

# OVERVIEW OF COMMERCIAL OPPORTUNITIES OF PHOTONICS IN POLAND AND

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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.

- ▶ ~100 workers (professor, 12 phd and >40 engineers)
- ▶ 3000 m<sup>2</sup> production and office space
- ▶ Laboratories prepared for flexible production

## Products

Detectors



Detection modules



Optoelectronic cores

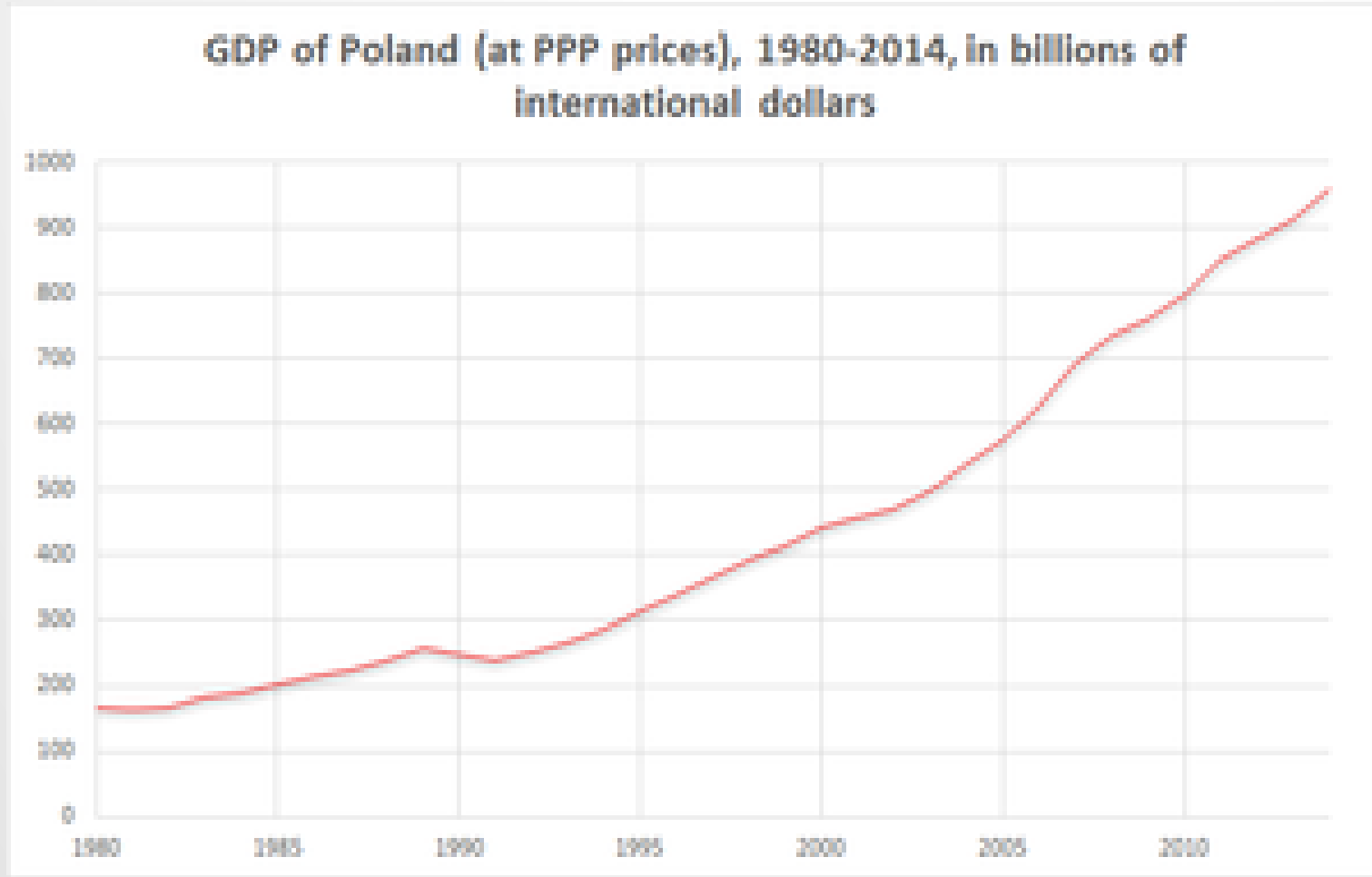


# WELCOME TO POLAND

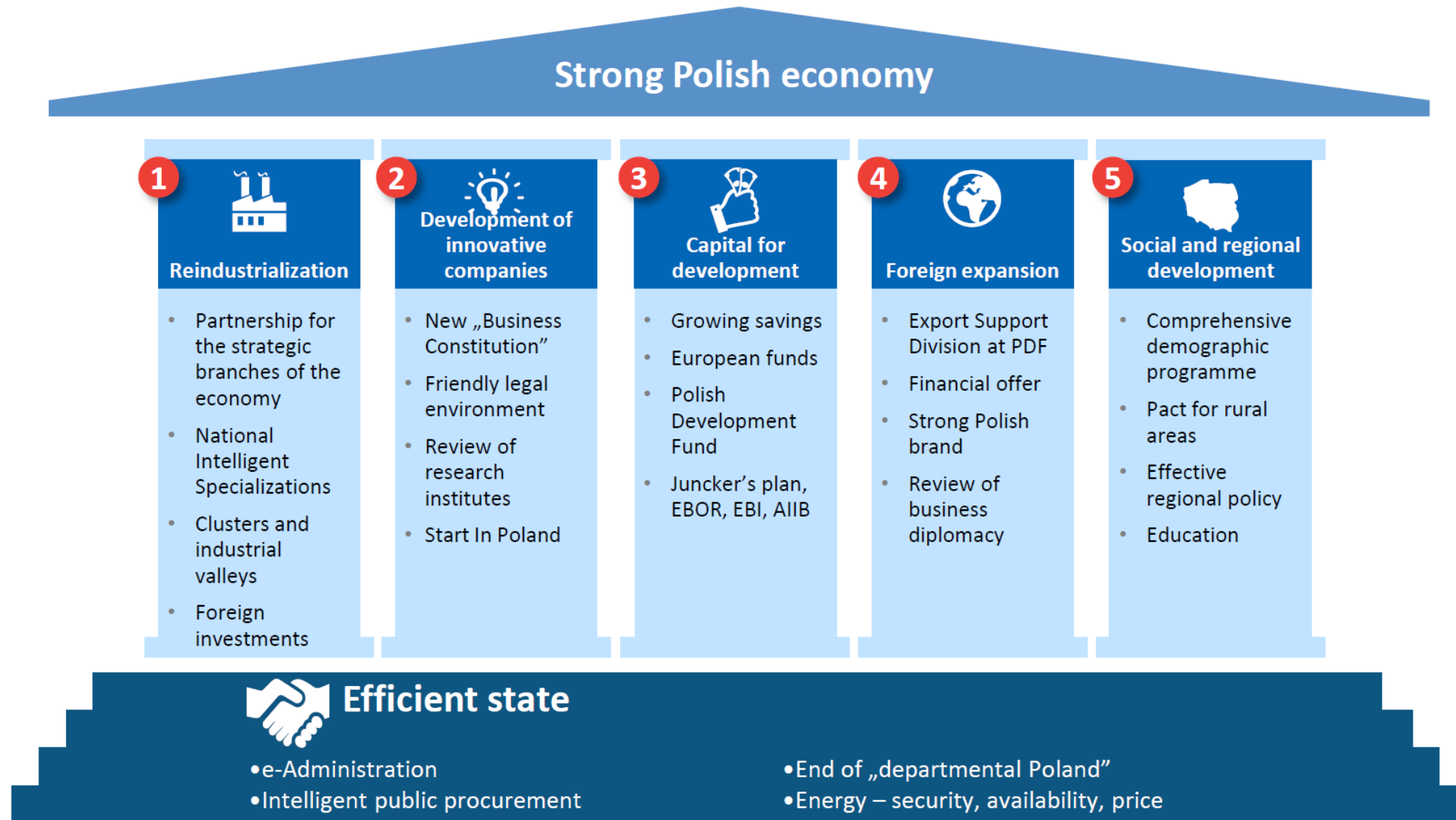


- Home of 38 432 992 people (Y2016)
- Member of European Union
- Member of NATO, EDA and ESA
- Christian country since Y966
- Kingdom since Y1025
- 3rd republic since Y1989

# POLAND – GOOD FOR DOING BUSINESS








# 5 pillars of the economic development of Poland



# Goals for 2020

## Strong Polish economy High Quality GDP

	1	2	3	4	5
	 Reindustrialisation	 Development of innovative business	 Capital for development	 Expanding abroad	 Social and territorial development
Indicator	Increase in industrial output	A Large and medium companies B Share of R+D in GDP	A More loans for companies B Investments (% GDP)	A Increase in export B Polish FDI	A Ratio of relative poverty risk B GDP per capita
2020	> GDP increase	A > 22 000 B Increase from 0,8% to 2%	A > dynamics for households B > 25%	A > GDP increase B Increase by 70%	A Under 15,5% 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...

