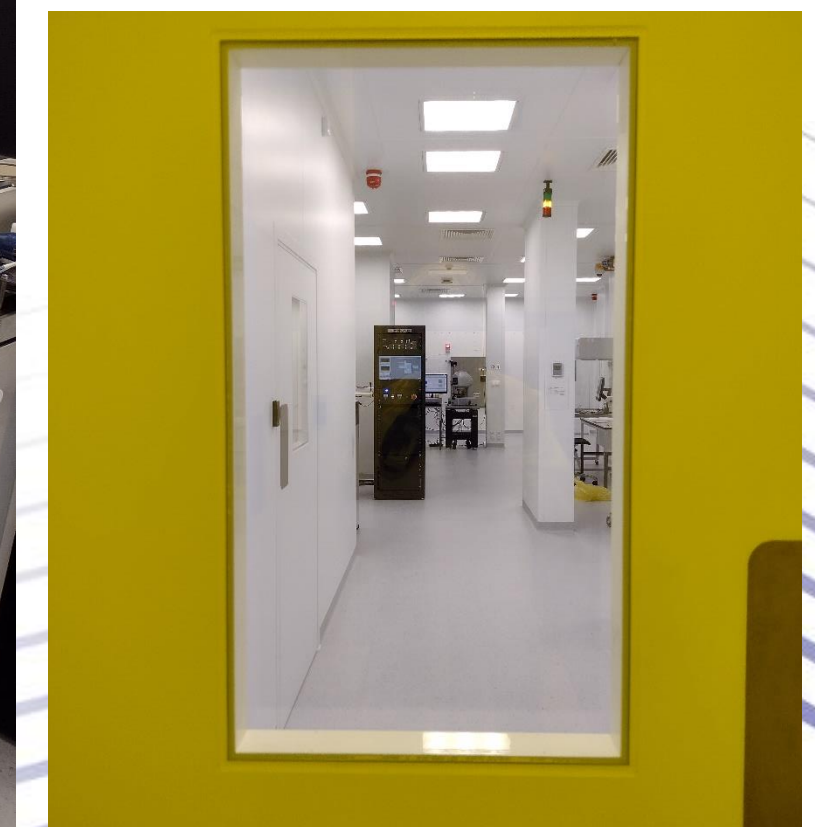
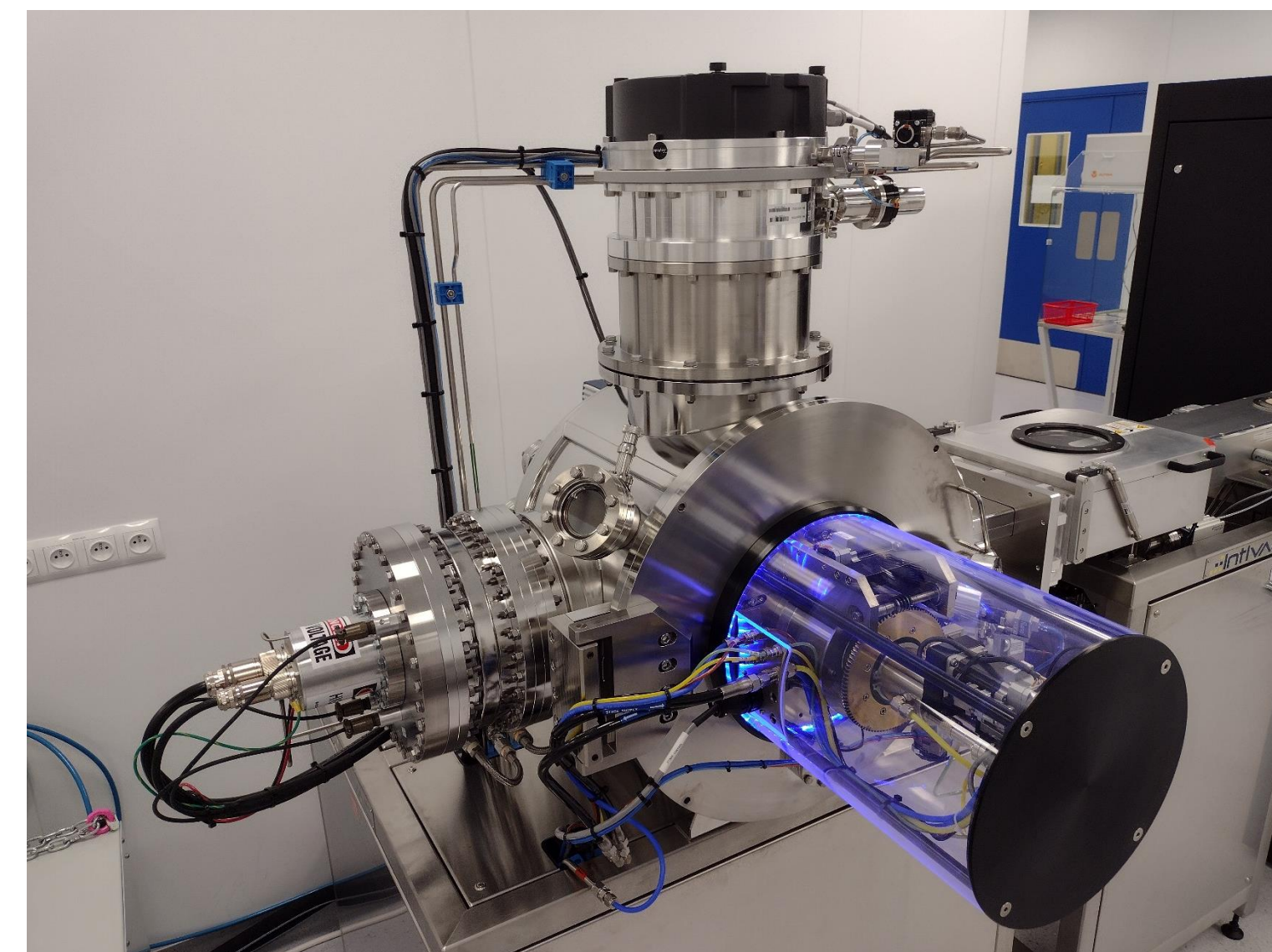
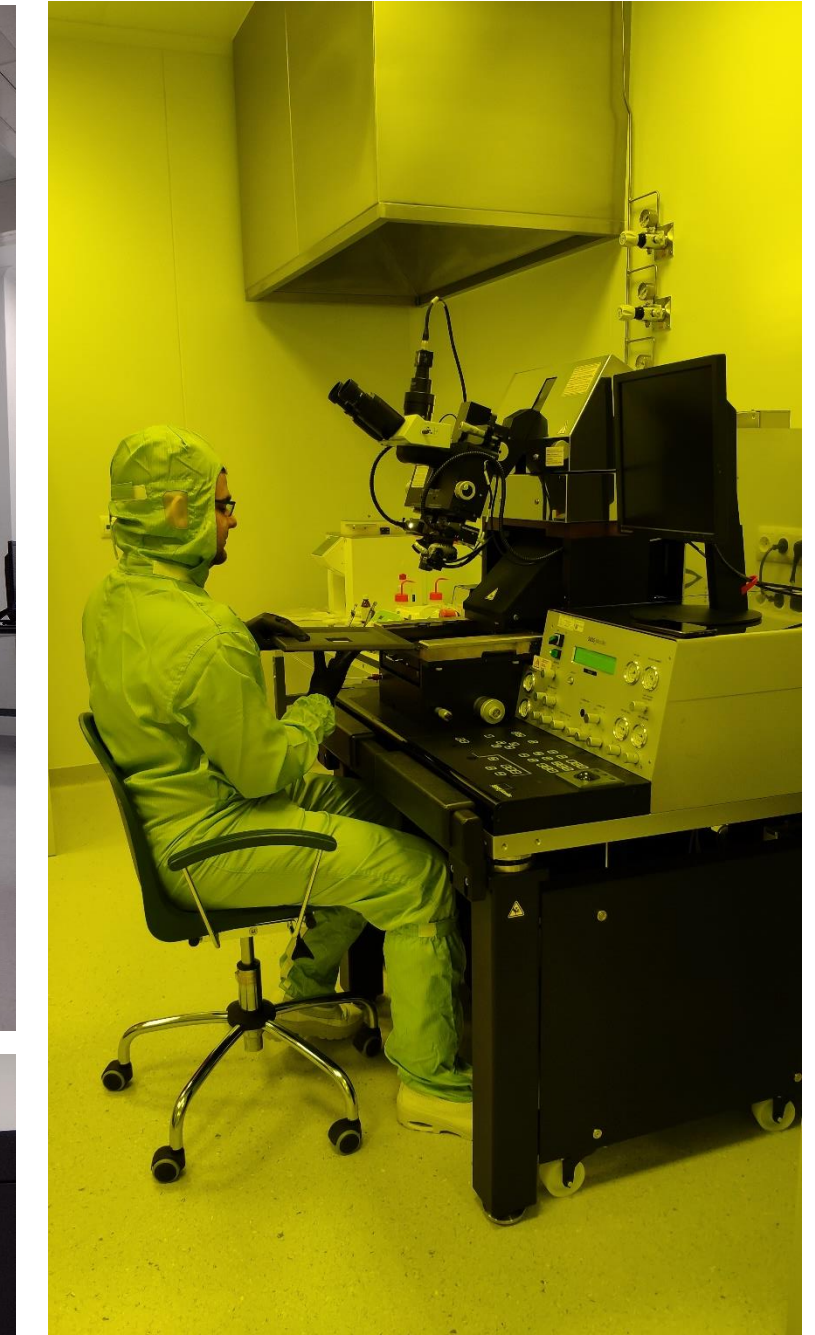
1. Cost-effective and scalable manufacturing of detection chips - use in InGaAs detectors and entry into the short wave infrared (SWIR) market
2. Introducing mid-infrared (MWIR) III-V detectors (RoHS) into the market
3. Increasing the repeatability of production
4. Meeting the highest quality requirements (military, space, semiconductor industries), ISO 6/ISO 7

