

FINANCIAL RESULTS FOR Q3 2022

November 8, 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

Headquarter in Poland

and branch office 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 350 million capitalisation

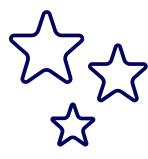
Support for stable long-term shareholders



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



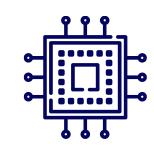
Ambitious development strategy to maintain a 20-30% annual growth rate



Minor competition on a global scale – currently only 3 companies in the world as direct competition for VIGO



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



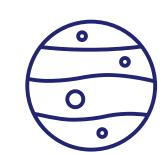
Unique technology and innovative, high-end solutions, tailored to customer needs



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



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



6 detectors successfully used in Mars missions



AGENDA

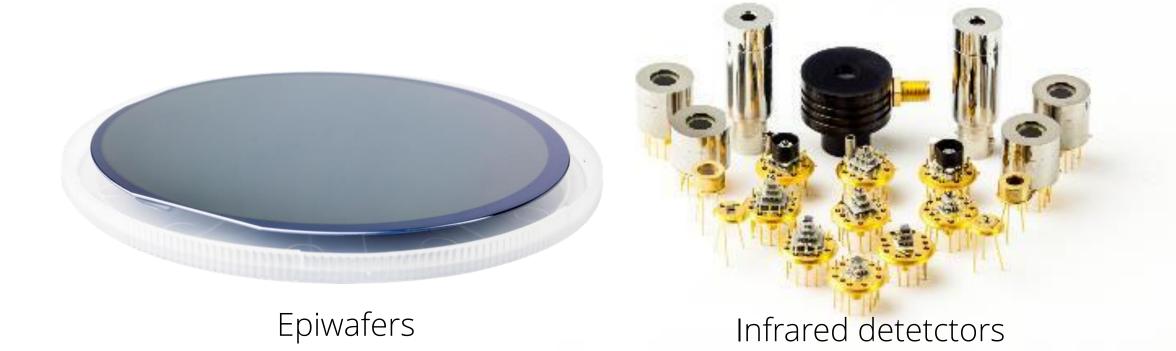
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- 4. PERSPECTIVES

EXECUTIVE SUMMARY



Q3 2022 SUMMARY

- Stable revenues in Q3 2022 y/y despite the volatile market environment, thanks to the constantly growing mid-infrared market and demand for VIGO solutions, as well as greater sales activity on the American and Asian markets
- Lower y/y operating results related to an intensive development of the sales network in the USA and preparation of further development projects of the Company, and higher salaries
- Record inflow of new sales orders of PLN 67 million an increase of 20% y/y at the end of October 2022
- New funding for the implementation of research and development projects in the amount of PLN 9 million
- Continuation of the development of new technologies and the commercialization process of the existing and new solutions in accordance with the initiatives adopted in the development strategy
- A series of marketing activities aimed at supporting the commercialization of solutions and increasing the recognition of the VIGO brand, especially on the American market
- Installation and commissioning of a new epitaxial reactor
- Transformation of the VIGO WE Innovation investment incubator into VIGO Ventures ASI investments in innovative projects







SUMMARY OF Q3 2022

MCT+ DETECTOR INITIATIVE



TECHNOLOGY DEVELOPMENT

Objective of the initiative

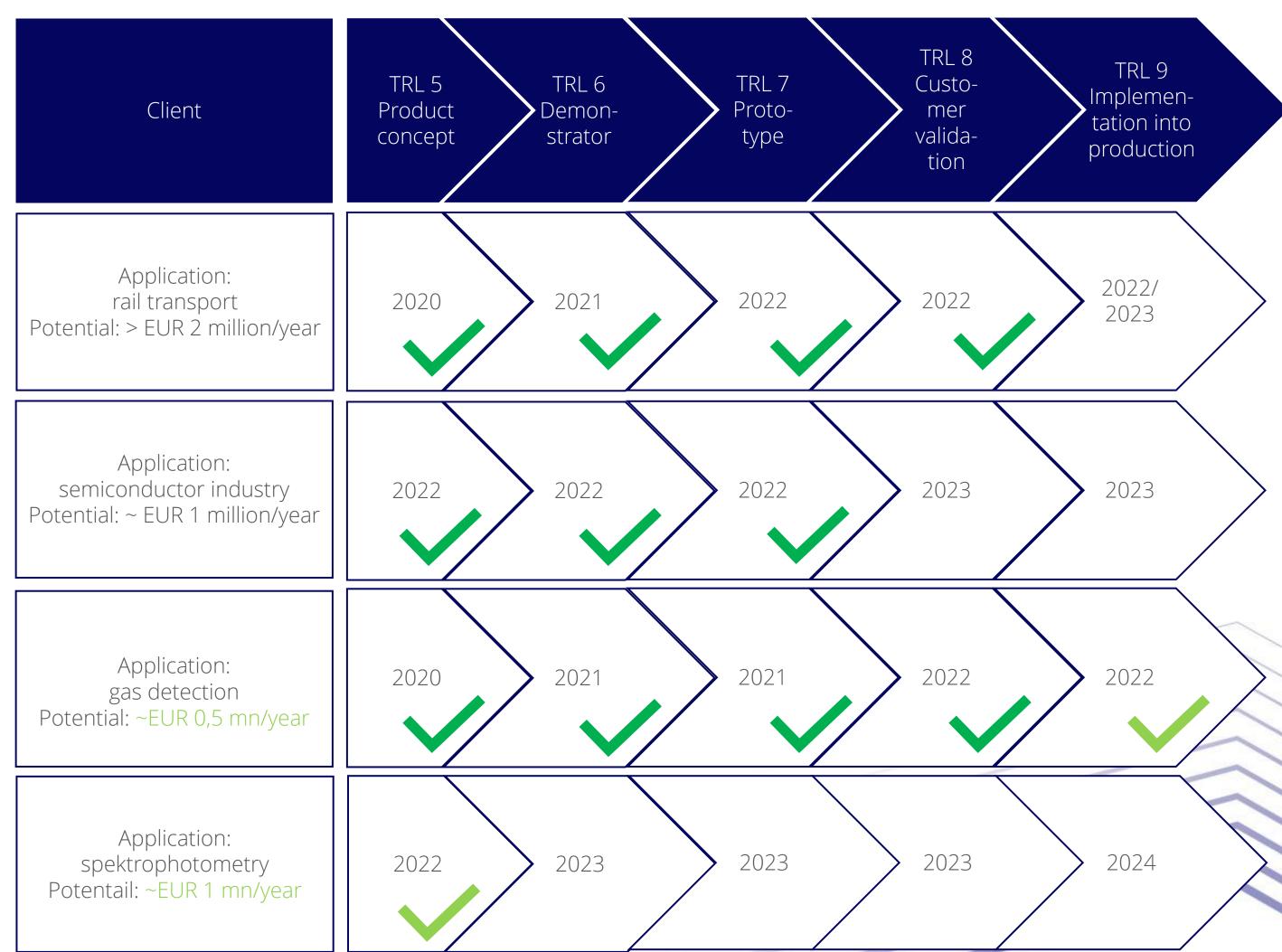
- Exploitation of the market in its gradual fading phase by improving the customisation process and exploring uncovered market niches.
- Stabilisation of multi-element detector technology, implementation of digital solutions, development of products for military and space applications.

Achievements in Q3 2022

- Successful quality verification by one of the largest spectrophotometers manufacturer sales volume potential for >1000 detectors/year (>1 million EUR).
- Successful verification of new products with improved processes by two key current MCT detectors customers

Plans for Q4 and 2023

- Improvement of technological processes for current product portfolio
- Beginning of the new project on LN2 cooled MCT detector for spectrophotometry application



