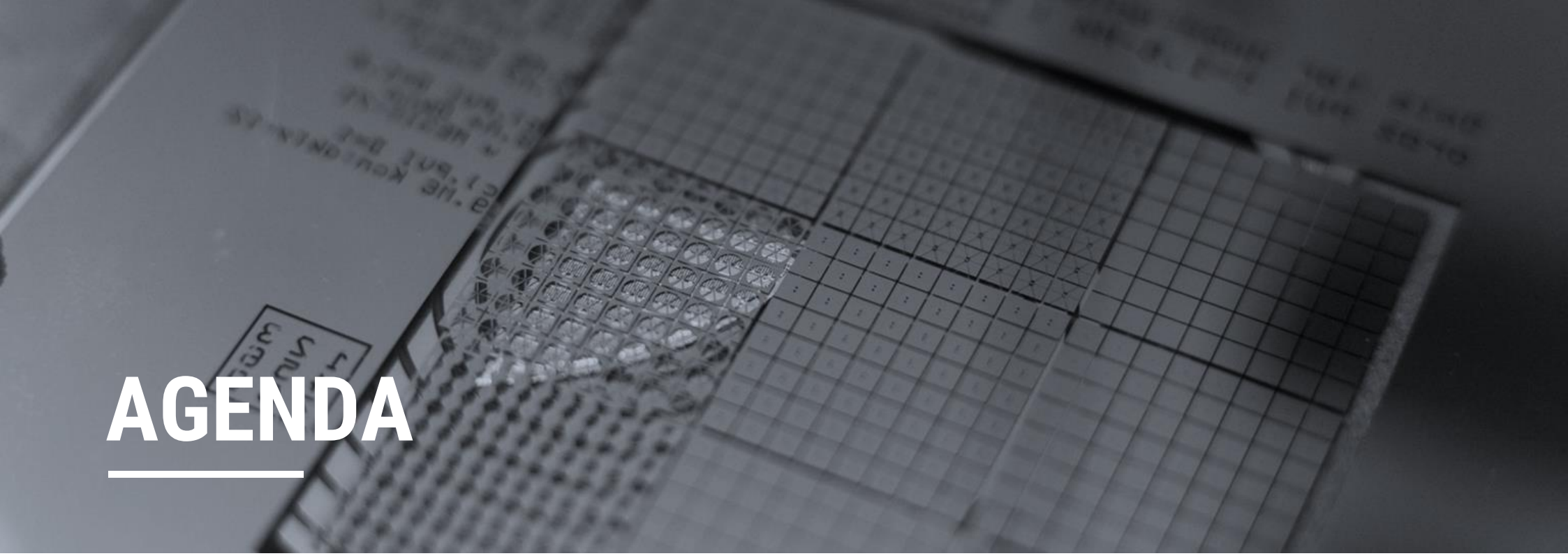
VIGO SYSTEM

2019 RESULTS

March 2020



AGENDA

1. About us
2. VIGO 2020+ Strategy
3. Operating and financial results

    Appendix 1 – selected financial data

    Appendix 2 – main applications of detectors

ABOUT US

// Key competitive advantages

VIGO System S.A. is a global leader in the manufacture of uncooled infrared detectors.

Having developed globally unique technology, VIGO System offers products of the highest parameters.

Our competitive advantage is based on:

- Over **30 years** of experience in detector manufacturing,
- The best quality to price ratio,
- Ability to meet the highest quality requirements (NASA, military),
- Ability to provide highly customized solutions,
- **140 employees** (1 professor, 14 PhDs and >50 engineers),
- **6500 m²** of production area.

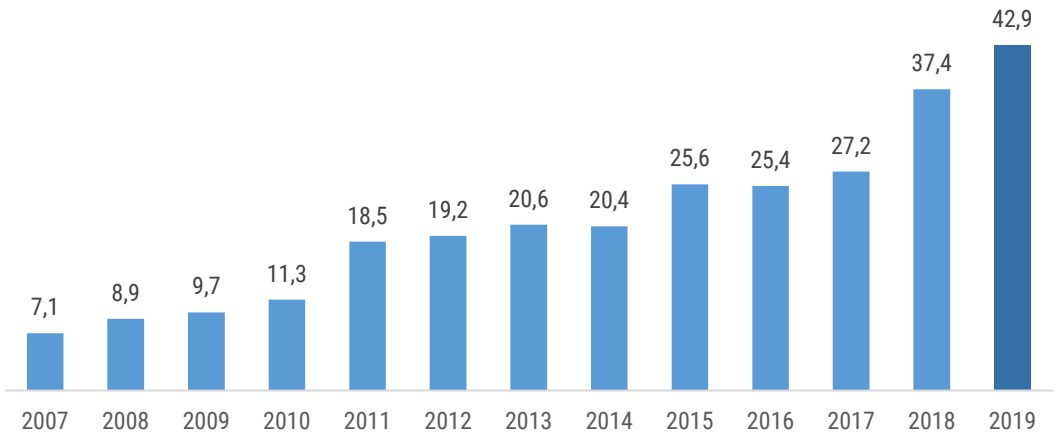
Devices with integrated optics, digital output and software

Detectors

Detection modules

ABOUT US

// Revenues [m PLN]