SCOPE AND IMPLEMENTATION TIME

- Modernisation of the current VIGO process hall and construction of a cleanroom, plus additional production equipment
- 2021- start of project

CAPEX: PLN 34 million

FINANCING : own funds, a loan of EUR 2 million and co-financing under POIR (PLN 6 million)



SUPPORT FOR THE COMMERCIALISATION OF SOLUTIONS THROUGH MARKETING ACTIVITIES

ACTIVE PARTICIPATION IN CONFERENCES AND TRADE FAIRS

- SPIE Photonics West (US)
- CEM Emission Monitoring (Online)
- SPIE Defense and Commercial Sensing (US)
- EPIC OTM on MID-IR (Online)
- SPIE Defence and Commercial Sensing - Orlando (US)
- Laser World of Photonics - Monachium (DE)
- Hannover Messe - Hannover (DE)
- Sensor+Test - Norymberga (DE)
- International Photonics Job Fair - Warszawa (PL)
- EUROSATORY - Paris (FR)
- Siegman International School - Chęciny (PL)

Industry fairs and conferences are an excellent opportunity to present VIGO's range of innovative solutions and products to professionals and academics from around the world

SUPPORT FOR THE COMMERCIALISATION OF PRODUCTS

- Continuation of the campaign to promote the miniature detection module (detector integrated with electronics) - AMS 3140-1
- Implementation of a campaign to support the commercialisation of multi-element detectors (32E) and a multiband module
- Launch of a campaign to promote T2SL detectors



NEW BRAND VIGO PHOTONICS

THE DYNAMIC DEVELOPMENT OF THE COMPANY, OPENING UP TO NEW TECHNOLOGIES AND THE ESTABLISHMENT OF THE FIRST VIGO BRANCHES IN ASIA AND NORTH AMERICA HAVE LED TO THE CREATION OF ONE GLOBAL BRAND - VIGO PHOTONICS

Steps taken:

- Creation of a new brand combining VIGO System, VIGO Photonics Taiwan, VIGO Photonics Corp.
- Creation of a new logotype and visual identity system
- Patenting the word mark and logo of VIGO Photonics
- Implementation of new visual identity in internal and external communication
- Changed a company name from VIGO System S.A. to VIGO Photonics S.A. in August 2022

VIGO
PHOTONICS

NEW
BRAND



VIGO
PHOTONICS

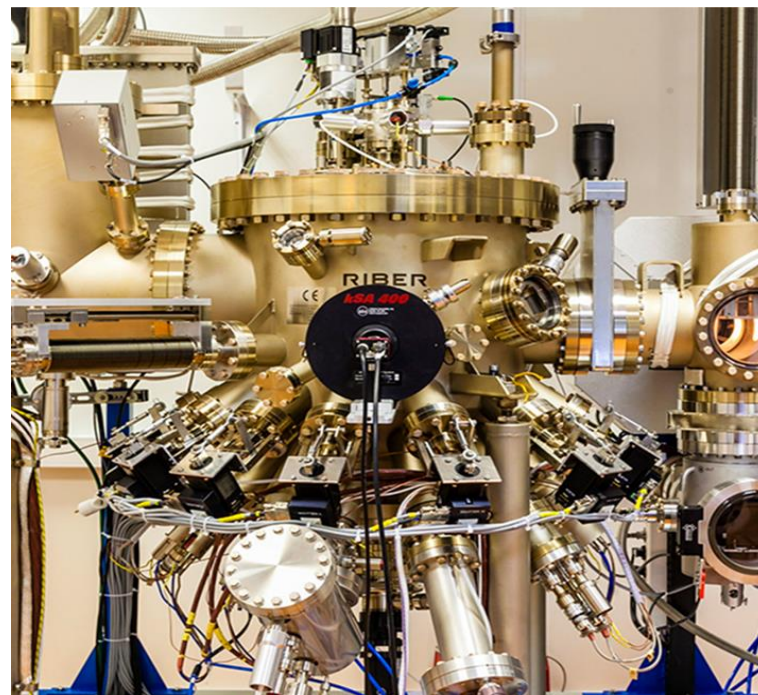
PREVIOUS
BRAND



THE NEW REACTOR WILL ENABLE DOUBLING OF PRODUCTION CAPACITY

VIGO HAS 3 INSTALLED REACTORS FOR THE PRODUCTION OF SEMICONDUCTOR MATERIALS, THE LARGEST OF WHICH IS A REACTOR MANUFACTURED BY AIXTRON AND ITS COMMISSIONING TOOK PLACE IN 2019

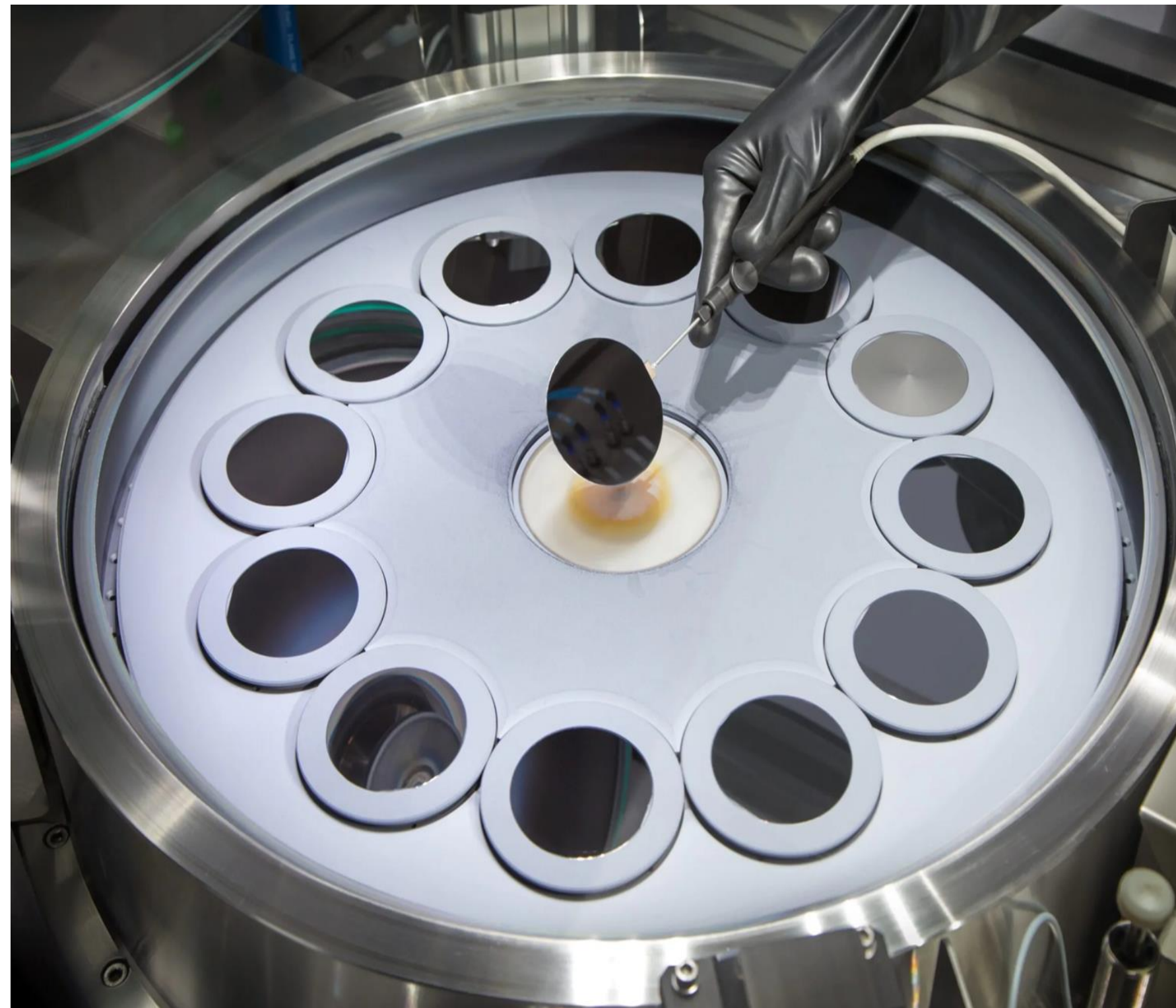
MBE (InAs, InAsSb)