III-V Inassb detectors and detection modules initiative



TECHNOLOGY DEVELOPMENT

Objective of the initiative

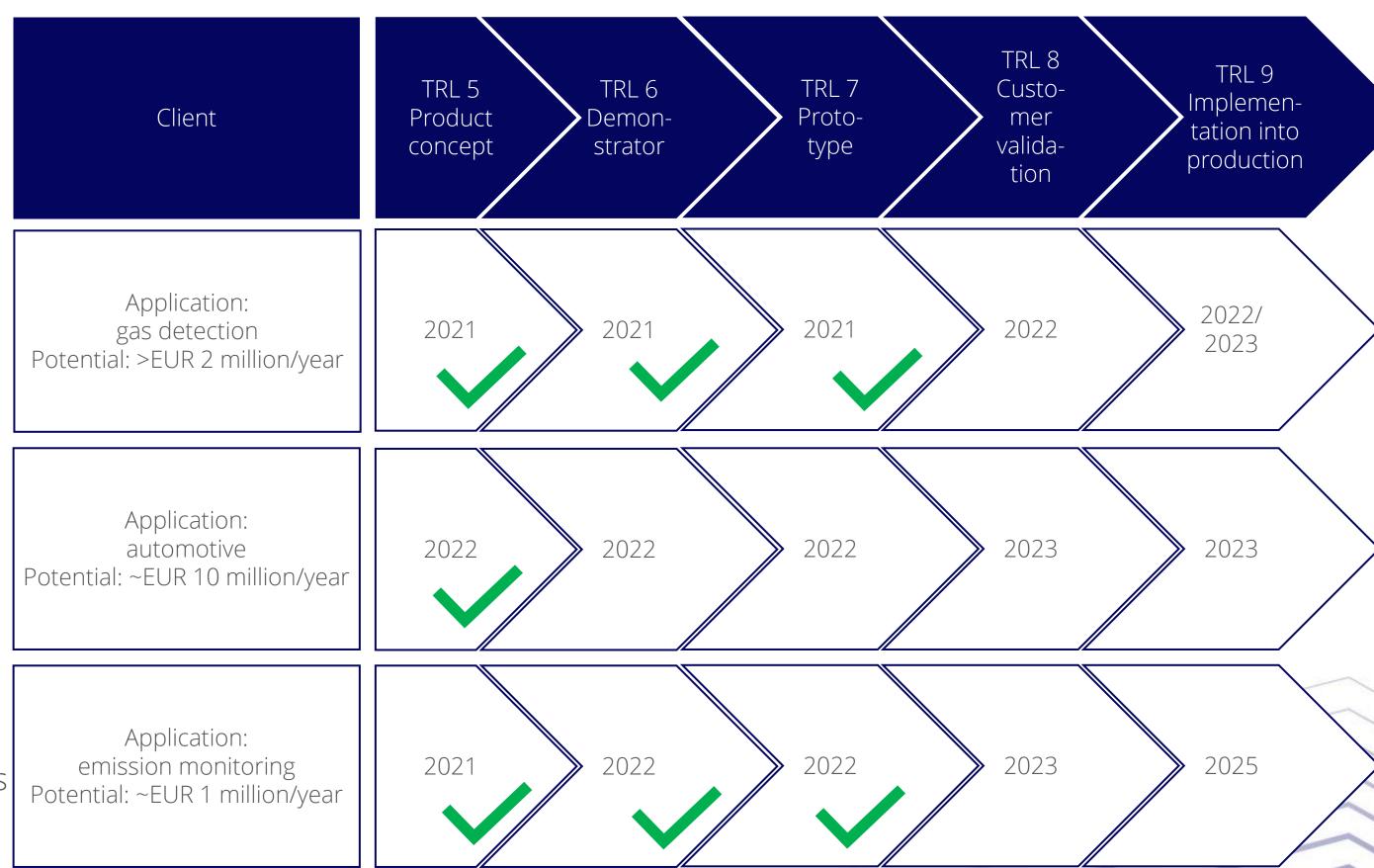
• Gaining the No. 1 position in the market for manufacturers of III-V detectors in the MidIR range. Implement T2SL supergrid technology (matching MCT performance), achieving technical performance superior to competitors across the MidIR range.

Achievements in Q3 2022

- Preparation for large scale production of Affordable Modules. Stabilisation of supply chain. First batches already produced and verified.
- Positive verification of LWIR cascade detectors technology.
- Flat optics technology development.
- Positive verification of the antifringing solution by one of the customers using laser sources for gas analysis.

Plans for Q4 and 2023

- Development of LWIR superlattice uncooled detectors.
- Optimisation of production leadtimes and costs of Affordable modules
- Launching of new InAs detectors



III-V InGaAs DETECTORS AND DETECTION MODULES INITIATIVE



TECHNOLOGY DEVELOPMENT

Objective of the initiative

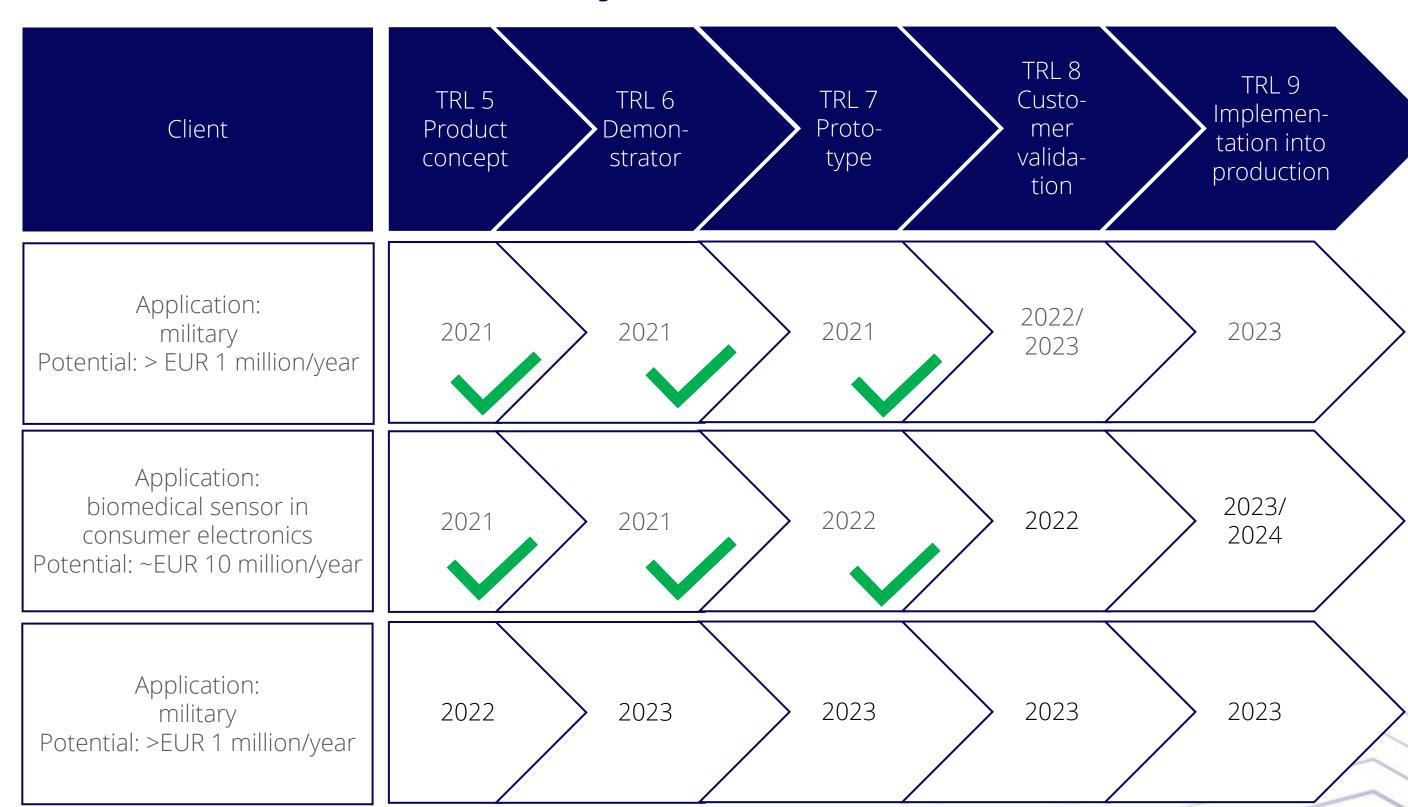
• Entering the market for III-V InGaAs detectors

Achievements in Q3 2022

- Prototypes of elnGaAs detectors under customers validation
- Successful first phase of tests of InGaAs 1.7 detectors for military customer.
- Development of new, ultrafast, balanced detection module (>1.5GHz)
- A number of new military, industrial and biomedics opportunities

Plans for Q4 and 2023

- Validation of elnGaAs and 1.7um detectors
- First commercial orders for elnGaAs and 1.7um