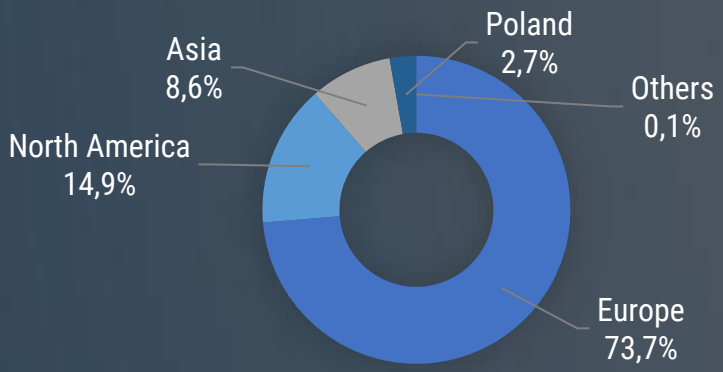
// Development

- **30 years** of continuous technological development and market expansion
- Supplier of the high-tech components for the most demanding customers (NASA, ESA).

// Business relations with global corporations:

- Emerson Electric Co. (industrial gas analysers),
- Safran (optoelectronics systems),
- Gasmet Technologies (emissions monitoring),
- Caterpillar (railway sensor systems)

// Market split [2019, %]



VIGO 2020+ STRATEGY

// Construcion of a new production plant

The investment goals:

- Increase production capacity to 100 thousand modules per year
- Enabling flexible planning of production and customization of products
- Lowering the price of products thanks to the scale of production

Project completed!

2016
- Feasibility studies
- Acquiring financing

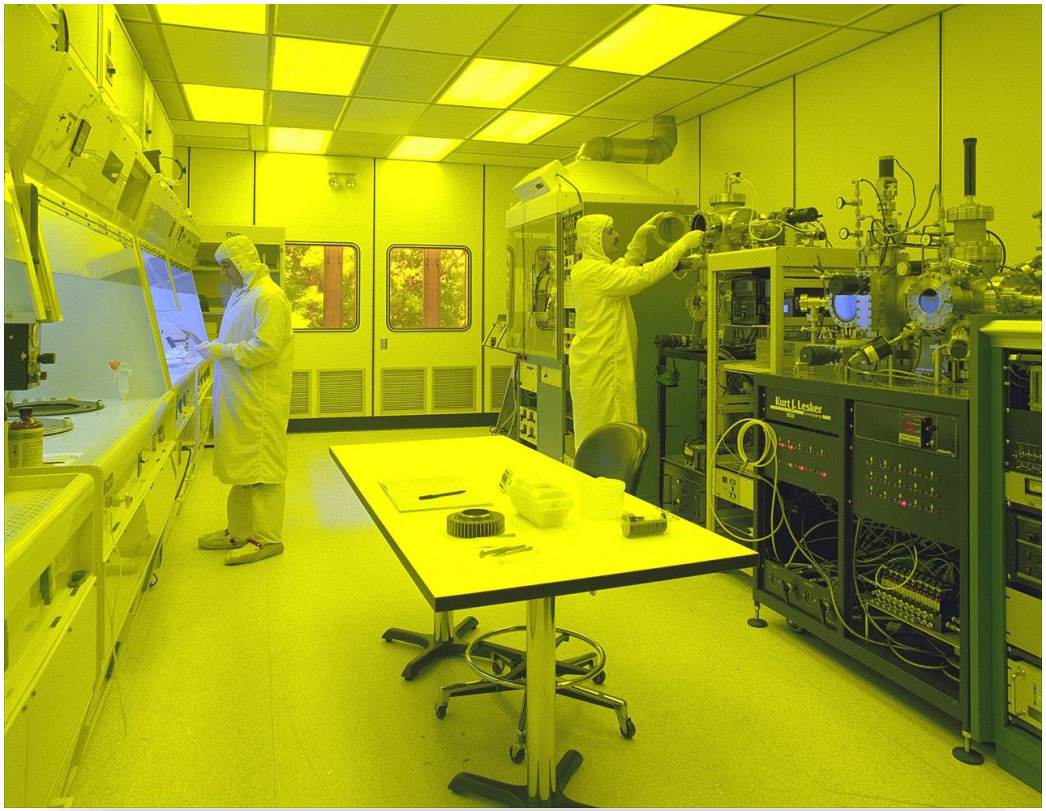
2017
- Purchase of land

2017
- Administrative decisions
- Projects
- Preparatory work

2018
- Building a new production plant

2019+
- Factory equipment
- Formal ending of the project
- Gradually increasing the scale of production

VIGO 2020+ STRATEGY



// Processing 2.0 – Construction of a new clean-room

The investment goals:

- Increased repeatability of production
- Lowering production costs
- Meeting the highest quality requirements (military, space, semiconductor industry)

Scope & funding:

- Modernization of the current VIGO technology hall and construction of a new clean room
- CAPEX < PLN 24 million (EU subsidy, debt financing and own funds). Obtained co-financing (PLN 6 million)

Progress:

- Delays at the stage of detailed design. Change in the performance formula (design and build)
- Expected delays about 3-6 months.

1st half of 2019

- Projects (construction project completed, detailed design ongoing) !
- Acquiring financing ✓

2nd half of 2019

- Obtaining permits ✓
- Equipment tenders ✓

2020

- Construction works !
- Delivery of equipment !
- Start of production in a new clean room !