MOCVD (HgCdTe/ MCT)



MOCVD (III-V)

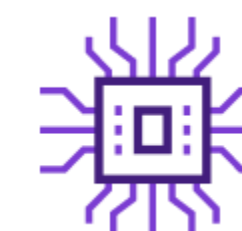


NEW EPITAXIAL REACTOR NOW IN VIGO

- Another epitaxial reactor for the production of III-V semiconductor materials ordered and delivered
- Supply agreement with a reliable company - AIXTRON:
 - November 2021,
 - order delivery: September 2022,
 - system start-up: early 2023.
- CAPEX: EUR 3.6 million, EUR 5.4 million in total with investments necessary to launch



VIGO VENTURES



VIGO VENTURES ASI - formerly VIGO WE INNOVATION (VWI), VIGO VENTURES

Investment incubator created by VIGO Photonics and Warsaw Equity Group (50:50 joint venture) in 2017 and transformed into an alternative investment company in September 2022

MANAGEMENT BOARD

Wojciech Smoliński

Managing Partner, President of the Management Board

Marek Kotelnicki

Managing Partner, Member of the Management Board

SUPERVISORY BOARD

Adam Markiel, WEG Chief Investment Officer

Adam Piotrowski, President of VIGO Management Board

Łukasz Piekarski, Member of VIGO Management Board

INVESTMENT ASSUMPTIONS

- investments and development of technological projects (start-ups, spin-offs) with global potential in the production of high-tech devices and components
- areas: photonics, semiconductors, quantum technologies
- solutions already pre-verified and/or with a working prototype
- projects generating independent profits and/or potential support for VIGO Photonics
- single investment project up to EUR 1-1,5 million

HORIZON OF ACTIVITY

Until all investment projects are completed or until the end of 2032

BUDGET

PLN 36 million (PLN 18 million for each partner)