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



TECHNOLOGY DEVELOPMENT

Objective of the initiative

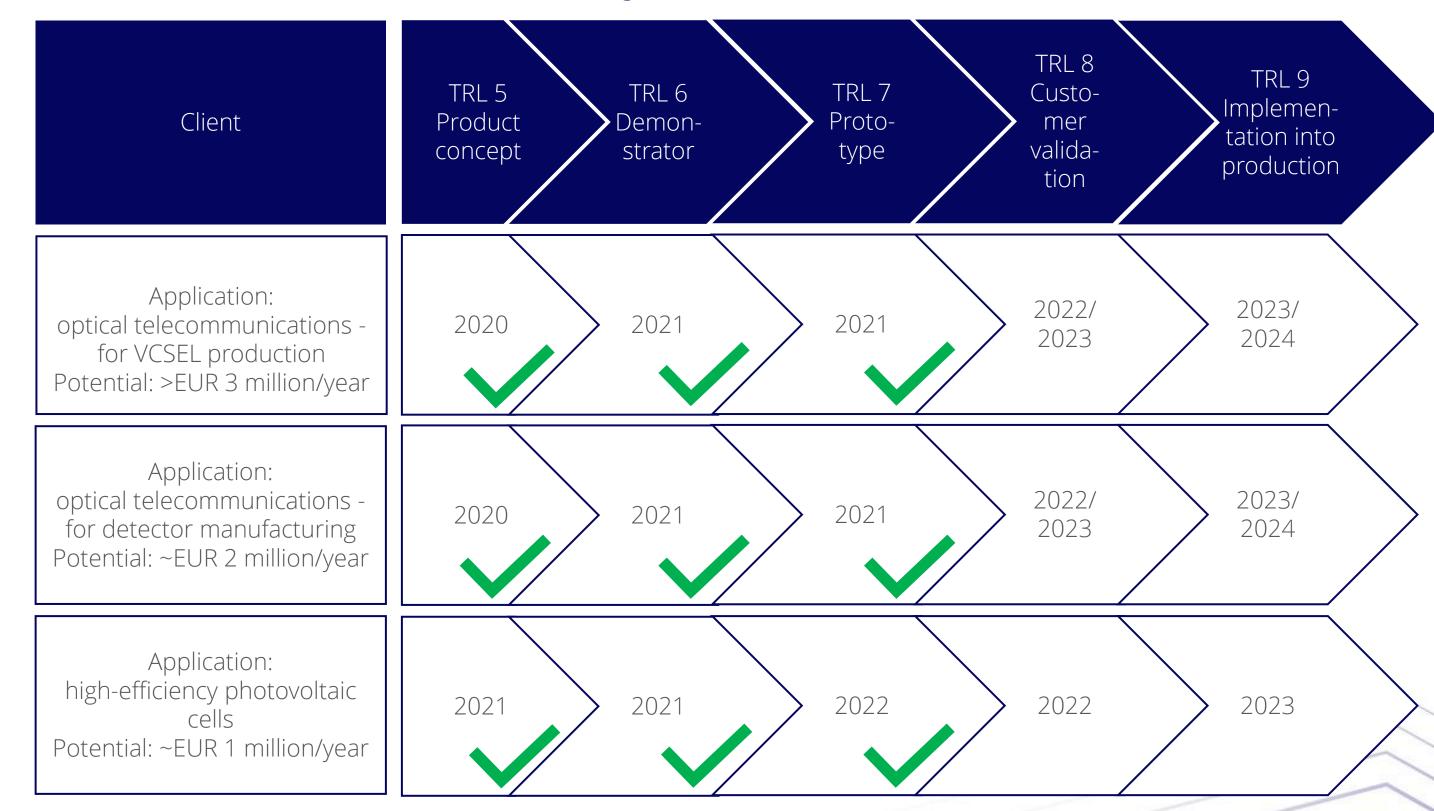
• Gain visibility in the market for epitaxy services, exploring market niches for photonic instruments (new VCSELs, unusual solutions). Refining the technology for the production and characterisation of VCSELs.

Achievements in Q3 2022

- Quantum Cascade Lasers (QCLs) successful validation by one of customers, streightening the position of high quality laser epistructures. Significant revenues planned next year.
- Optical Power Wireless Transmission (OPWTs) another phase of validation passed.
- Laser diods (LDs) positive quality tests of 1200-1300nm laser chips.

Plans for Q3 and Q4 2022

- Introduction of QCL epiwafer production
- Finalisation of the OPWT technology development



OPTOELECTRONIC SYSTEMS AND PHOTONIC INTEGRATED CIRCUITS (PIC) INITIATIVES

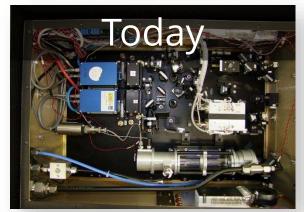


TECHNOLOGY DEVELOPMENT

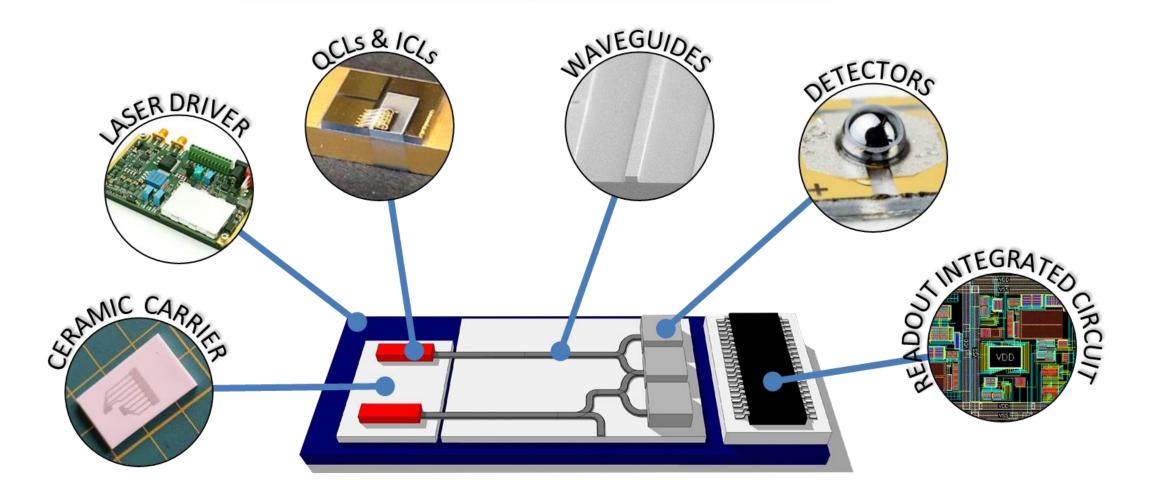
Objective of the initiative

- 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

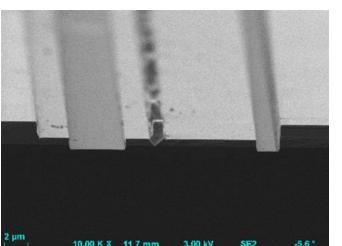




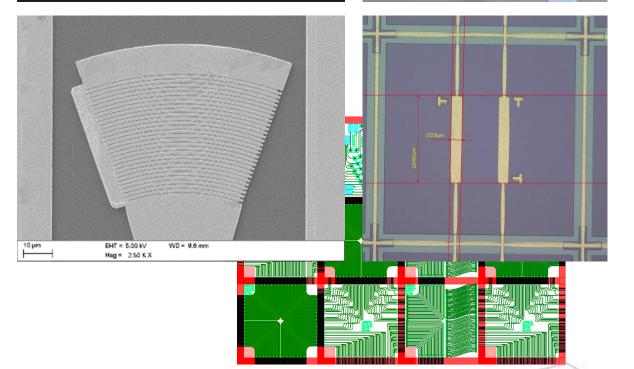


Achievements in Q3 2022

- Finalisation of Ge-on-Si/2 µm technological processes
- Development of mesh coupler structure (vertical integration of lasers and detectors)
- Characterisation of Large Optical Cavity (LOC)
 5,2um lasers
- Development of BackSide Alignment detectors masks and metalisation tests
- New QCL pulse driver for IMIF lasers
- Ultrasound assembly techniques tests.

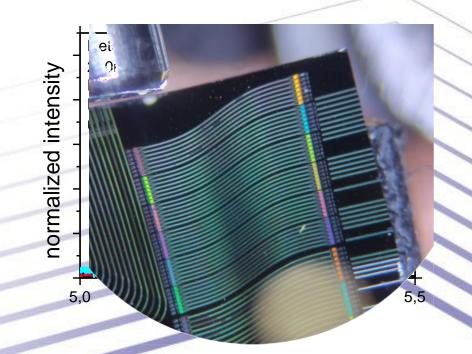






Plans for Q4 2022

- Characterisation of Ge-on-Si/2 µm structures
- Development of SOI/2 µm processes
- Optimisation of passive PIC circuit separation
- Development of QCL and PIC coupler



INFRARED ARRAY INITIATIVE



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.