2021+

- Gradual increase in production

VIGO 2020+ STRATEGY

// Products and technology development

New products

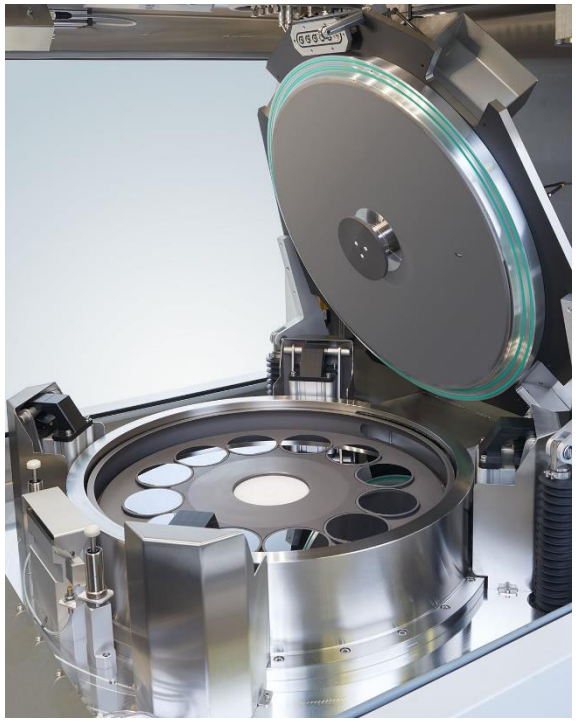
- Prototypes of **new modules** presented during Photonics West 2020:
  - Cheap detection module (chip on a PCB in a miniature housing, optimized for 5µm), chip made from III-V materials, in MBE technology (inAsSb)
  - Array prototype up to 32 el, with the option of customizing the readout system to meet the needs of customers
- Prototypes of **new detector made of III-V materials** (T2SL) optimized for 12µm, replacement for current LWIR MCT detectors

New Project "Multi-element infrared detectors for non-contact multifunctional diagnostics"

- Consortium: **VIGO System S.A., Military Academy of Technology**
  - Project budget: **5,4 mln PLN, including** VIGO System – **4,7 mln PLN**
  - Funding: **3,6 mln PLN, including** VIGO System **– 3,1 mln PLN**

Mazowsze. serce Polski

VIGO 2020+ STRATEGY



// Materials for photonics

Project objectives:

- Expansion of VIGO System's activity by the production of III-V semiconductor materials intended for mass application in photonics and electronics. Cooperation with renowned MOCVD technology experts (dr Włodzimierz Strupiński).

Scope of investment and financing:

- Purchase of a new epitaxial system, measuring equipment, implementation and modernization of the VIGO System hall
- Estimated CAPEX - PLN 20 million, of which PLN 15 million in debt financing, PLN 5 million in own funds

Progress:

- Realisation as planned. Expenditure within the budget.

2018

- Agreed principles for a joint project
- Acquiring financing
- Order of the MOCVD system

1st half of 2019

- Modernization of the VIGO System hall
- Supply of a new epitaxy system

2nd half of 2019

- Technological commissionining of the system

2020

- Commencement of production
- Building a sales team

2020 - 2024

- The period of implementation of the joint project

VIGO 2020+ STRATEGY

// Materials for photonics

- **Sales network development**
  - Expansion to the Asian market (VIGO representative in Taiwan) - starting operations from June 2020
  - Increasing the sales team for the European market
  - A significant increase in interest in the Company's products
- **Fast increase in the volume of orders**
  - Orders over EUR 500k (> 50% of the annual plan)
  - New customers - large corporations, electronic equipment manufacturers from the USA, Europe and Asia
- **Technology development**
  - Works on the implementation of VCSEL laser production technology
  - Development of short infrared (SWIR) detector technology from III-V materials - InGaAs. Possibility of large-scale production.

VIGO 2020+ STRATEGY

// VIGO Ventures

- **Increased market recognition**
  - Built relationships with many entities on the European market - easier sourcing of projects
  - Several projects in the investment path
- **QustomDot**
  - The technology of cadmium-free quantum dots improving the efficiency of LED displays
  - Quantum dot market size estimated at USD 3 billion over 4 years
  - Technology in the scope of interest of the largest display manufacturers
- **Fluence**
  - Fast development of femtosecond laser technology
  - Fullfilment of first orders from reference customers in 2019.
  - The company's development is in line with the 2017 plan