PORTFOLIO

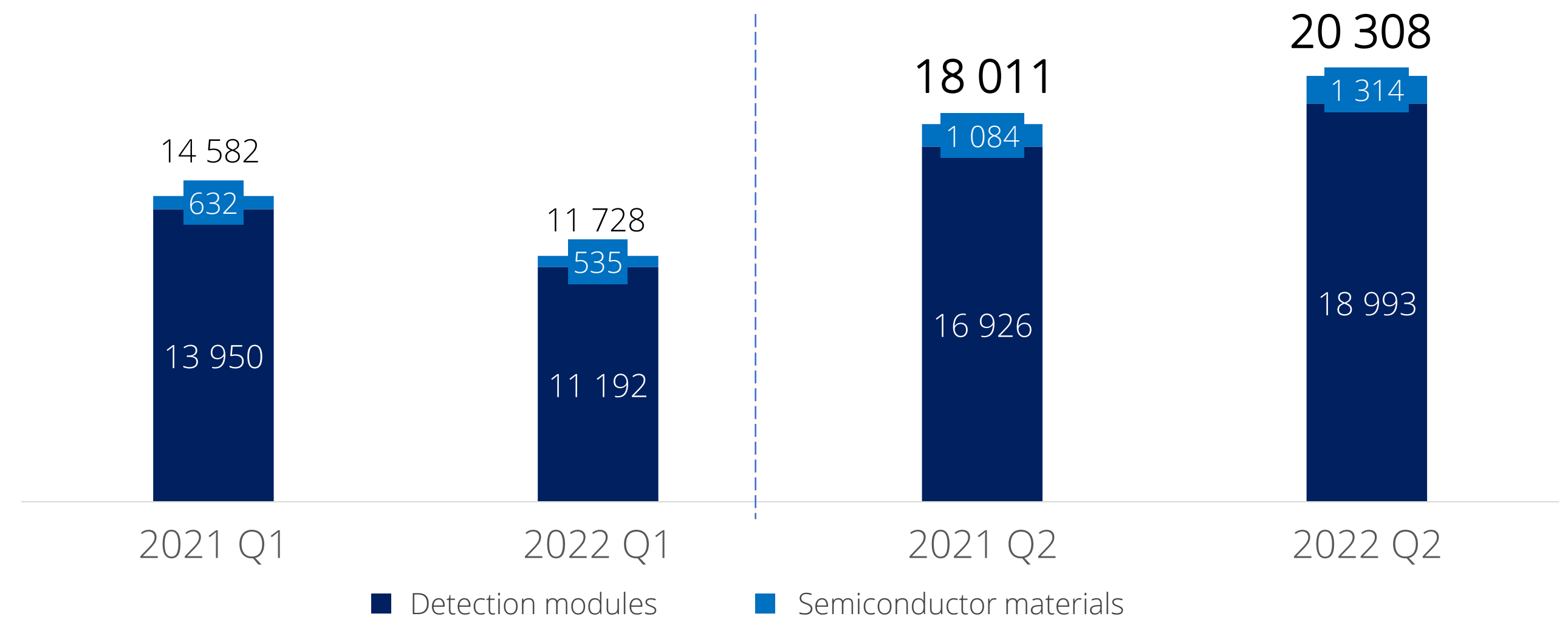


FINANCIAL RESULTS FOR Q2 2022

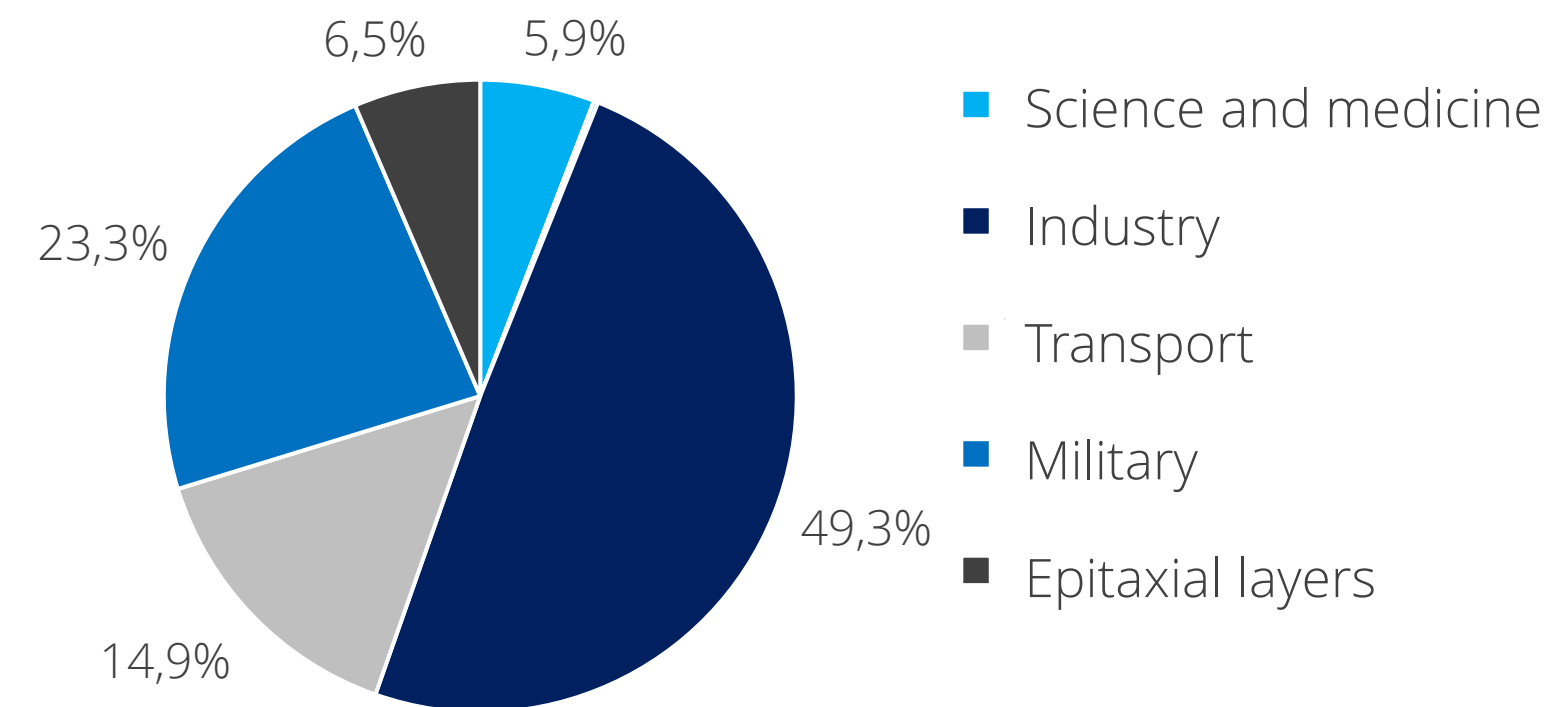
SALES REVENUES IN Q2 2022

- Increase in revenues in Q2 by 13% y/y (20.3m PLN)
- Sales of **detectors and modules** increased to 19m PLN (+12% y/y) and **semiconductor epiwafers** to 1.3m PLN (+21% y/y)
- The greatest increases recorded in the following segments:
 - Industry: 10m PLN (+37% y/y)
 - Transport: 3m PLN (+57% y/y)
 - Science and medicine: 1.2 m PLN (+36% y/y)
- 4.7m PLN in the military segment – decline by 30% y/y due to lower inflow of orders from the main customer in this application
- By geography – significant growth of revenues in Q2 in the **Asian market +56% y/y** and the **American market +34% y/y**.
- Growing revenues are the result of greater demand from existing customers and increased sales activity of VIGO, especially on the Asian and American markets.

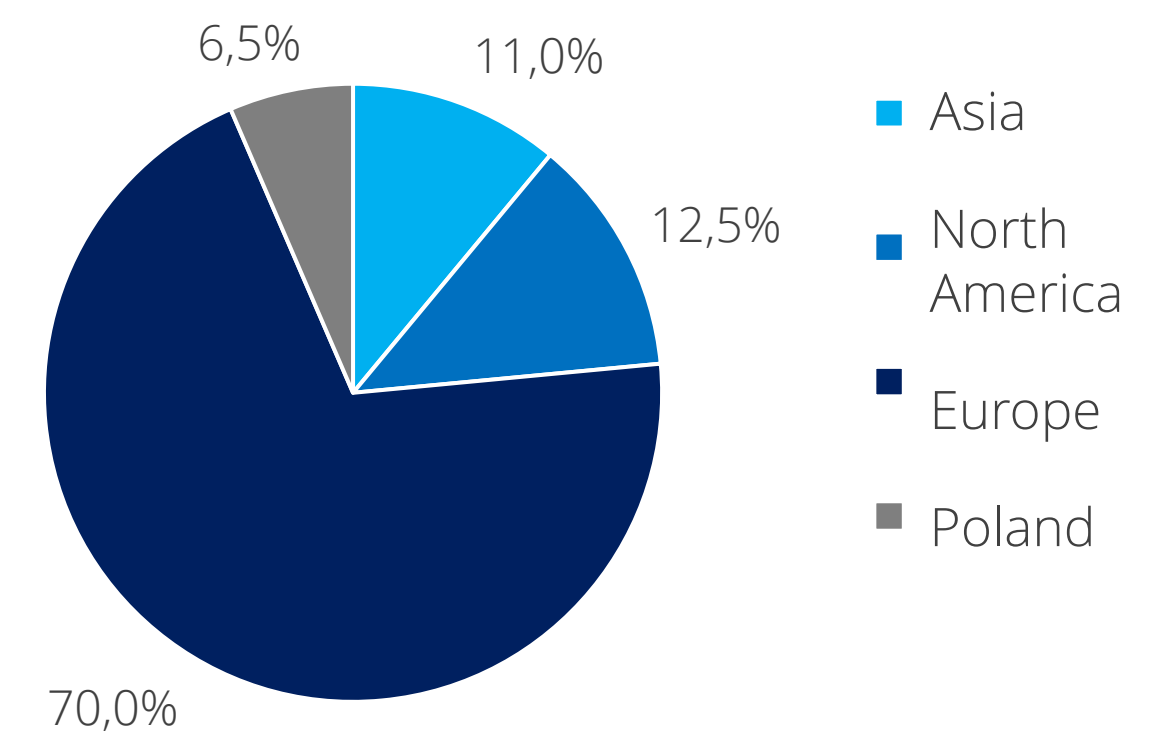
SALES REVENUES PER YEAR (PLN THOUSAND)



SALES REVENUES BY APPLICATION IN Q2 2022



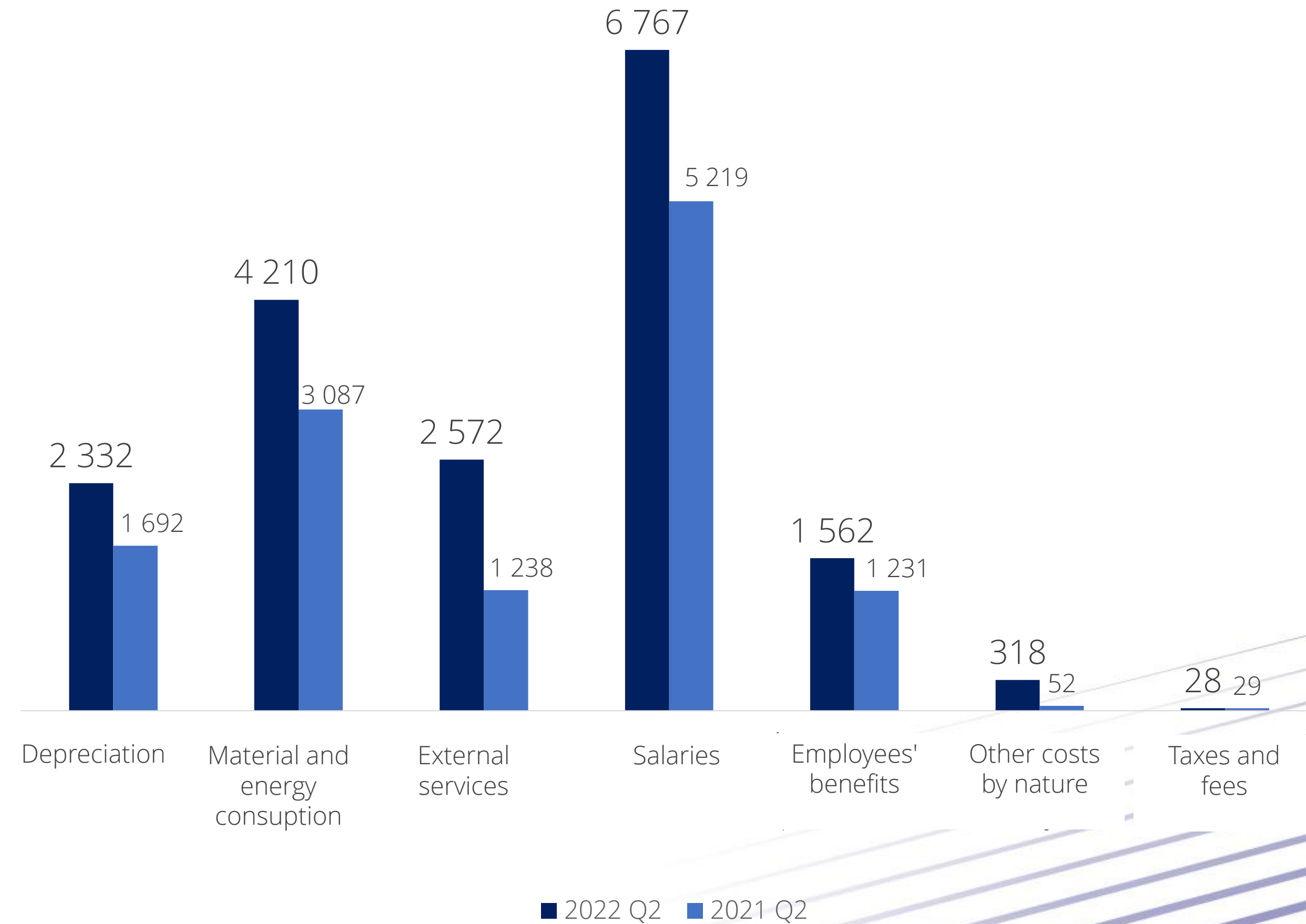
SALES REVENUES BY REGION IN Q1 2022



OPERATING COSTS IN Q2 2022

- Core operating expenses in Q2 amounted to 17.8m PLN and increased by 42% y/y.
- The following had the greatest impact on the increase in costs:
 - Higher costs of external services, caused by the intensive development of the VIGO sales network and greater sales and marketing activity, especially on the Asian and American markets, as well as the preparation of new development projects of the Company,
 - Higher level of depreciation resulting from completed investments
 - Increase in material and energy costs
 - Increase in employment and salaries of employees