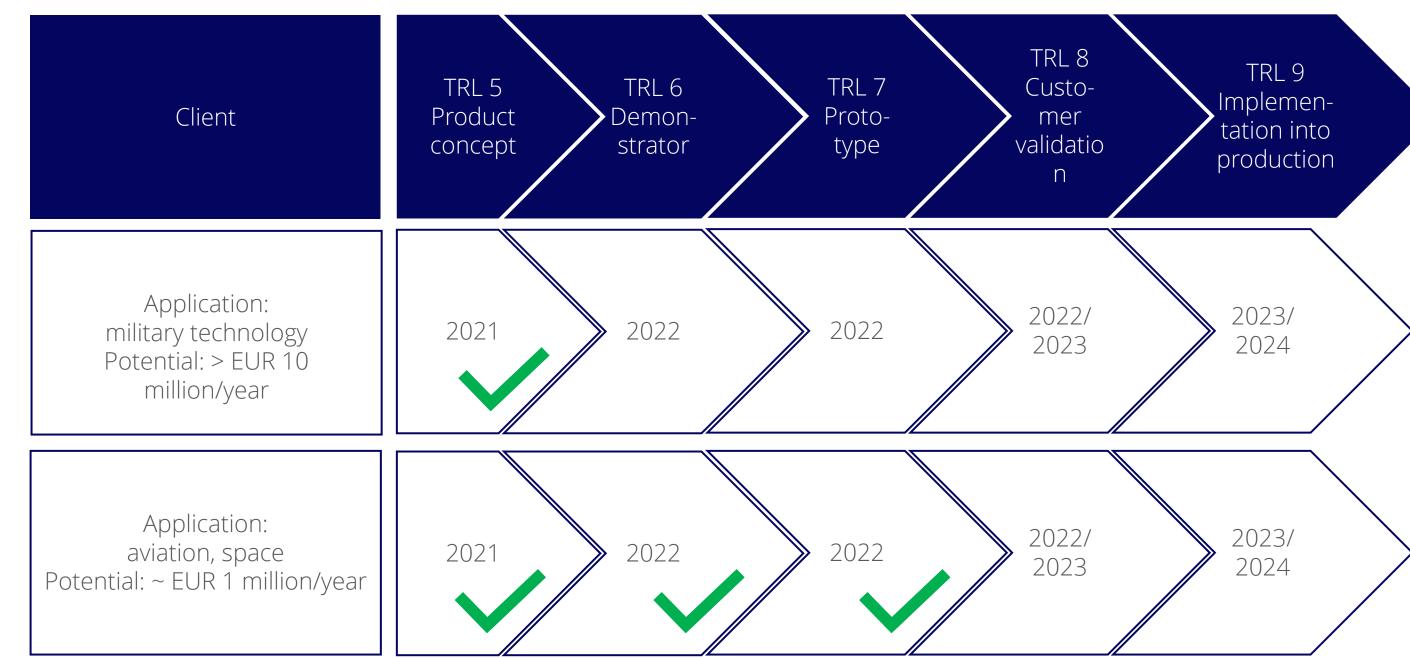
Achievements in Q3 2022

- Optimisation of production processes for small pitch sensors.
- Prototype of commercial InGaAs array, demonstrator of cooled FPA

Plans for Q4 i 2023

Tests of a new T2SL FPA





SUPPORT FOR THE COMMERCIALISATION OF SOLUTIONS THROUGH MARKETINGNIGO ACTIVITIES IN Q3 2022

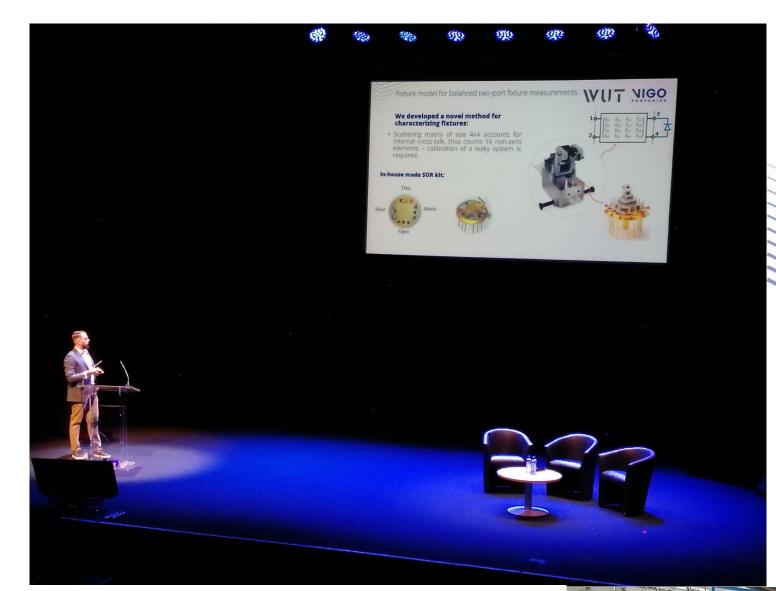
ENHANCED ACTIVITY AT INTERNATIONAL SCIENTIFIC CONFERENCES AND INDUSTRY FAIRS:

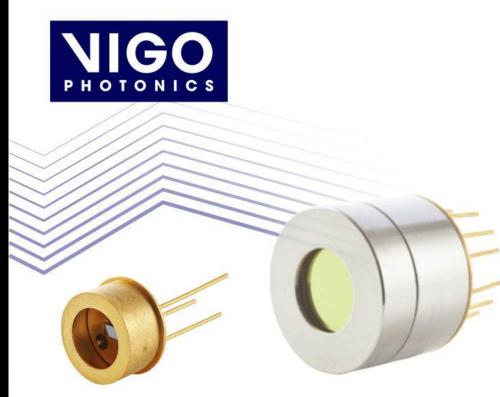
- Mirsens Mid-infrared conference MCT and III-V detectors
- Quantum Structure IR Photodetectors (QSIP) Conference scientific conference co-organized by NASA III-V detectors
- International QCL Laser School & Workshop (IQCLSW) conference on QCL lasers mid-infrared sources
- FLAIR conference on spectroscopy MCT and III-V detectors
- E-MRS conference on epitaxial layers epitaxy
- Międzynarodowy Salon Przemysłu Obronnego –fair devoted to military applications array

Participation in conferences strengthen the VIGO brand in the industry and provides the opportunity to promote technologies developed as part of strategic initiatives

SUPPORT FOR PRODUCT COMMERCIALIZATION

- Implementation of the campaign supporting the commercialization of multi-element detectors (32E) and the multi-band module
- Continuation of the campaign promoting InAs / InAsSb superlattice detectors





Check out:

InAs/InAsSb T2SL Photoconductive and Photovoltaic Detectors





Features:

- Integrated TEC controller
- Easy assembly
- Compatible with optical accessories
- Other filters available upon request



STRENGTHENING SALES IN THE AMERICAN MARKET

ENHANCED ACTIVITY IN THE USA

The opening of the branch in 2022 and the commencement of direct sales to customers as well as a number of activities supporting the expansion to the American market, incl.:

- Joining two American photonic clusters Society of Applied Spectroscopy and Florida Photonics Cluster
- Establishing cooperation with the largest wholesaler of electronic equipment Digi-Key Electronics
- Conducting a product webinar dedicated to the American market.
- Creation of the VIGO Photonics brand and increased cooperation with the Photonics Media and Laser Focus World trade media
- Active participation in the SPIE Optics and Photonics fair.
- Launch of a Google Ads and Linked In Ads campaign targeted at the US market





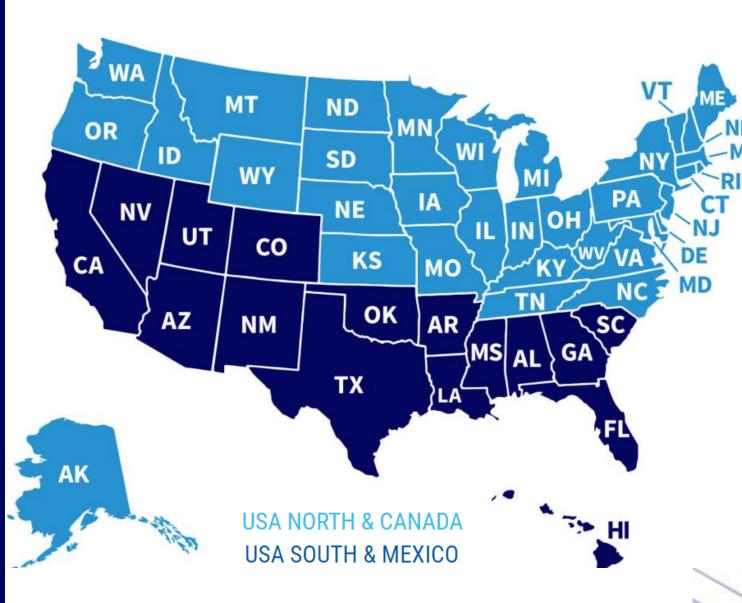






BUSINESS ASSUMPTIONS OF THE EXPANSION TO THE USA

Accelerating the development of VIGO in the US market and deeper exploration of the US public procurement market