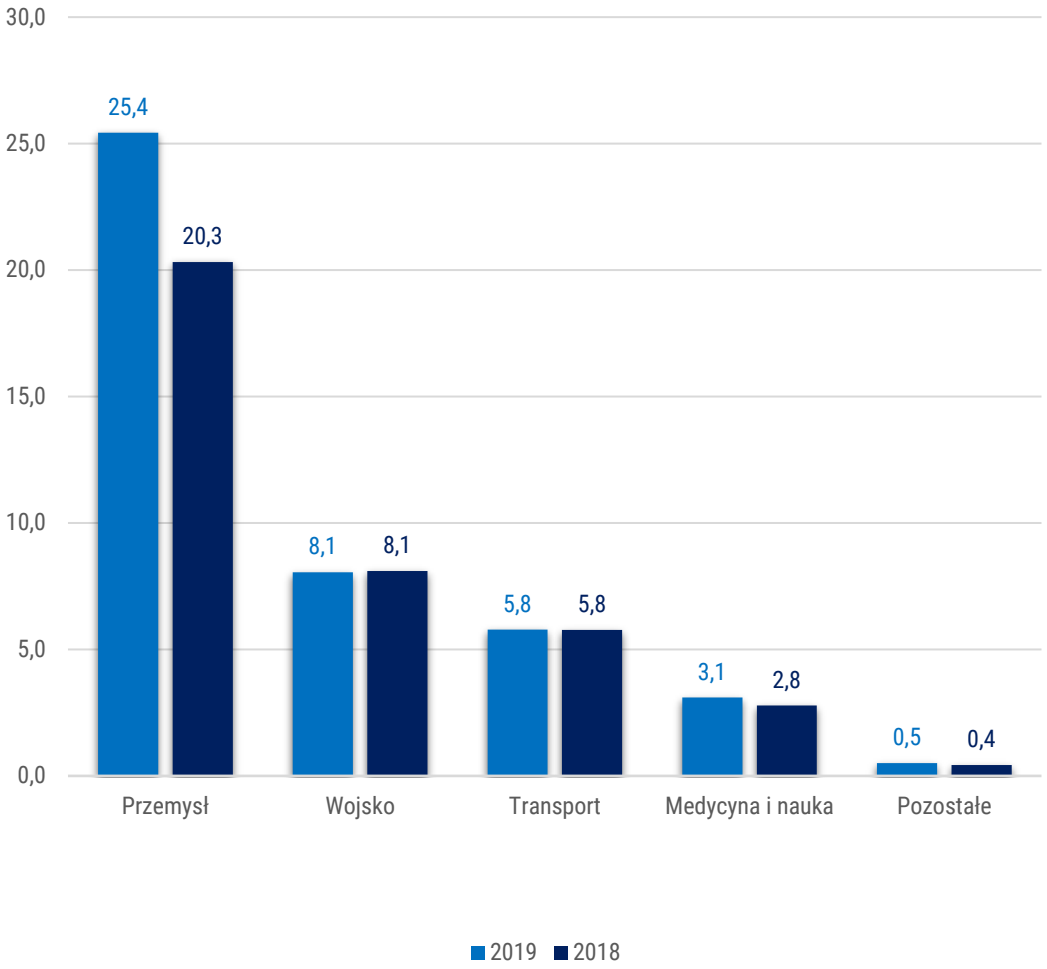
KEY EVENTS

// Sales and marketing activities:

- **Participation in various fairs and conferences:**
  - **America**: Photonics West, SPIE DCS, CLEO,
  - **Asia**: CIOE, Laser World of Photonics China,
  - **Europa**: Laser World of Photonics Europe, Sensor + Test, Optics & Photonics Days Finland,
- **Acquiring new distributors:**
  - *Singapur:* Wavelength Opto-Electronic (S) Pte. Ltd,
  - *South Korea:* Hanbek Corporation,
  - *United States:* Electro Optical Components, Inc.
- **Development of the sales department:**
  - Expanding the Marketing team,
  - Expanding the Tech Support team,
- **Appreciation of the VIGO System activities:**
  - Distinction in the prestigious ranking on the capital market - Listed Company of the Year 2019,
  - Award: "The one who changes Polish industry",

FINANCIAL RESULTS

// Revenues by application [mln PLN]

