OVERVIEW OF COMMERCIAL OPPORTUNITIES OF PHOTONICS IN POLAND AND

Dr inż. Adam Piotrowski
President of VIGO System SA;
President of Employer association Polish Technological Platform on Photonics
POLISH TECHNOLOGICAL PLATFORM ON PHOTONICS

- Photonic technology as a stimulus to the development of modern industry in Poland

- Members:
  - 2 universities;
  - 9 research institutes;
  - 2 societies;
  - 1 chamber of commerce;
  - 17 companies.

Cooperation. We build the future together.
VIGO SYSTEM S.A.

VIGO System S.A. is a manufacturer of standard and customized high operating temperature infrared detectors.

VIGO supplies unique products, manufactured with the use of internally developed technology.

The competitive advantage of the company is based on the specific knowledge and skills of VIGO System’s team and unique high performance and quality of the offered products.

Products

- Detectors
- Detection modules
- Optoelectronic cores

- ~100 workers (professor, 12 phd and >40 engineers)
- 3000 m² production and office space
- Laboratories prepared for flexible production
WELCOME TO POLAND

- Home of 38 432 992 people (Y2016)
- Member of European Union
- Member of NATO, EDA and ESA
- Christian country since Y966
- Kingdom since Y1025
- 3rd republic since Y1989
POLAND – GOOD FOR DOING BUSINESS
5 pillars of the economic development of Poland

1. Reindustrialization
   - Partnership for the strategic branches of the economy
   - National Intelligent Specializations
   - Clusters and industrial valleys
   - Foreign investments

2. Development of innovative companies
   - New „Business Constitution”
   - Friendly legal environment
   - Review of research institutes
   - Start In Poland

3. Capital for development
   - Growing savings
   - European funds
   - Polish Development Fund
   - Juncker’s plan, EBOR, EBI, AIIB

4. Foreign expansion
   - Export Support Division at FDF
   - Financial offer
   - Strong Polish brand
   - Review of business diplomacy

5. Social and regional development
   - Comprehensive demographic programme
   - Pact for rural areas
   - Effective regional policy
   - Education

Efficient state
- e-Administration
- Intelligent public procurement
- End of „departmental Poland”
- Energy – security, availability, price
Goals for 2020

Strong Polish economy
High Quality GDP

1. Reindustrialisation
   - Increase in industrial output
   - > GDP increase

2. Development of innovative business
   - Large and medium companies
     - A > 22,000
     - B Increase from 0,8% to 2%
   - Share of R+D in GDP

3. Capital for development
   - More loans for companies
     - A > dynamics for households
     - B > 25%
   - Investments (% GDP)

4. Expanding abroad
   - Increase in export
     - A > GDP increase
   - Polish FDI
   - Increase by 70%

5. Social and territorial development
   - Ratio of relative poverty risk
     - A Under 15,5%
   - GDP per capita
     - B 79% of average EU

Efficient state

Initiatives
- e-Administration platform
- Procurement policy supporting economic growth
- Long-term national energy strategy

2020
Foreign investors are welcome to join!

We search for the best investments...

- Creating R&D centres
- New high-paid jobs
- Staff employed under contract employments
- Local cooperation and supply network
- Know-how transfer
- Investments in areas threatened with exclusion

...and offer them our support

- Employment grants
- Investment grants
- Income tax exemptions
- Property tax exemptions
- EU funds
- Grants for training of staff

Regional examples

- R&D centre, Wroclaw (WABCO)
- R&D centre, Rzeszow
- Polish Special Economic Zones
- R&D centre Praga (GE Aviation)
- R&D centre Győr (Audi AG)
PHOTONIC COMPANIES IN WARSAW

- >30 pure photonics companies
OPTICS AND PHOTONICS IN POLAND – SCALE IN M PLN

- >10k workers
- >10b pln turn-over
- Dominated by lightning and medical apps
- > 40 pure photonic companies
- Dynamic growths
- Large investments (>150M Euro)
- Great support from universities and institutes
DEFENSE AND SECURITY
DEFENSE AND SECURITY

- Aiming optoelectronic systems
- Night vision
- Laser threat detection systems
- Guidance systems
- Electro-optical observation equipment
- Laser range finders and designators
- Periscopes
DEFENSE AND SECURITY

- Aiming optoelectronic systems
- Night vision
- Laser threat detection systems
- Guidance systems
- Electro-optical observation equipment
- Laser range finders and designators
- Periscopes
PROFESOR ZBIGNIEW PUZEWICZ

• 1930 - 2018
FIBER OPTICS AND TELECOMUNICATION

COMPONENTS

• FIBER OPTICS
• Passive optical components
• Active elements
  • Filters
  • Switches
  • Amplifiers
• Fiber optics systems
• Structural cabling

DIRECTIONS

• New solutions for telecoms
• Special fibers
• Effective production
FIBER OPTICS AND TELECOMMUNICATION

• Fiber optics
• Passive optical components
• Active elements
• Filters
• Switches
• Amplifiers
• Fiber optics systems
• Structural cabling

DIRECTIONS
• New solutions for telecoms
• Special fibers
• Effective production

Corning
MEDICAL EQUIPMENT AND OPTICAL INSTRUMENTS
MEDICAL EQUIPMENT AND OPTICAL INSTRUMENTS

- Ophthalmic market is huge 2.5b PLN turnover – 2500 workshops
- Optical coherent tomography
- Breath analyzers
- Microscopes
- Diagnostics, treatment and surgical equipment
- Medical lasers

- Lense
- Modulators
- Prisms
- Mirrors
- Special coatings:
  - Anti-reflection
  - Filters
INDUSTRY

- Vision and thermographic systems
- Measurement systems
- Data analysis
- Environmental sensing
- Laser marking and coding
- Cutting and drilling
INDUSTRY

• Vision and thermographic systems
• Measurement systems
• Data analysis
• Environmental sensing
• Laser marking and coding
• Cutting and drilling
PHOTOVOLAICS

- Power plants
- Wearable cells
- Tools and solutions
- New materials
  - CIGS
  - Perowskity

PV Test Solutions

Spirvent

ML System

Maybatt

KGHM POLSKA MIEDZ S.A.

SAULE TECHNOLOGIES

DAGlass
PHOTOVOLTAICS AND INDUSTRY

• Power plants
• Wearable cells
• Tools and solutions
• New materials
  • CIGS
  • Perovskite
MEASUREMENT EQUIPMENT
MEASUREMENT EQUIPMENT

• Measurement systems
• Multispectral measurements
• 3D scanning
• Measurement services
• Equipment calibration

• Lab design
• Equipment services
MEASUREMENT EQUIPMENT

- Measurement systems
- Multispectral measurements
- 3D scanning
- Measurement services
- Equipment calibration
- Lab design
- Equipment services
SPACE APPLICATIONS

Polish Space Industry Association

Sensing and Imaging Research Center

Astronika

SENER

creo TECH Instruments S.A.

astri POLSKA

SOLARIŞ OPTICS
KEY ENABLING TECHNOLOGIES
NATIONAL SMART SPECIALISATIONS

Photonics as a smart specialisation in Lubelskie voiv.

Photonics as one of services for business in Mazovian voiv.
FUNDING AGENCIES

• The National Centre for Research and Development – „Applied science”
• National Science Center – „Fundamental science”
• New programs for Start-ups (NCBIR Bridge)
• Foundation for Polish Science: „Supporting the best, so that they can become even better”
• European Union grants
SKY IS THE LIMIT

THANK YOU FOR YOUR ATTENTION!