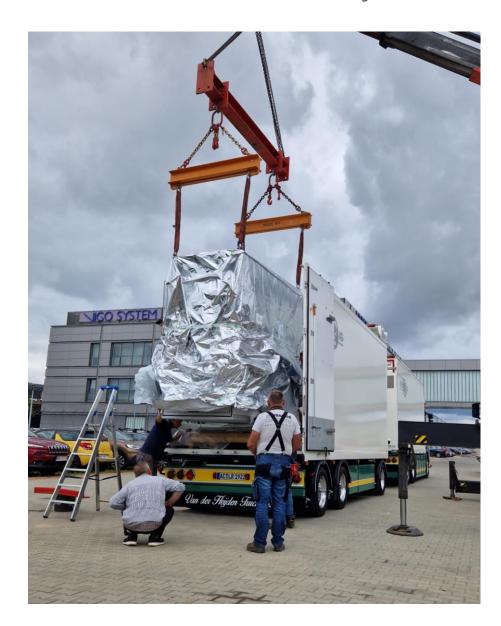
In H2 2021 - establishment of the VIGO Photonics US company: employment of a CEO, team building, recruitment and implementation of the sales, distribution and marketing strategy

THE NEW REACTOR WILL ENABLE DOUBLING OF PRODUCTION CAPACITY



TEST LAUNCH OF THE NEW EPITAXIAL REACTOR

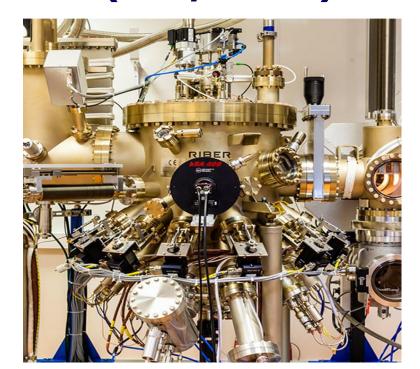
- Another epitaxial reactor for the production of III-V semiconductor materials ordered and delivered
- Supply agreement with a reliable company AIXTRON:
 - November 2021,
 - order delivery: September 2022,
 - system start-up: early 2023.
- CAPEX: EUR 3.6 million, EUR 5.4 million in total with investments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





VIGO 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

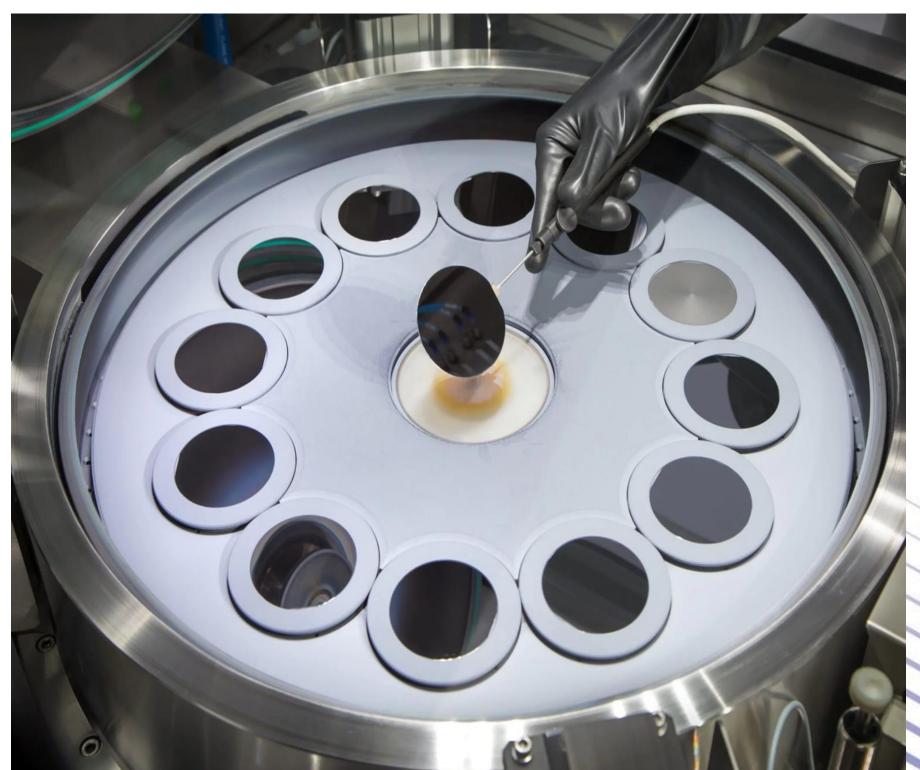
MBE (InAs, InAsSb)



MOCVD (HgCdTe/ MCT)



MOCVD (III-V)



NEW PROJECTS CO-FINANCED WITH THE EU



VIGO HAS BEEN ELIGIBLE FOR FINANCING UNDER THE EUROPEAN RESEARCH AND DEVELOPMENT PROJECT SUPPORT PROGRAMS

NEW CO-FINANCING FOR R&D PROJECTS

- PLN 9 mln the amount of new funding from Horizon Europe and the European Defense Fund
- Support for the implementation of projects under the strategic initiatives of VIGO
- Around 53 mln PLN the total amount of co-financing of currently implemented projects at various stages of development





	Project title	Initiative	Application	Planned duration of the project	Program	Amount of funding
	IBAIA - Innovative environmental multisensing for waterbody quality monitoring and remediation assessment	Epitaxy III-V	water quality control	12.2022- 12.2026	Horizon Europe	PLN 1,6 mn
ס י	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	Horizon Europe	PLN 2,1 mn
	Mini-BOT Miniaturized Board- mountable Optical Transceiver for high data rate Military Satellite Communications	VCSEL	military and space	01.2023- 01.2026	European Defense Fund	PLN 2,9 mn
	OPMMEG - Optically-pumped magnetometer arrays for magnetoencephalography	VCSEL	diagnostic examinations	12.2022- 01.2026	Horizon EIC	PLN 2,4 mn

INVESTMENTS IN INNOVATIVE PROJECTS - VIGO VENTURES ASI FUND





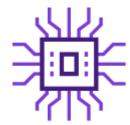












VIGO VENTURES ASI - formerly VIGO WE INNOVATION (VWI), VIGO VENTURES

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 Q3 2022

CONSTANTLY GROWING ORDER BOOK



VISIBLE CONTINUOUS DEVELOPMENT OF THE PHOTONICS AND MID INFRARED MARKETS AND THE GROWING DEMAND FOR VIGO PRODUCTS RECOGNIZED IN A CONSTANT GROWTH OF THE ORDER BOOK

ORDER BOOK

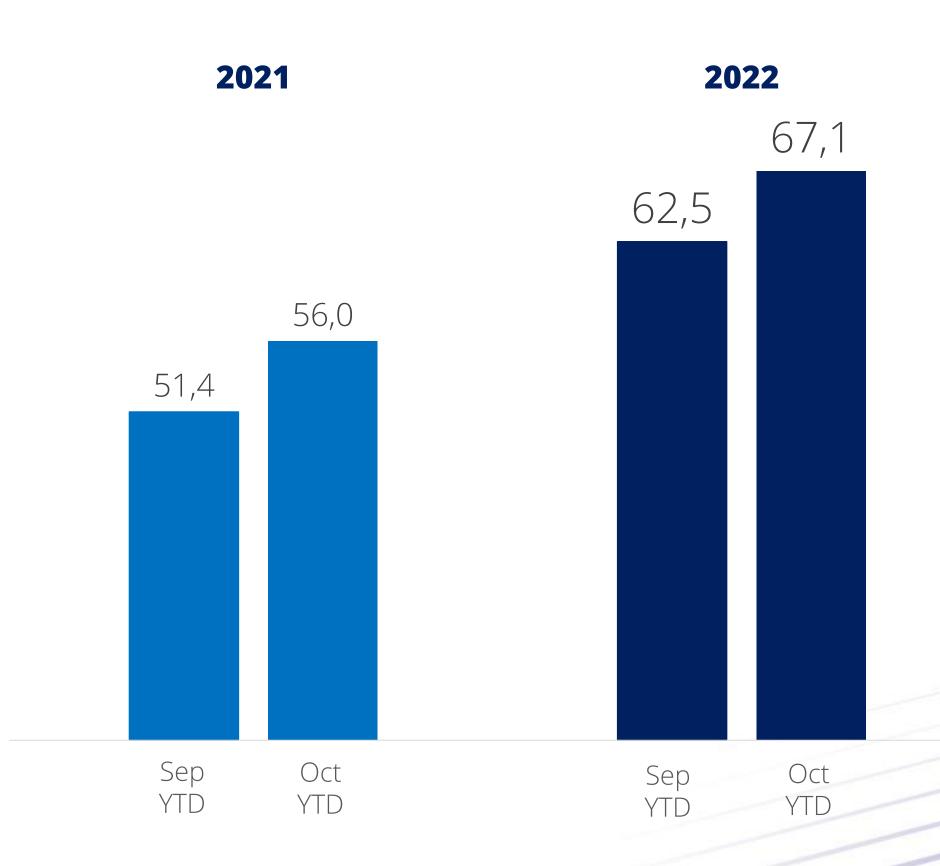
67,1 mln PLN

YTD order book value at the end of October:

+20% - increase in orders inflow y/y

Consistently high demand for VIGO Photonics products proving the further dynamic development of the photonics market and its good prospects.