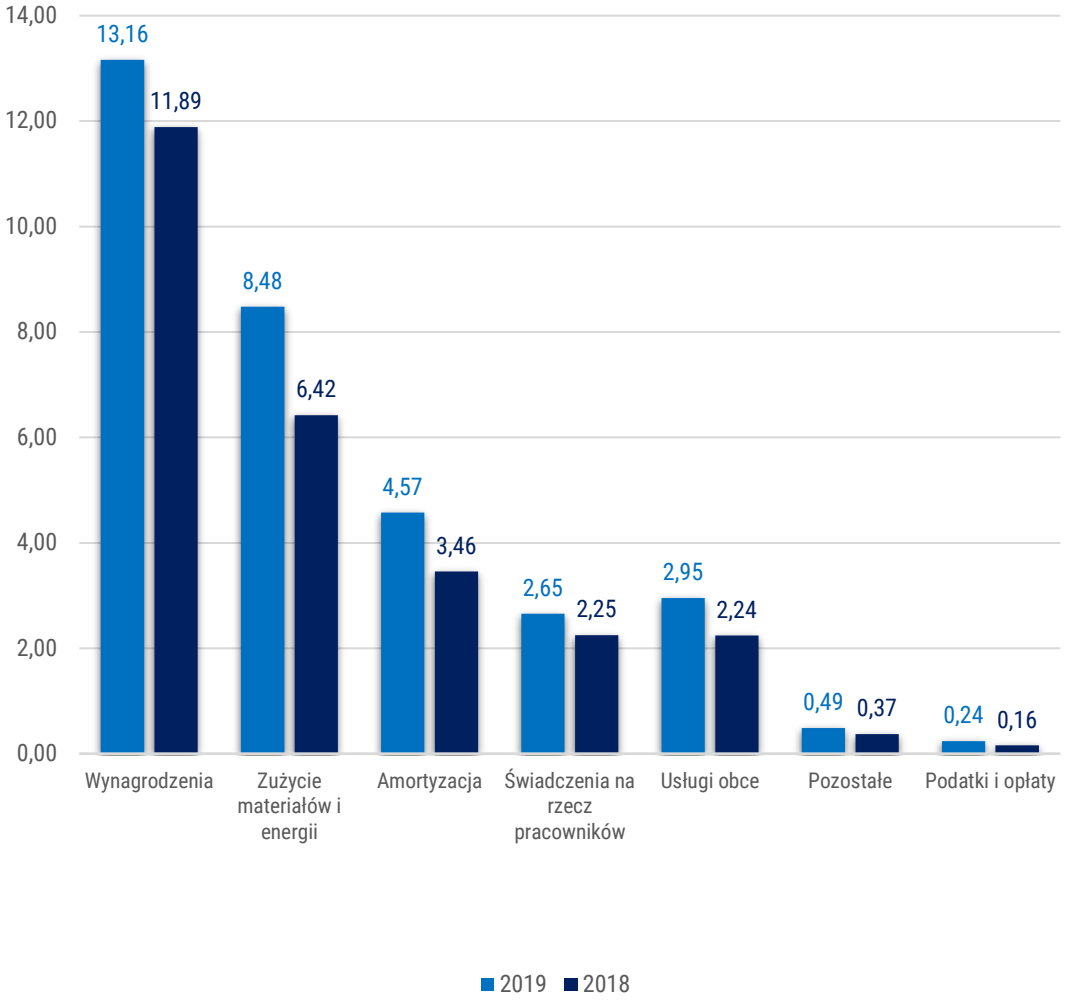


// Comment

- A significant increase in sales to PLN 42.9 million (+ 14.6% y/y).
- Significant sales increases in the **industrial segment** (industrial gas analyzers, laser operation control, applications in the semiconductor industry, paint thickness measurements) - an increase of 25.2% (in line with the trend of the last 4 years).
- Sales in the segment of **military techniques and rail transport safety** remain at the same level as in 2018.
- Over 11% increase in sales in the **medical and scientific** segment (new prospective customer).
- Geographically, a significant increase in sales on the **US** market (+ 70% y/y), large increases in sales to customers on the **European** (+ 13% y/y) and **Asian** (+ 17.7% y/y) markets. However, the company recorded a decrease in sales on the Polish market (-54.5% y/y).

Financial results

// Operating costs [mln PLN]

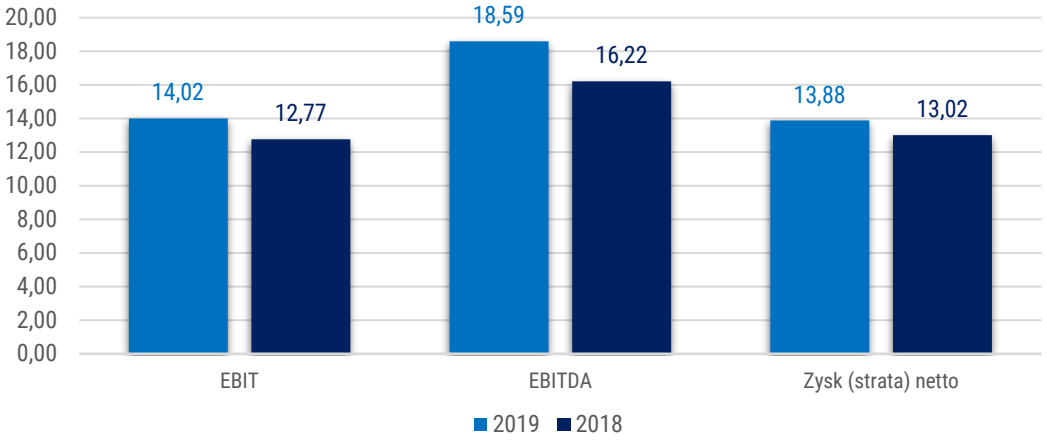


// Comment

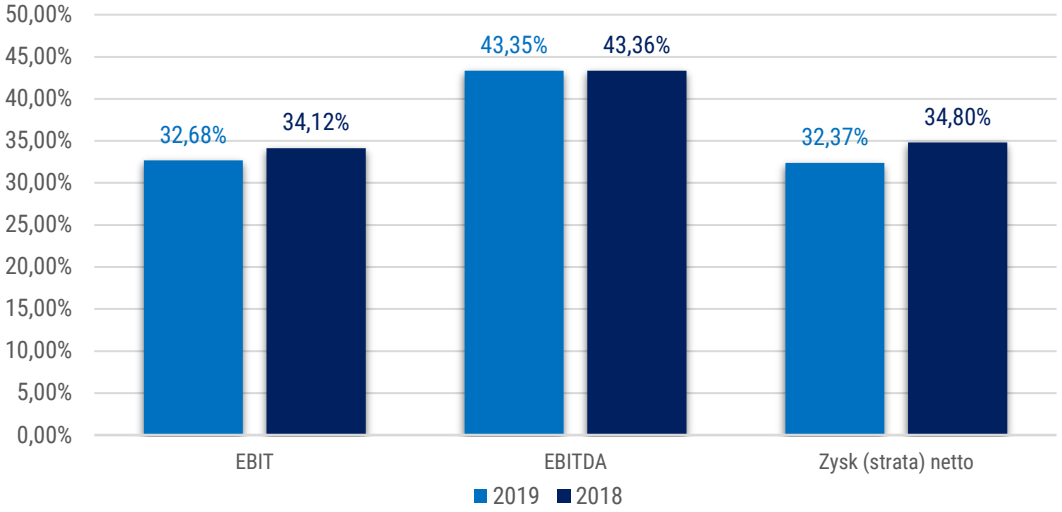
- **Salary costs** increase due to higher employment (according to the plan for 2019).
- Increase in **material and energy costs** due to the change in the production structure in 2019 compared to 2018 and a significant increase in energy costs.
- Increase in **depreciation** due to the completion of some R&D projects and the purchase of new equipment.