OPERATING COSTS IN Q2 2022 (PLN THOUSAND)



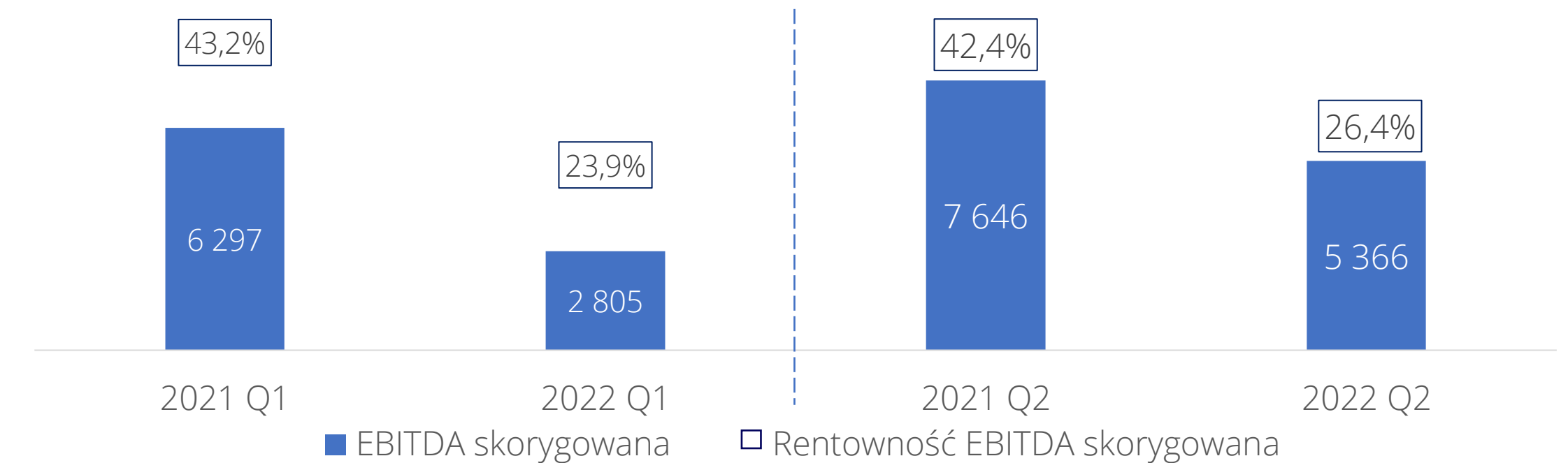
FINANCIAL PERFORMANCE IN Q2 2022

- Adjusted EBITDA: 5.3m PLN (-30% y/y).
- Operating profit (EBIT): 3.8m PLN (-43% y/y) – higher sales and general expenses
- Adjusted net profit: 3.8m PLN (-46% y/y).
- The following items had a significant impact on the net result:
 - reserves for vacation remuneration;
 - sales commission for VIGO Photonics Inc. (USA);
 - recognition of a deferred tax assets.

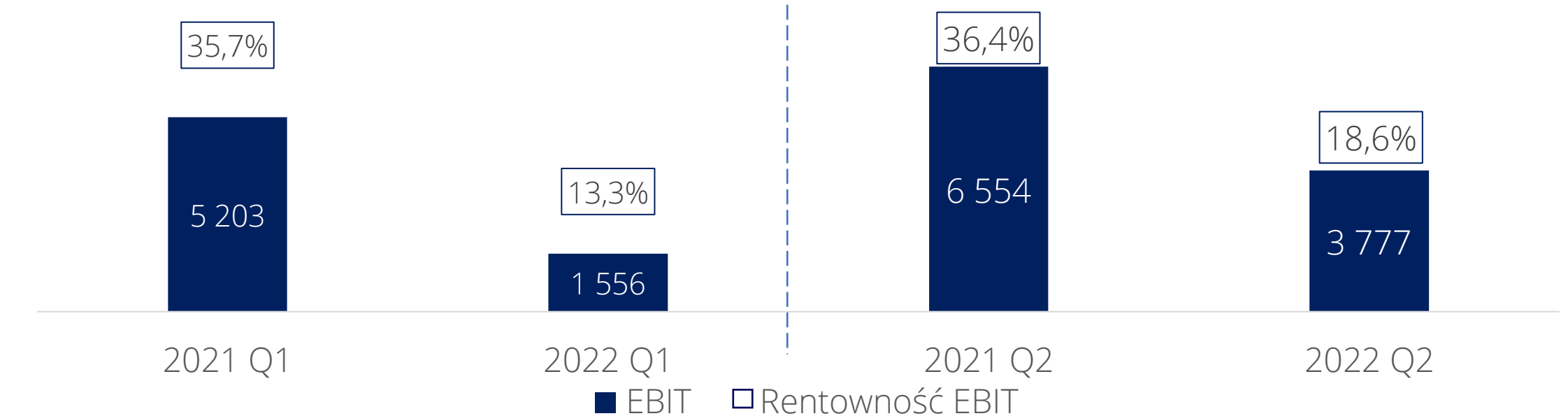
FINANCIAL PERFORMANCE IN H1 2022

- Financial performance in H1 2022 (separate for VIGO Photonics S.A.) adjusted EBITDA 8.2m PLN, EBIT 5.3m PLN, adjusted net profit 4.8m PLN.
- Consolidated financial results – adjusted EBITDA 6.2m PLN, EBIT 3.3m PLN, adjusted net profit 2.6m PLN. The difference between separate and consolidated results are due to:
 - recognition of losses generated by VIGO Photonics Inc (USA);
 - valuation of the incubator using the equity method.

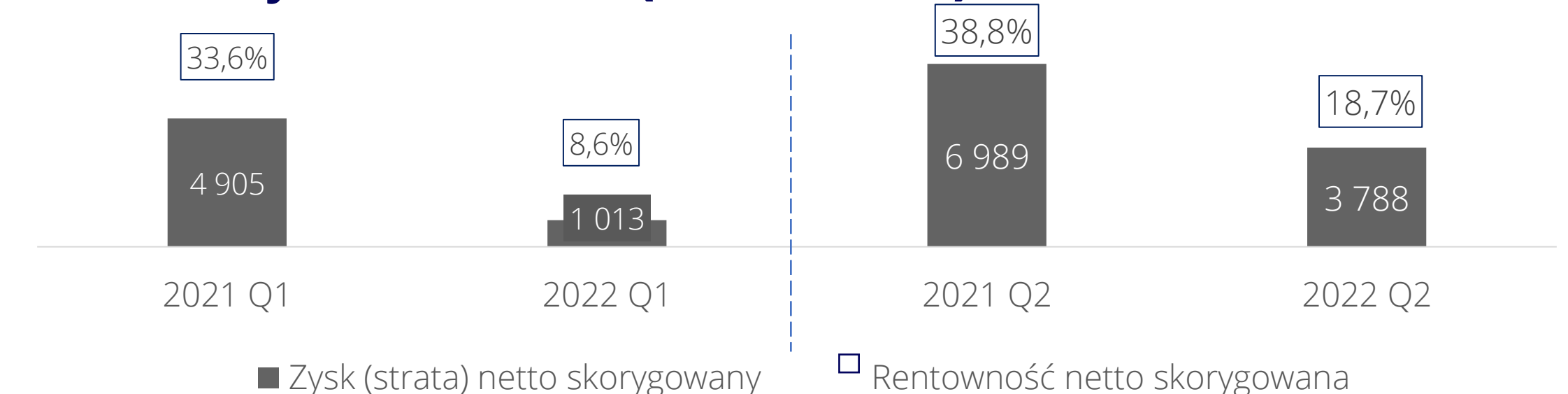
ADJUSTED EBITDA (PLN THOUSAND) AND EBITDA MARGIN



EBIT (PLN THOUSAND) AND EBIT MARGIN



ADJUSTED NET PROFIT (PLN THOUSAND) AND NET MARGIN



CASH FLOWS IN H1 2022

- Cash flow from operating activities: increased level of inventories and reduced level of receivables
- Cash flows from investing activities: higher proceeds from received subsidies (PLN 9.6 million) and higher capital expenditure (PLN 28.2 million)
- Cash flows from financial activities: received PLN 12.6 million and repaid PLN 4.4 million of principal installments and PLN 0.5 million of interest