The highest value recorded in industrial, transport and scientific applications



SALES REVENUES



SALES REVENUES IN Q3 2022

- Stable revenues in Q3 2022 y/y (+1%) of PLN 16.8 million despite the volatile market environment constantly growing demand for VIGO solutions and greater sales activity of the company on the American and Asian markets
- Sales of detectors and detection modules in Q3 of PLN 16 million (+0.4% y/y) and semiconductor materials PLN 0.8 million (+41% y/y)
- The biggest increases in applications in Q3:

• Industry: PLN 10.6 million (+40% y/y) • Science and medicine: PLN 2.2 million (+104% r/r) PLN 1.7 million (+7% r/r) • Transport:

- Lower increases than originally assumed revenues from industry and transport as a result of lower availability of some components (approx. 10-20% of total production)...
- PLN 1.3 million in military application decrease by 77% y / y resulting from from previously assumed smaller orders from the main customer in this segment
- Geographically, in Q3 2022, almost **2-fold** y/y increase in the **Asian** and North American markets by 78% y/y; decline in Europe and Poland

SALES REVENUES PER YEAR (PLN THOUSAND)





SALES REVENUES BY REGION IN Q3 2022 IN Q3 2022 13,1% Science and medicine 2,1% 7,9% 1,4% 21,6% Europe Other 9,8% North Industry Transport Asia Military Poland Semiconductor materials 62,9%

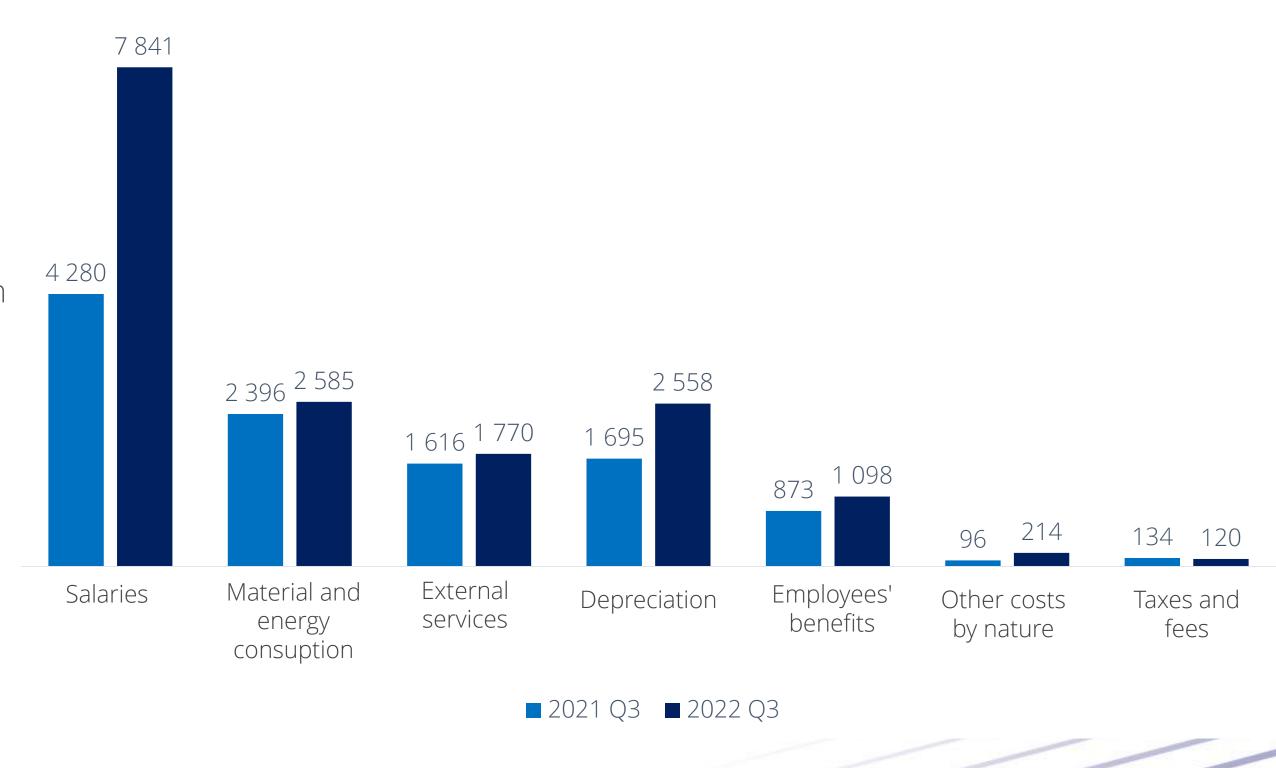
OPERATING COSTS



OPERATING COSTS IN Q3 2022

- Core operating expenses in Q3 2022 amounted to PLN 16.2 million and increased by 46% y/y
- The following factors had the greatest impact on the increase in costs:
 - Increase in employment and salaries of employees, including in subsidiaries (VIGO Photonics USA)
 - Higher level of depreciation resulting from completed investments
 - Higher costs of external services, caused by the intensive development of the VIGO sales network and greater sales and marketing activity, especially on the American and Asian market, as well as the preparation of new development projects of the Company,
 - Increase in material and energy costs
- Lower OPEX by 14% q/q

OPERATING COSTS IN Q2 2022 (PLN THOUSAND)



FINANCIAL PERFORMANCE

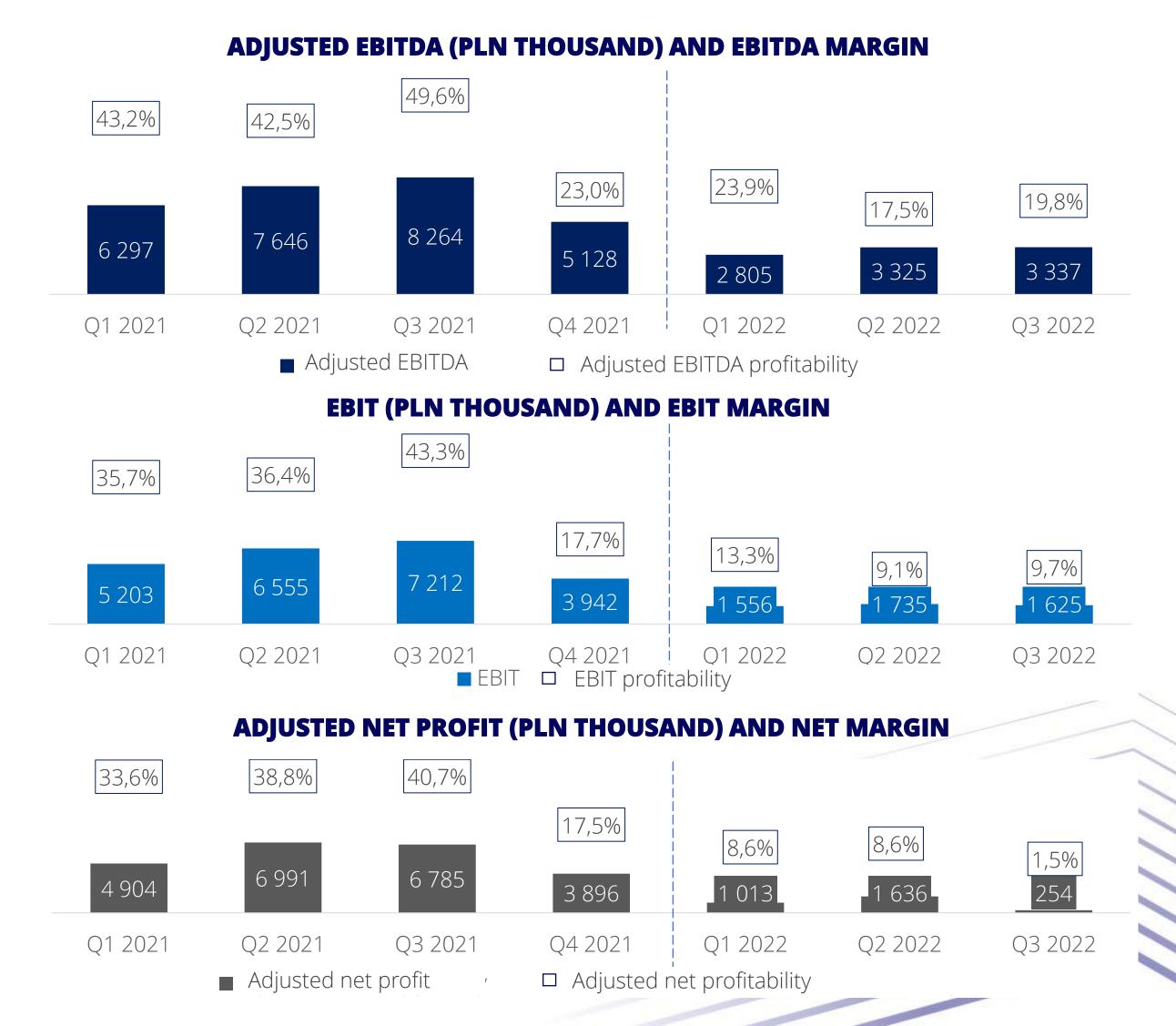


FINANCIAL PERFORMANCE IN Q3 2022

- Adjusted EBITDA: PLN 3.3 million (-60% y/y).
- EBIT: PLN 1.6 million (-77% y/y), mainly due to higher sales costs
- Adjusted net profit (excluding deferred tax): PLN 0.2 million (-96% y/y).
- The following items had a significant impact on the net result in Q3::
 - recognition of a deferred tax asset in the amount of PLN 2.8 million
 - recognition of incubator operating costs using the equity method of PLN
 0.2 million
 - exchange rate differences resulting from the valuation of foreign currency loans in the amount of PLN 1.3 million