FINANCIAL RESULTS

// Financial results [mln PLN]



// Margin [%]

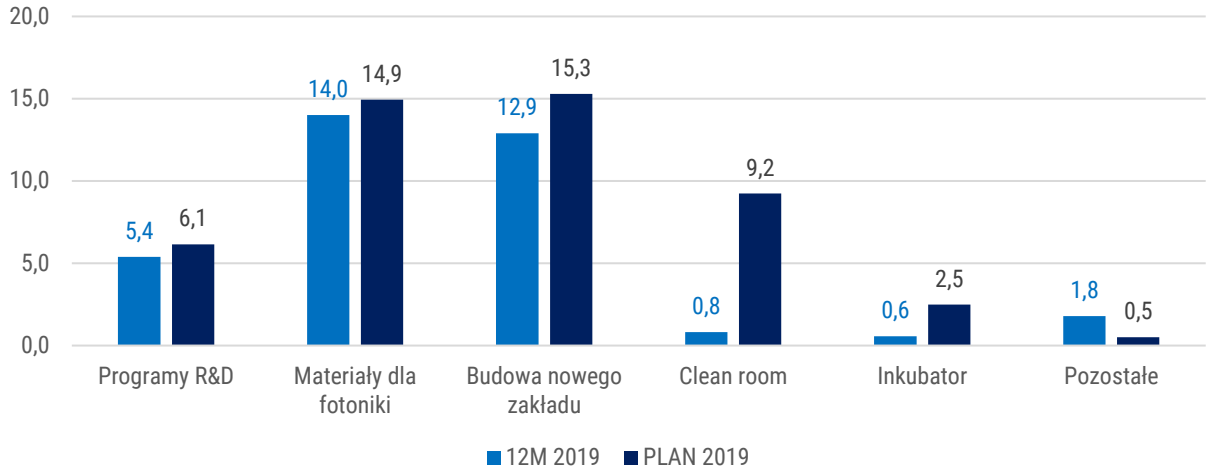


// Comment

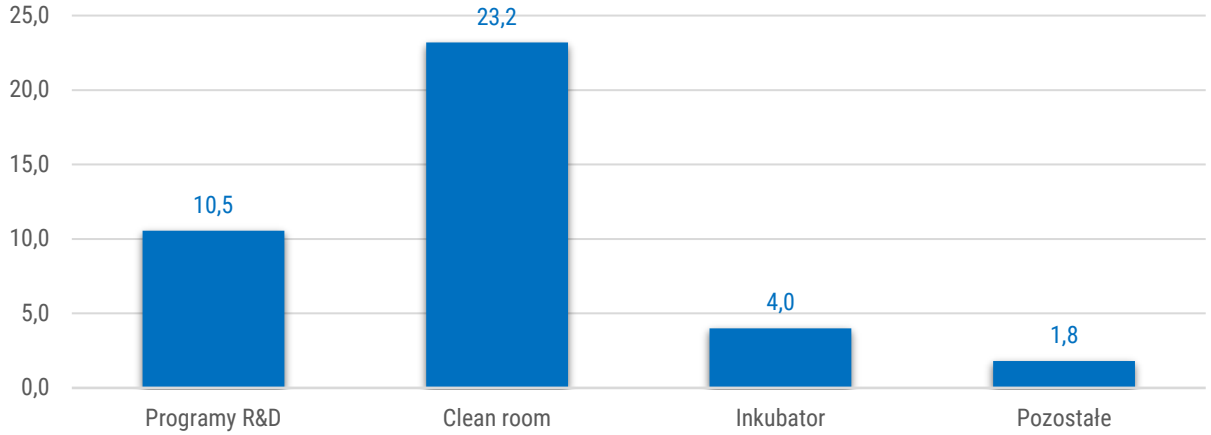
- Operating profit increase (+ 9.8% y/y), EBITDA (+ 14.6% y/y) and net profit (+ 6.6% y/y).
- The increase in revenues was accompanied by a slight decrease in profitability - gross margin -3.6 pp, EBIT margin -1.8 pp, EBITDA margin -2.8 pp, net profit margin -0.3 pp.

FINANCIAL RESULTS

// Expenditures 2019 [mln PLN]



// Expenditures 2020 [mln PLN]