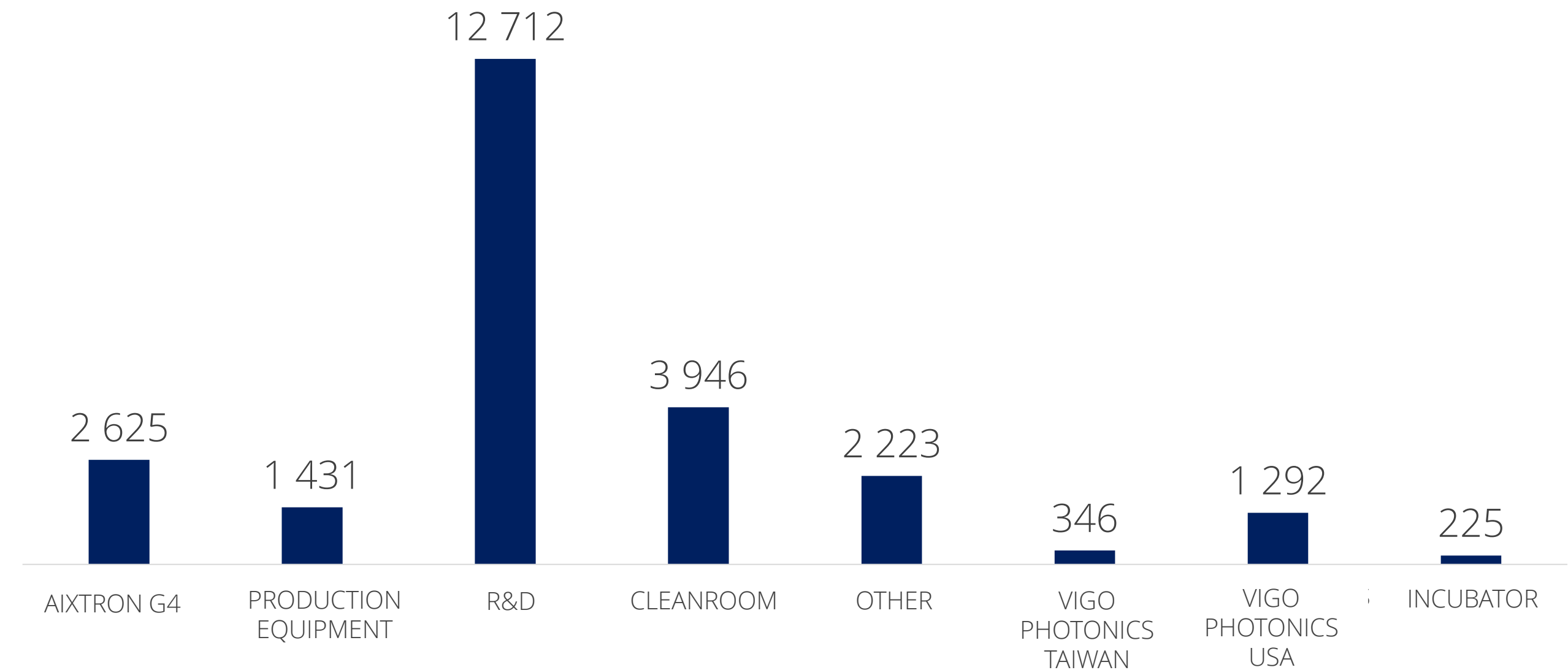
In June 2023, conclusion of loan agreements in the amount of EUR 5.9 million for the financing and refinancing of capital expenditure for the purchase of the AIXTRON reactor for epitaxy of semiconductor compounds. Loan granted until June 2028.

| CASH FLOW STATEMENT [PLN THOUSAND] | 01.01.2022 - 30.06.2022 | 01.01.2021 - 30.06.2021 |
|---|----------------------------|----------------------------|
| Total adjustments: | 4 419 | -978 |
| Amortisation and/or depreciation | 5 027 | 3 338 |
| Change in provisions | 983 | 845 |
| Change in inventories | -2 650 | 732 |
| Change in receivables | 3 167 | -3 572 |
| Change in liabilities, excluding loans and borrowings | 459 | 356 |
| Other | -2 566 | -2 677 |
| A. Net cash flows from operating activities | 9 220 | 10 916 |
| Inflows | 9 656 | 7 274 |
| Funding received | 9 556 | 7 272 |
| Proceeds from the sale of fixed assets | 101 | 2 |
| Outflows | -28 158 | -22 108 |
| Purchase of intangible assets and tangible fixed assets | -14 067 | -5 205 |
| Expenditure on acquisition of shares | -225 | -1 086 |
| Expenditure on investment funds | 0 | -7 128 |
| Outlays on development work in progress | -11 654 | -8 689 |
| Loans granted | -2 213 | 0 |
| B. Net cash flows from investment activities | -18 502 | -14 834 |
| Inflows | 12 559 | 3 084 |
| Credits and loans | 12 559 | 3 084 |
| Outflows | -4 980 | -3 334 |
| Repayment of credits and loans | -4 430 | -3 168 |
| Interest and commissions | -551 | -167 |
| C. Cash flows from financial activities | 7 579 | -251 |
| D. Total net cash flows | -1 703 | -4 169 |
| G. Cash at the end of period | 3 907 | 8 854 |

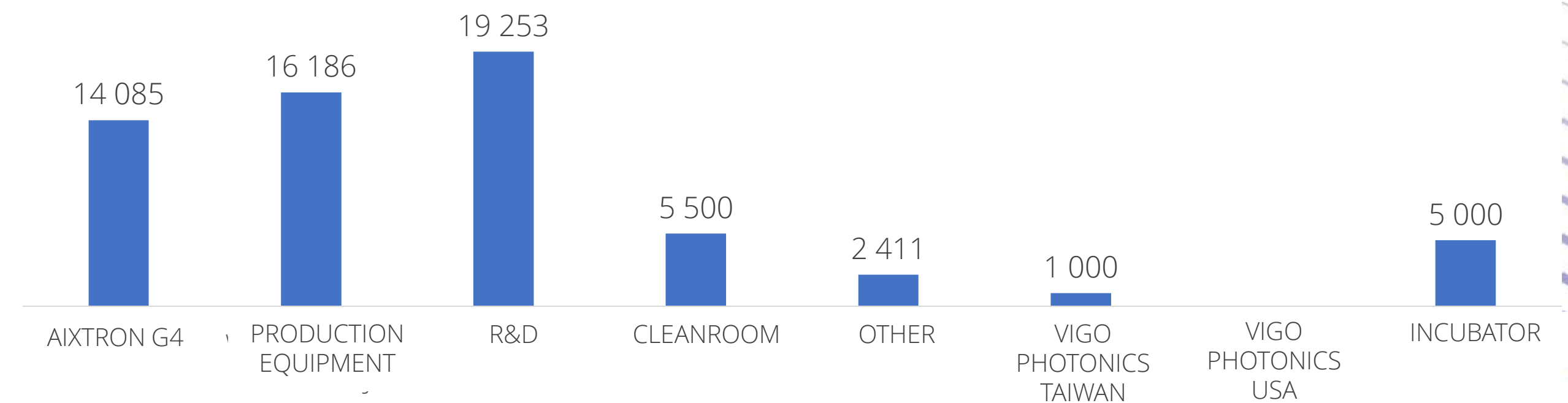
CAPEX IN H1 2022

- CAPEX in H1 2022 amounted to 24.8m PLN (accrual), of which the most significant expenditure related to:
 - R&D expenditure (12.7m PLN),
 - Cleanroom construction (3.9m PLN),
 - Implementation of a new MOCVD (2.6m PLN),
 - Other expenditure (3.4 m PLN), including refurbishment of existing production facilities
- The plan for 2022 assumes PLN 63.4 million of investments, including:
 - Completion of cleanroom redevelopment: PLN 5.5m (mostly completed in Q1 2022)
 - Implementation of new MOCVD: PLN 14.1 million
 - R&D expenses: PLN 19.2 million
 - Expenditure on purchase of production equipment: PLN 16.2 million
 - Investments through VIGO Ventures: 5 million PLN