FINANCIAL PERFORMANCE IN Q1-Q3 2022

- EBITDA: PLN 9.5 million
- EBIT: PLN 4.9 million
- Adjusted net profit: PLN 2,9 million PLN



CASH FLOW



CASH FLOWS IN Q1-Q3 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 15.6 million) and higher capital expenditure (PLN 41.9 million)
- Cash flows from financial activities: received PLN 27.0 million and repaid PLN 9.7 million of principal installments and PLN 1.2 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 - 30.09.2022	01.01.2021 - 30.09.2021
Total adjustments:	3 094	2 061
Amortisation and/or depreciation	6 656	5 040
Change in provisions	19	-260
Change in inventories	-7 043	175
Change in receivables	5 400	-657
Change in liabilities, excluding loans and borrowings	396	935
Other	-2 334	-3 172
A. Net cash flows from operating activities	6 007	20 740
Inflows	15 645	14 029
Funding received	15 338	14 027
Proceeds from the sale of fixed assets	232	2
Proceeds from the sale of shares	75	0
Outflows	-41 856	-33 438
Purchase of intangible assets and tangible fixed assets	-23 358	-12 293
Expenditure on acquisition of shares	-2 136	-1 726
Expenditure on investment funds	0	-5 639
Outlays on development work in progress	-16 397	-13 458
Loans granted	35	-322
B. Net cash flows from investment activities	-26 211	-19 410
Inflows	26 957	5 136
Credits and loans	26 957	5 136
Outflows	-10 889	-6 716
Repayment of credits and loans	-9 699	-6 486
Interest and commissions	-1 010	-230
C. Cash flows from financial activities	-180	0
D. Total net cash flows	16 069	-1 580
G. Cash at the end of period	-4 135	-250

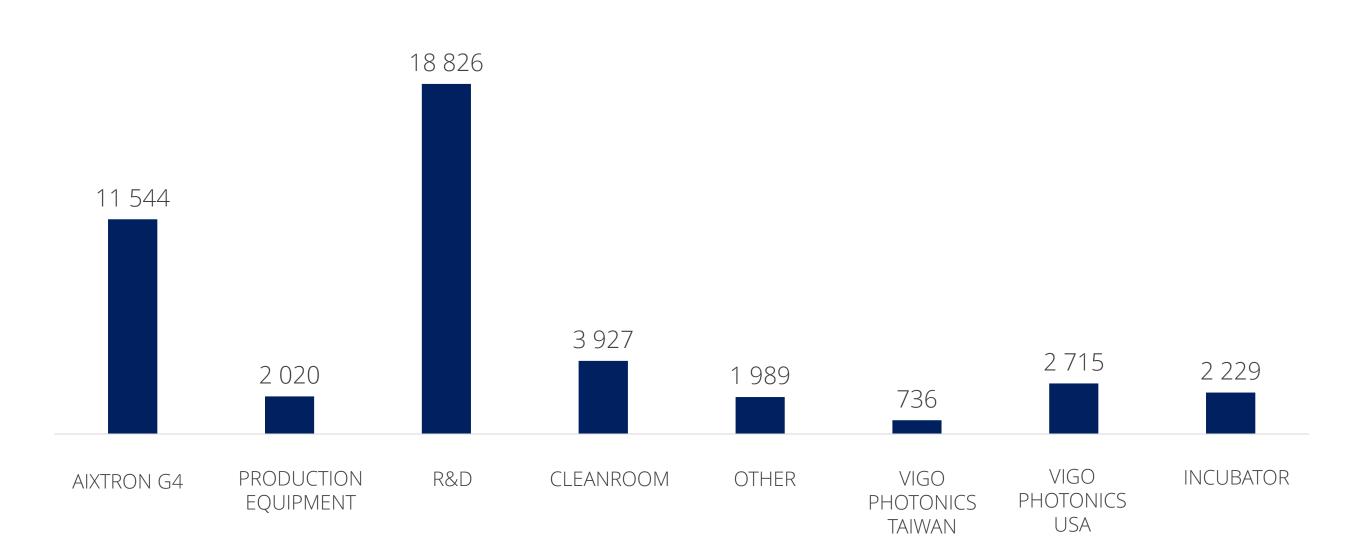
CAPITAL EXPENDITURE



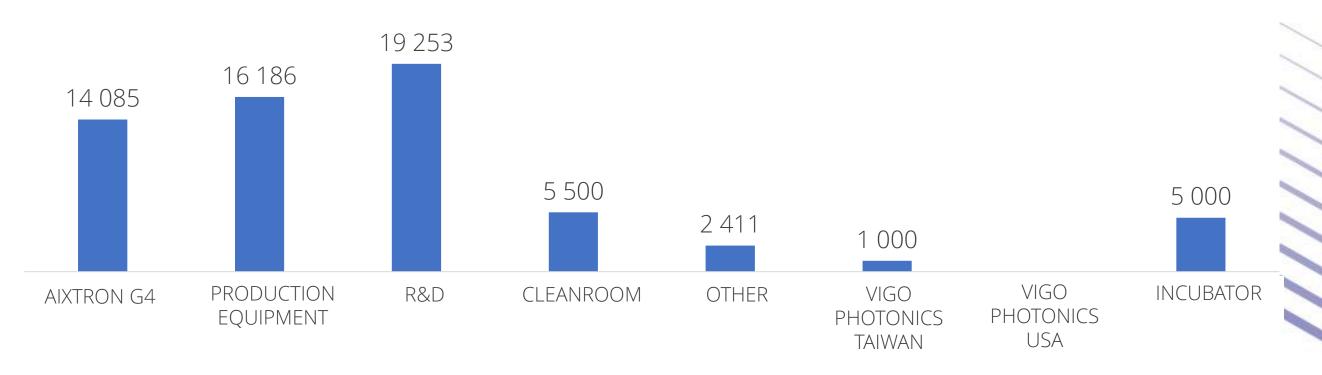
CAPEX IN Q1-Q3 2022

- CAPEX in H1 2022 amounted to PLN 24.8m (accrual), of which the most significant expenditure related to:
 - R&D expenditure: PLN 18.8m,
 - implementation of a new MOCVD: PLN 11.5m,
 - cleanroom construction: PLN 3.9m,
 - VIGO Photonics USA development: PLN 2,7 mln,
 - Incubator VIGO Ventures: PLN 2.2m,
 - other expenditure (PLN 4.7 m), incl. refurbishment of existing production facilities
- The plan for 2022 assumes PLN 63.4 million of investments, incl.:
 - Completion of cleanroom redevelopment: PLN 5.5m
 - 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: 5,0 million PLN

CAPITAL EXPENDITURES INCURRED IN Q1-Q3 2022 (PLN THOUSAND)



CAPITAL EXPENDITURES PLANNED FOR 2022 (PLN THOUSAND)







SHORT-TERM OUTLOOK

SHORT-TERM OUTLOOK

Plan for 2022

Realization of revenues at a similar level to 2021 as a result of a globally disrupted supply chain and lower availability of components for modules (for approx. 10-20% of total production, the production of detectors without electronics and semiconductor materials runs smoothly)

Negative trends

- Lower supply of electronic components for some modules
- Higher y/y costs of the basic department operating costs, rising prices of components and materials, rising electricity costs, inflation