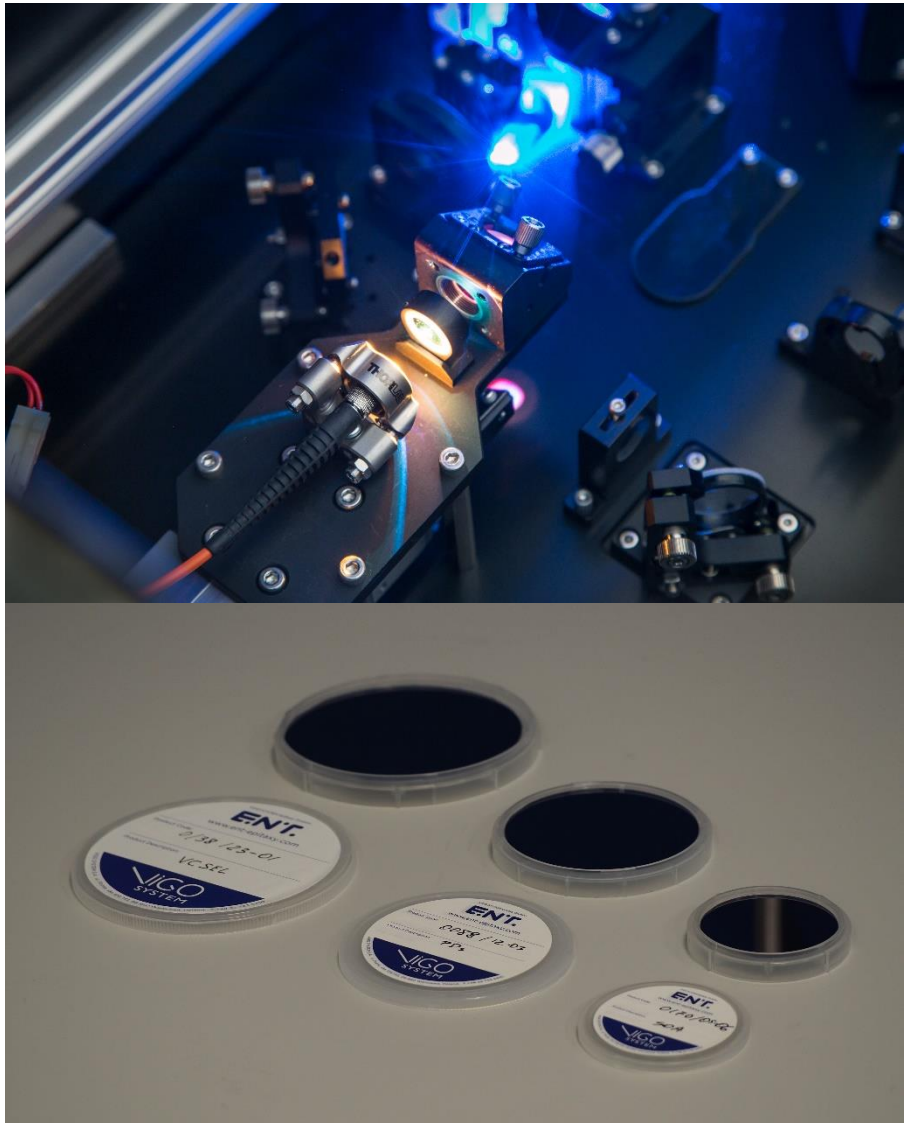
// Comment

- Expenditures in 2019 amounted to PLN 35.5 million (accruals), which represents 88% of the plan. As part of the construction of the new plant, the expenses incurred accounted for 84.3% of the full-year plan.
- The 2020 plan assumes expenses of PLN 39.5 million:
  - Construction of a cleanroom (Processing 2.0) - PLN 23.2 million, of which PLN 6 million is an EU grant and EUR 2 million in investment loan
  - R&D projects - PLN 10.5 million, of which co-financing at around 60%
  - VIGO Ventures - PLN 4 million (including unused funds from 2019)
  - Other expenditure – 1,8 mln PLN

PERSPECTIVES/ BUSINESS OUTLOOK

// 2020 – assumptions

- Maintaining significant dynamics of revenue growth in the **infrared detector segment** (while maintaining the current level of net profitability):
  - **Military techniques** - order from Zodiac Aerotechnics from 02.2020 (PLN 23 million, of which about PLN 9 million in 2020) + additional orders from new clients from the European market and PCO S.A.
  - **Railway traffic safety** - increases in orders from a key customer (Caterpillar), likely larger orders from the Chinese market
  - **Industry** - dynamic growth above 10% y/y (mainly semiconductor industry, gas detection, temperature measurements, coating thickness measurements), new products introduced to the market (affordable detection module, multi-element modules)
  - **Medicine** - a new significant customer (product development phase + initial talks about the production phase)
- In 2020, planned revenues of min EUR 1 million from the semiconductor materials segment (net profitability ~ 0%):
  - Active sales development (priority Asian market, active activities on the European and American market, pilot programs on the Polish market)
- **No significant effect of coronavirus on the functioning of the Company** (customer orders at the expected level), temporary delays with some suppliers



PERSPECTIVES/ BUSINESS OUTLOOK

// 2020 - Summary

- Launching **new products** for production on a **larger scale** and at a **lower cost** (detectors for IoT and Industry 4.0)
- Development of **production automation** in a new production plant in order to prepare for the production of large volumes
- Increasing the scale of **semiconductor materials production** for mass photonic markets
- Begining of **Cleanroom construction** to improve quality of production and product's reliability
- **Strategic review** allowing to set development directions for the next period

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Thank you for your attention

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APPENDIX 1 – SELECTED FINANCIAL DATA

Statement of comprehensive income [kPLN]	2019	2018
Revenue from sale of products, goods and materials, including:	**42 889**	**37 416**
Cost of products, goods and materials sold, including:	**15 875**	**16 936**
Gross profit (loss) on sales	**27 013**	**20 481**
Selling costs	2 370	2 151
General administrative expenses	**12 238**	**7 684**
Other operating revenue	2 678	2 663
Other operating costs	**1 067**	**540**
Operating profit (loss)	**14 017**	**12 768**
Finance income	**136**	**332**
Finance costs	245	60
Profit (loss) before tax	**13 908**	**13 040**
Income tax	24	19
Net profit (loss)	**13 884**	**13 021**