CAPITAL EXPENDITURES INCURRED IN H1 2022 (PLN THOUSAND)



CAPITAL EXPENDITURES PLANNED FOR 2022 (PLN THOUSAND)





PERSPECTIVES

OUTLOOK

SHORT-TERM OUTLOOK

2022 plan

Realization of revenues at a level similar to 2021

Positive trends

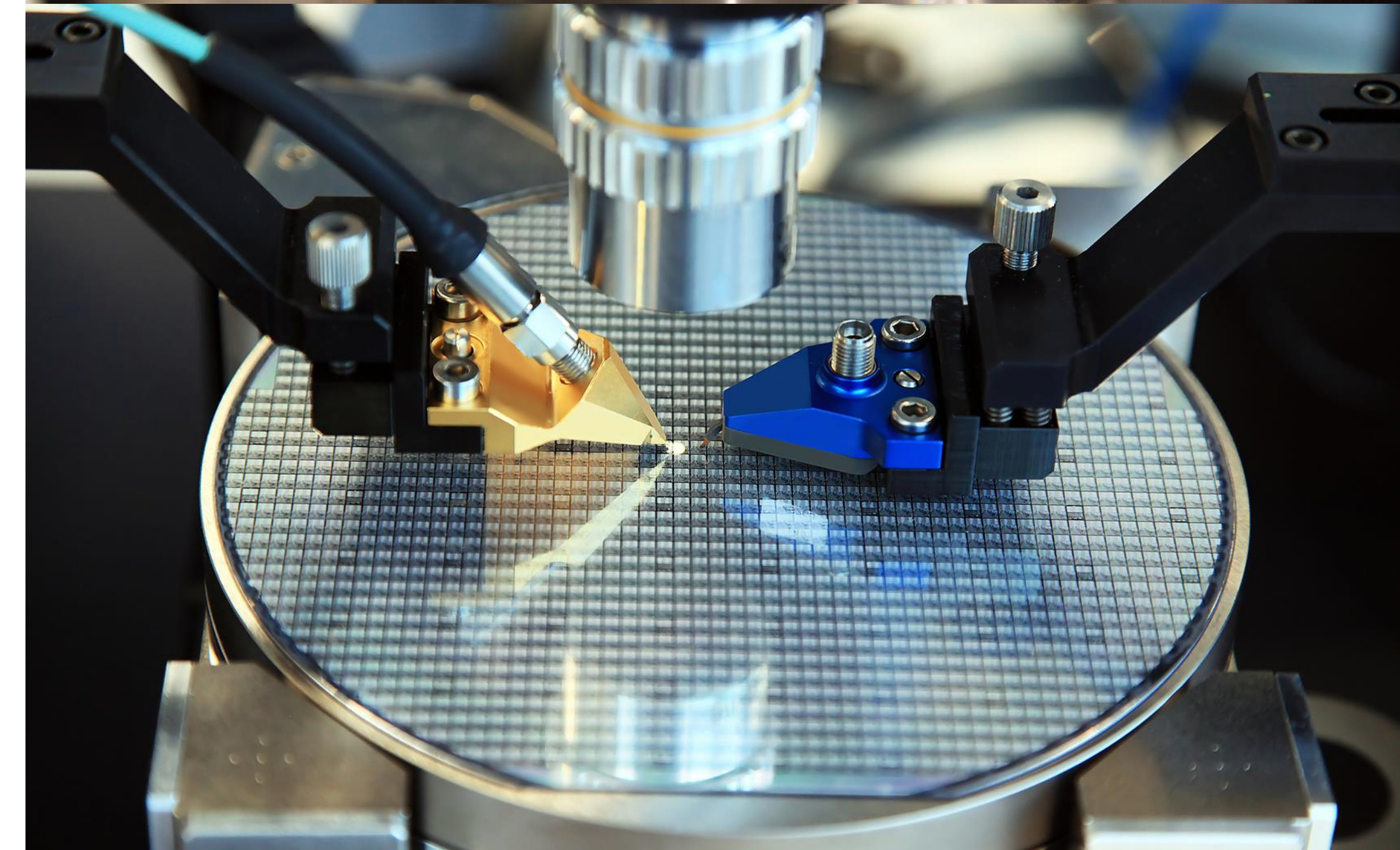
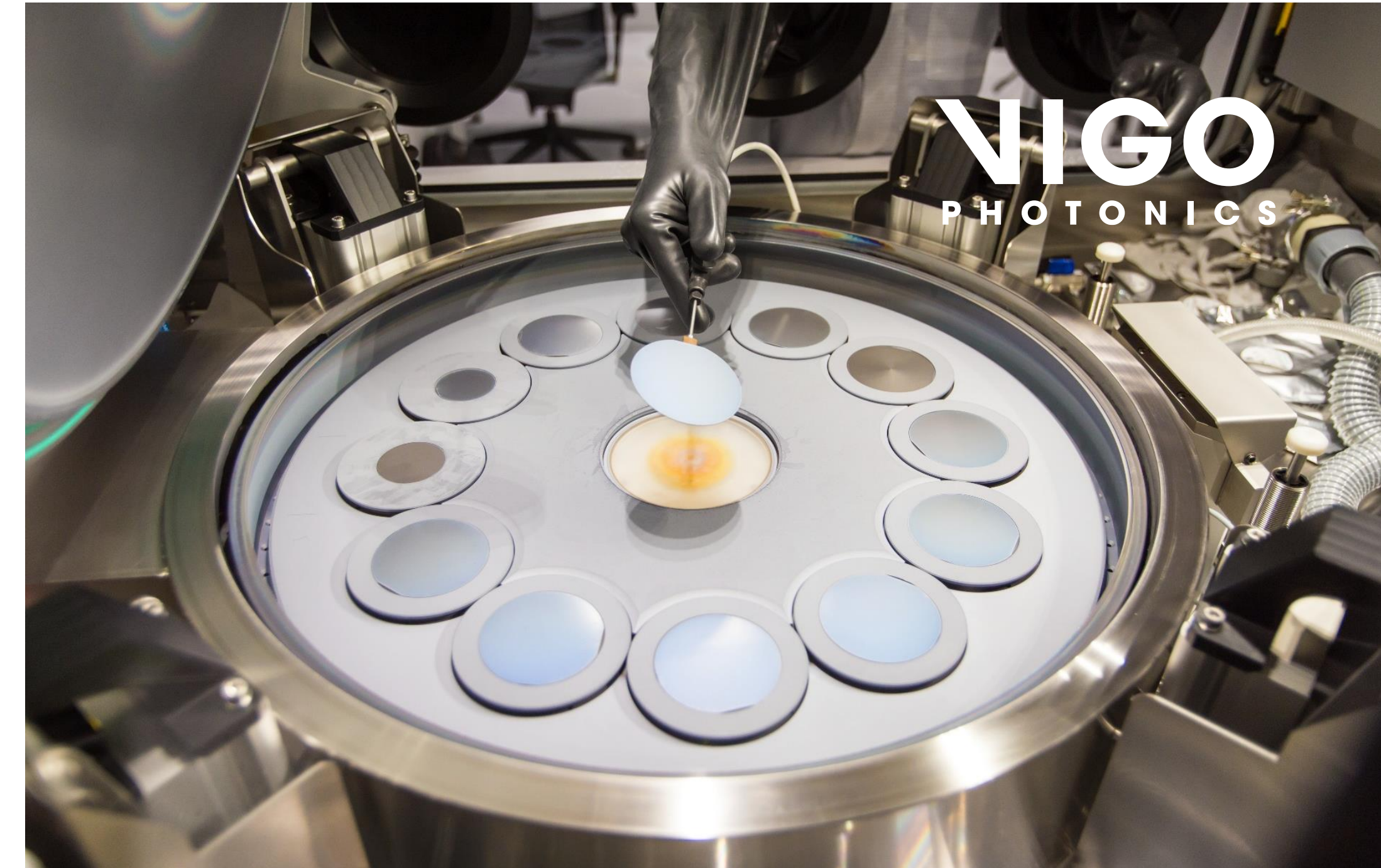
High dynamics of increase in orders (especially in the industrial, transport and scientific segments). Only in the military segment a decrease in the value of orders.