Positive trends

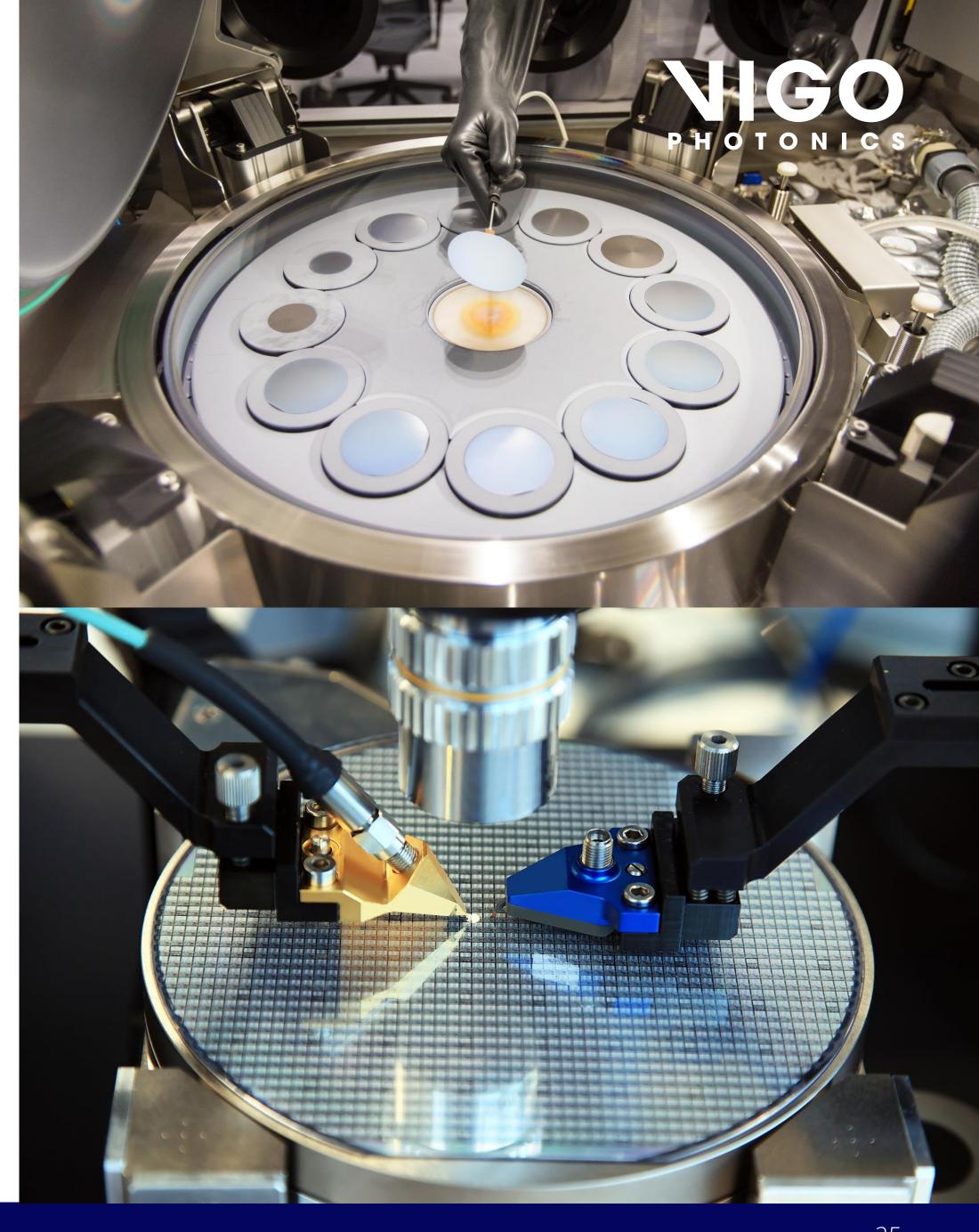
The constantly growing market for photonics and semiconductors visible in the constantly growing order backlog: + 20% y/y to PLN 67 million at the end of October 2022, especially in the industrial, transport and scientific segments

VIGO's response

- Active pricing policy and the use of a strong negotiating position estimated increase of VIGO's price lists by approx. 20-30% y / y visible in the results from 2023
- Optimizing energy use, reducing costs and postponing some non-key investments
- Installation of a new reactor in progress to scale up semiconductor material production from 2023

Plan for 2023

VIGO maintains its goal of achieving PLN 100 million in sales revenues





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 - DEVELOPMENT STRATEGY ENABLING VIGO GROWTH 20-30% YEARLY

MARKET

- ✓ The photonic market, including the market of infrared sources, is developing dynamically, also thanks to market megatrends: miniaturization and integration of photonic devices, increased demand for sensors, environmental protection, shortage of semiconductors in the EU
- ✓ New industries that are growing in importance: Internet of Things, consumer electronics, wearable-lab-on-chip, environmental protection, automotive, defense and security

COMPANY

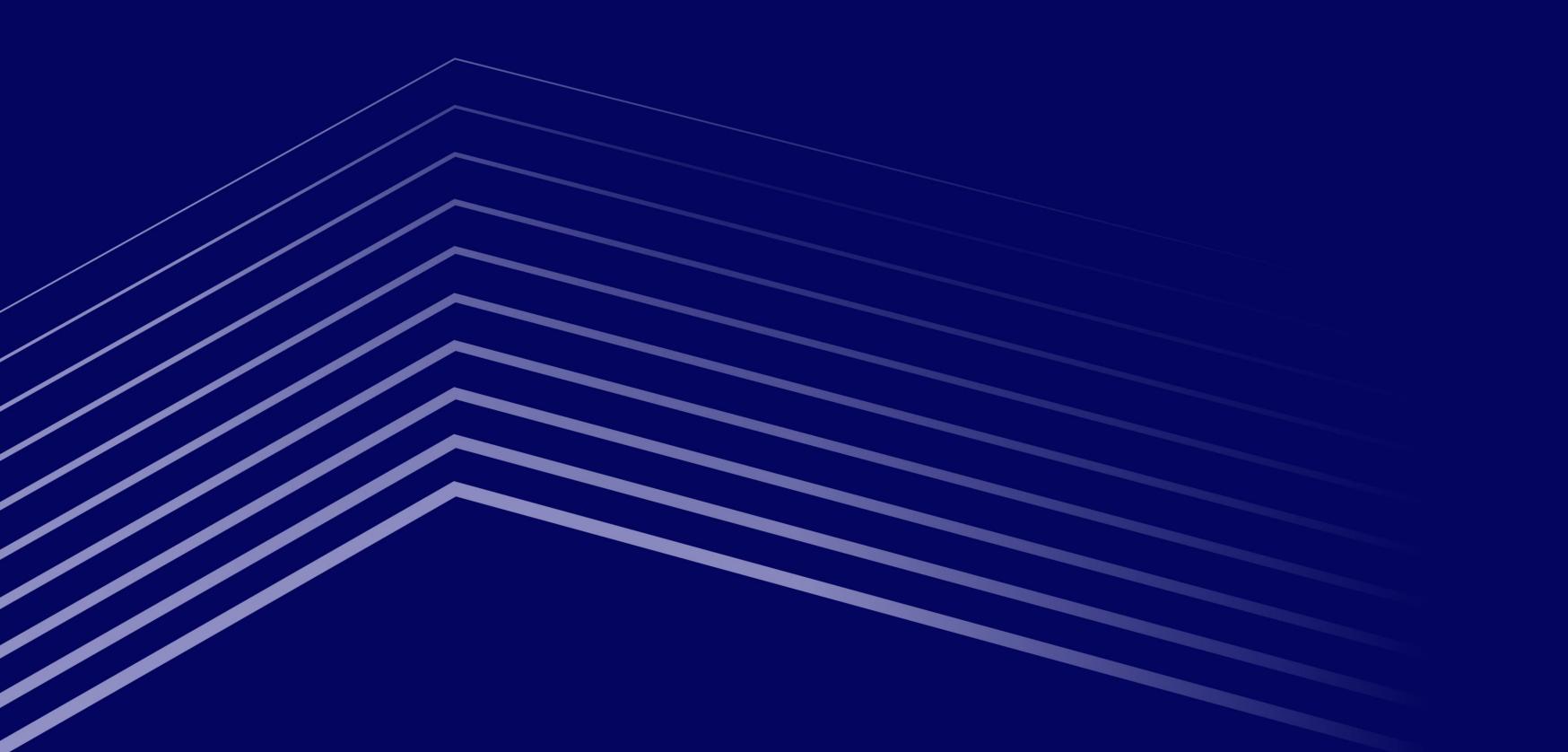
- ✓ Strong market position and brand recognition thanks to over 30 years of presence on the market
- ✓ Limited market competition only 3 direct competitors from the USA and Japan
- ✓ Own, unique, difficult to copy technology
- ✓ Flexibility and independence thanks to the own production line

STRATEGY

- ✓ An ambitious development strategy that allows VIGO to grow at a rate of 20-30% annually
- ✓ Active development of sales and acquiring new customers
- ✓ Adequate level of investment in R&D and infrastructure to stay ahead of the market
- ✓ Investments in innovative projects through the VIGO Ventures ASI fund



Q&A





THANK YOU FOR YOUR ATTENTION

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