APPENDIX 1 – SELECTED FINANCIAL DATA

ASSETS	31.12.2019	31.12.2018
Fixed assets	**98 786**	**67 417**
Tangible fixed assets	67 453	45 031
Intangible assets	12 371	6 755
Expenditures on development projects	16 650	14 368
Investments in jointly-controlled entities	2 308	1 262
Deferred revenue, prepayments	3	1
Current assets	**28 933**	**22 796**
Inventory	6 919	4 142
Trade receivables	7 100	5 585
Other receivables	1 235	3 564
Other financial receivables	35	
Accruals	847	160
Cash and cash equivalents	12 797	9 345
TOTAL ASSETS	**127 718**	**90 213**

APPENDIX 1 – SELECTED FINANCIAL DATA

EQUITY AND LIABILITIES	31.12.2019	31.12.2018
Equity capital	**68 063**	**54 221**
Share capital	729	729
Capital from the issue of shares above nominal value	8 865	8 865
Revaluation reserve	-56	-15
Other capitals	44 641	31 620
Present-period financial result	13 884	13 021
Non-current liabilities	**47 111**	**17 885**
Credit facilities and loans	26 791	5 474
Accurals	19 594	12 026
Provision for pension benefits and similar	177	120
Other reserves	548	265
Current liabilities	**12 544**	**18 107**
Credit facilities and loans	5 971	7 847
Other financial liabilities	499	12
Trade commitments and other liabilities	1 571	6 993
Other liabilities	1 555	718
Accurals	1 354	1 314
Provision for pension benefits and similar	647	421
Other reserves	947	802
TOTAL EQUITY AND LIABILITIES	**127 718**	**90 213**

APPENDIX 1 – SELECTED FINANCIAL DATA

Statement of cash flows (PLN)	31.12.2019	31.12.2018OP
OPERATING ACTIVITIES		
Net profit / loss	**13 884**	**13 021**
Total adjustments	**1 562**	**-3 947**
Depreciation/amortisation	4 587	3 459
Gains (loss) on exchange differences	-176	-241
Gain (loss) on investing activities	6	-521
Change in provisions	671	817
Change in inventories	-2 776	-693
Change in receivables	814	-5 763
Change in liabilities, except loans and credit facilities	397	544
Change in prepayments	-4	-113
Change in deferred revenue	-1 268	-1 477
Other adjustments	-688	42
Net cash flows from operating activities	**15 470**	**9 094**
Income tax (Income tax) / Expenditures	-24	-19
A. Net cash flows from investing activities	**15 446**	**9 074**
INVESTING ACTIVITIES		
Inflows	**8 879**	**1 899**
Credit facilities and loans	8 879	1 899
Expenditures	**-40 008**	**-26 474**
Purchase of intangible assets and tangible assets	-32 011	-21 634
Expenses for the purchase of shares	-559	-500
Expenditure on unfinished development works	-7 438	-4 340
B. Net cash flows from investing activities	**-31 129**	**-24 575**
FINANCING ACTIVITIES		
Inflows	**26 938**	**13 335**
Credit facilities and loans	26 938	13 335
Expenditures	**-7 716**	**-82**
Loans granted	-35	
Repayment of credit facilities and loans	-7 234	
Interest and commision	-446	-82
C. Net cash flows from financing activities	**19 222**	**13 253**
D. Total net cash flows	**3 539**	**-2 247**

APPENDIX 2 – MAIN APPLICATIONS

// Railway safety

- **HIGH SPEED RAILWAYS SAFETY** – sensors installed on tracks allow to monitor and detect the heating of the outer and inner bearings, the wheels and brakes. The system provides the absolute, relative and distinguishing temperatures of the elements in real time.
- **DETECTION OF TRAIN FIRE –** systems mounted on gates installed over the rail tracks with several infrared detectors allowing detection of fire on a wagon.

// Environment

- **EMISSIONS MONITORING –** monitoring of levels and composition of emissions form industrial and power plants, waste incinerators, sea vessels, car exhausts, methane emissions from shale gas fields, detection of leaks from gas lines,
- **AIR QUALITY MONITORING** - detection of marginal levels of hazardous substances.

APPENDIX 2 – MAIN APPLICATIONS

// Industry

- **SEMICONDUCTOR INDUSTRY** - quality monitoring, process control
- **LASERS** - control of laser power and synchronisation of impulses
- **OTHER** - optimization of fuel mixture incinerated in vehicle engines, aerosol leak detection systems, lacquer layer thickness control, Industrial processes control (e.g. metal plasma processing).

// Science and medicine

- **DENTISTRY** – contactless detection of teeth decay at very early stage
- **DIAGNOSTICS** - Analysis of exhaled gases – detection of various diseases markers in breath
- **LASER SURGERY** - laser control system

APPENDIX 2 – MAIN APPLICATIONS

// Military

- **INTELLIGENT AMMUNITION** – ammunition designed for in-depth engagement of enemy armored vehicles. Each warhead contains an infra red detector able to detect any tank or other combat vehicle, significantly improving hit accuracy.
- **LASER THREAD WARNING SYSTEM -** system designed to detect radiation from impulse rangefinders or laser illumination.

// Homeland security

- **EXPLOSIVES OR CONTRABANDA DETECTIONS -** infrared detectors combined with dedicated lasers and optics can be used to detect explosives, drugs or other contrabanda (e.g. cigarettes).
- **FORENSICS** – infrared sensors can detect explosive charges and IED residues, providing fast and accurate information on the type of applied explosive materials.