Negative trends

- Increasing problems with the availability of electronic components
- Growing prices of components and materials
- Expected increases in electricity costs
- Inflation

VIGO activities

- Active pricing policy and the use of a strong negotiating position
- Optimizing the use of energy
- Cost reduction and postponement of certain investments



THE CURRENT WORLD ECONOMIC SITUATION DOES NOT AFFECT THE IMPLEMENTATION OF PRO-GROWTH INITIATIVES ADOPTED IN THE COMPANY'S DEVELOPMENT STRATEGY UNTIL 2023 AND 2026

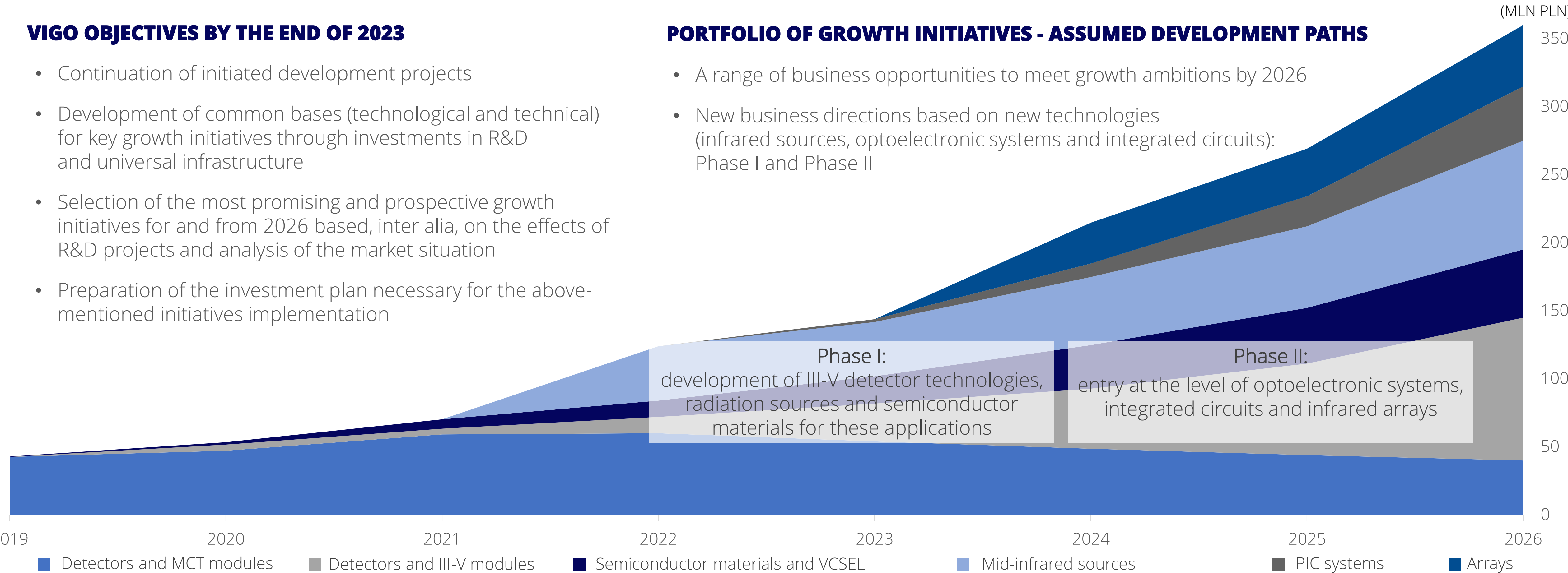
VIGO 2026 STRATEGY ANNOUNCED ON 16 JUNE 2021

VIGO OBJECTIVES BY THE END OF 2023

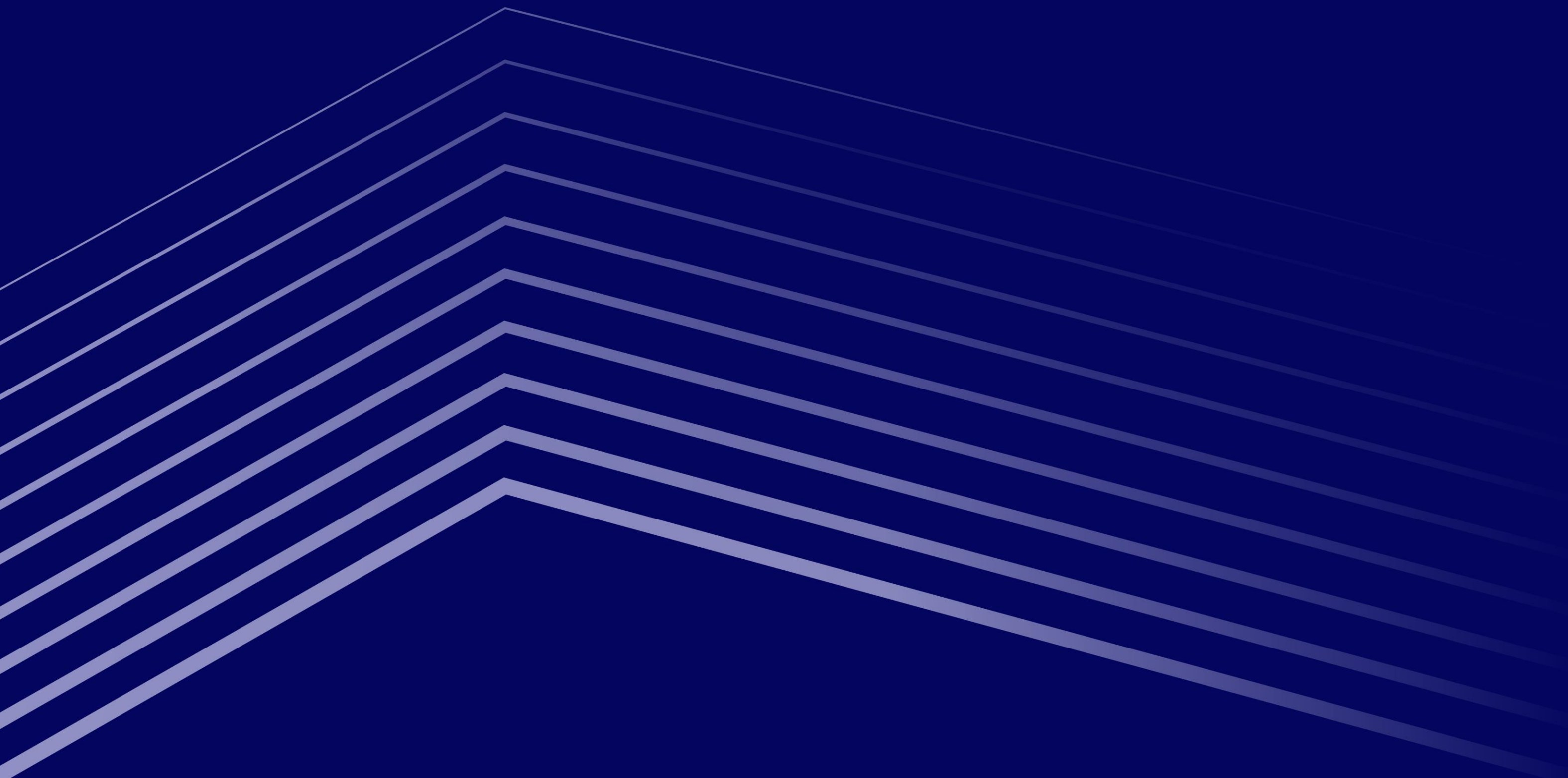
- Continuation of initiated development projects
- Development of common bases (technological and technical) for key growth initiatives through investments in R&D and universal infrastructure
- Selection of the most promising and prospective growth initiatives for and from 2026 based, inter alia, on the effects of R&D projects and analysis of the market situation
- Preparation of the investment plan necessary for the above-mentioned initiatives implementation

PORTFOLIO OF GROWTH INITIATIVES - ASSUMED DEVELOPMENT PATHS

- A range of business opportunities to meet growth ambitions by 2026
- New business directions based on new technologies (infrared sources, optoelectronic systems and integrated circuits): Phase I and Phase II



Q&A SESSION



THANK YOU FOR YOUR ATTENTION

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