### Examples of criteria



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

### Examples of support



Employment grants



Investment grants



Income tax exemptions



Property tax exemptions

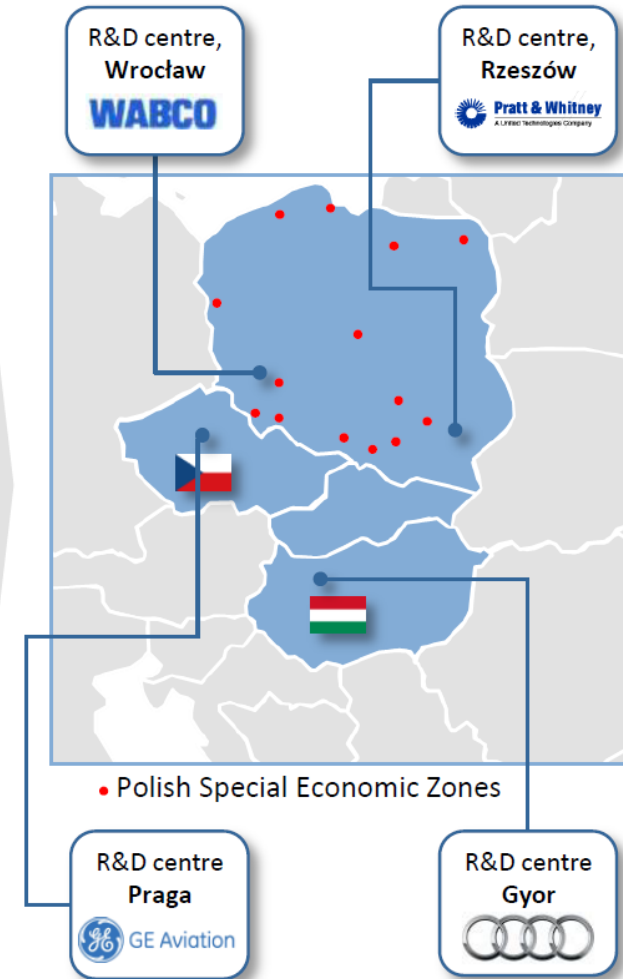


EU funds



Grants for training of staff

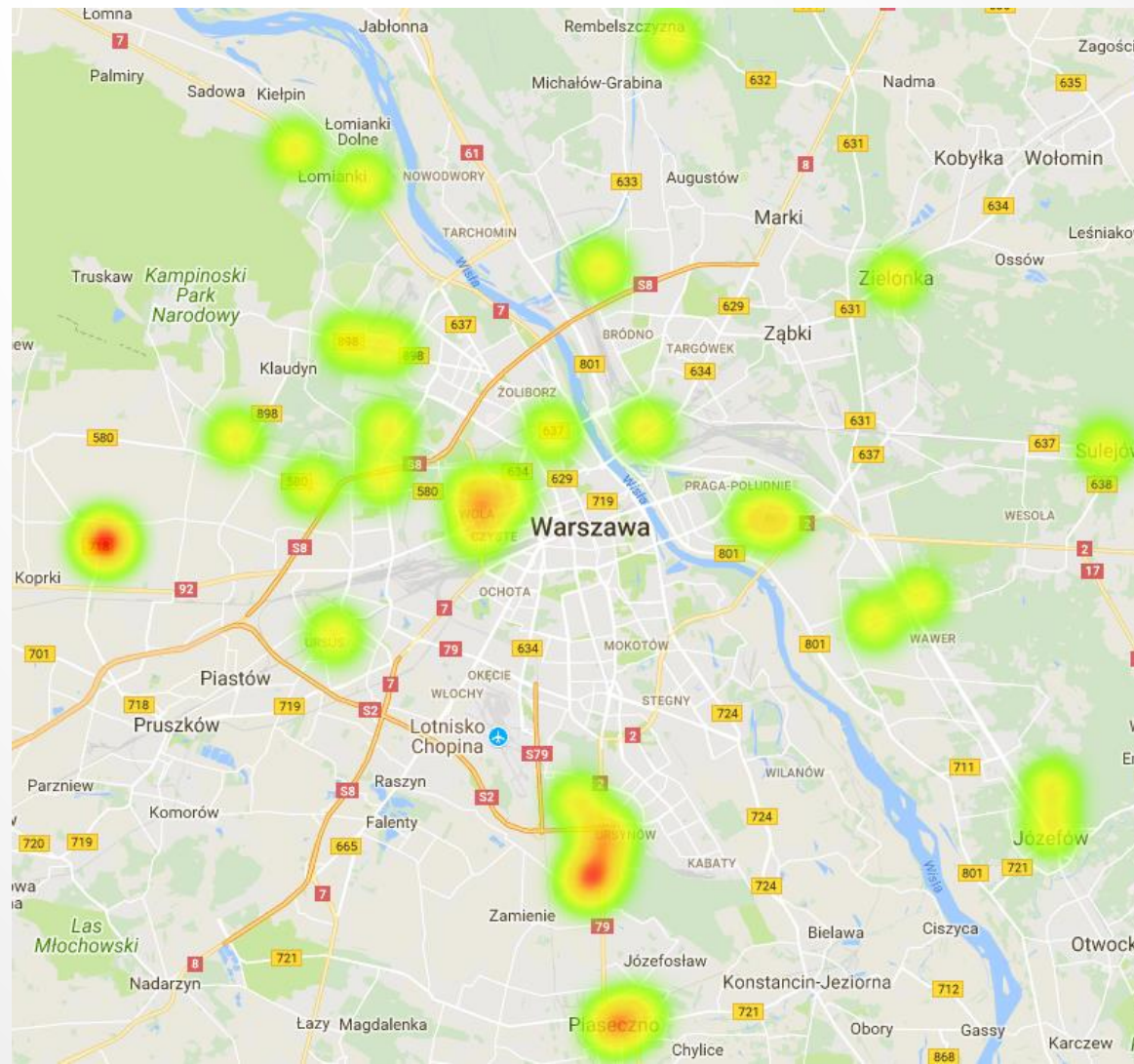
## Regional examples



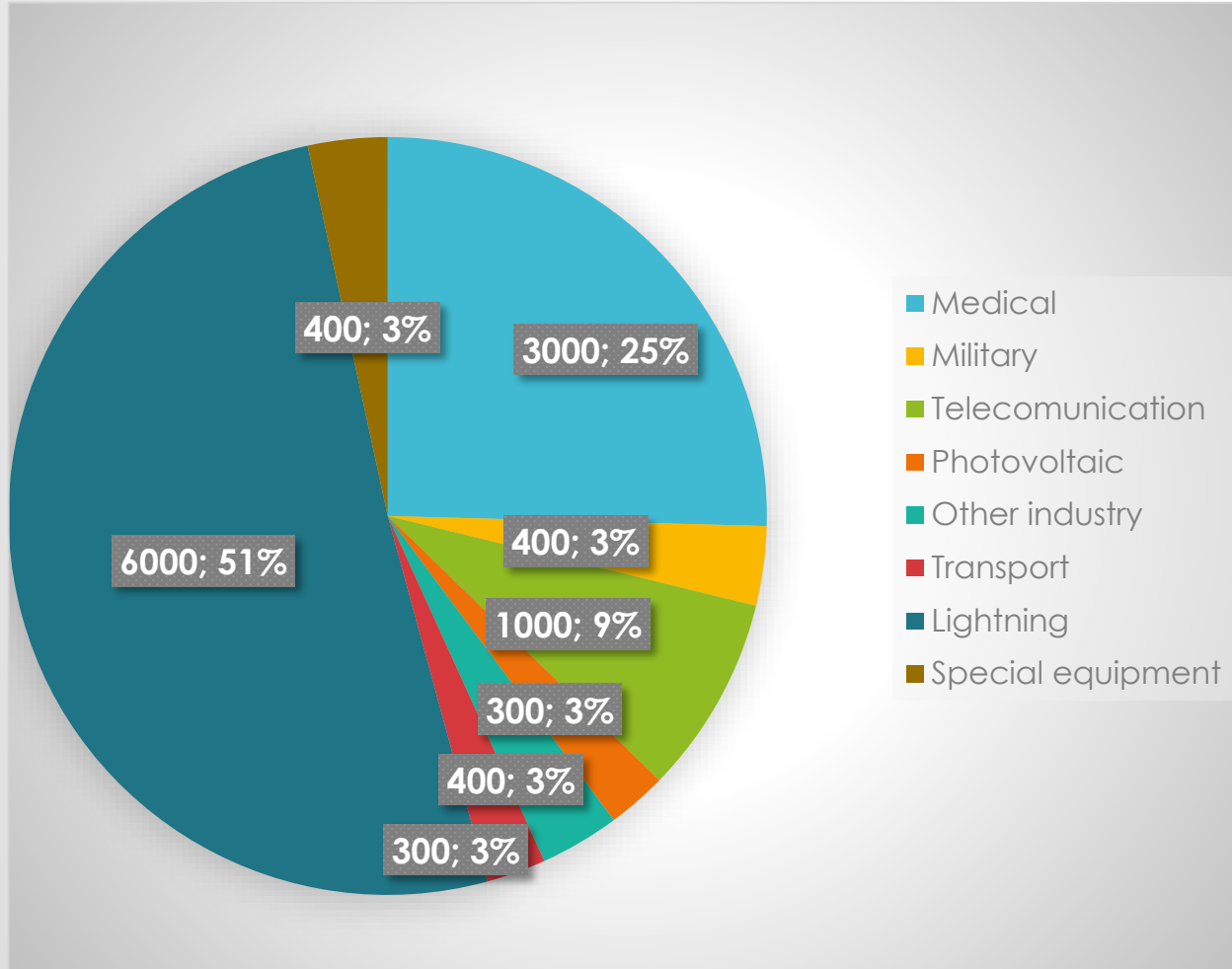


# PHOTONIC COMPANIES IN WARSAW

- >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



BYDGOSKIE ZAKŁADY ELEKTROMECHANICZNE  
BELMA S.A.

• *INFRAMET*

PRZEDSIĘBIORSTWO  
**PREXER**<sup>®</sup> Spółka z o.o.

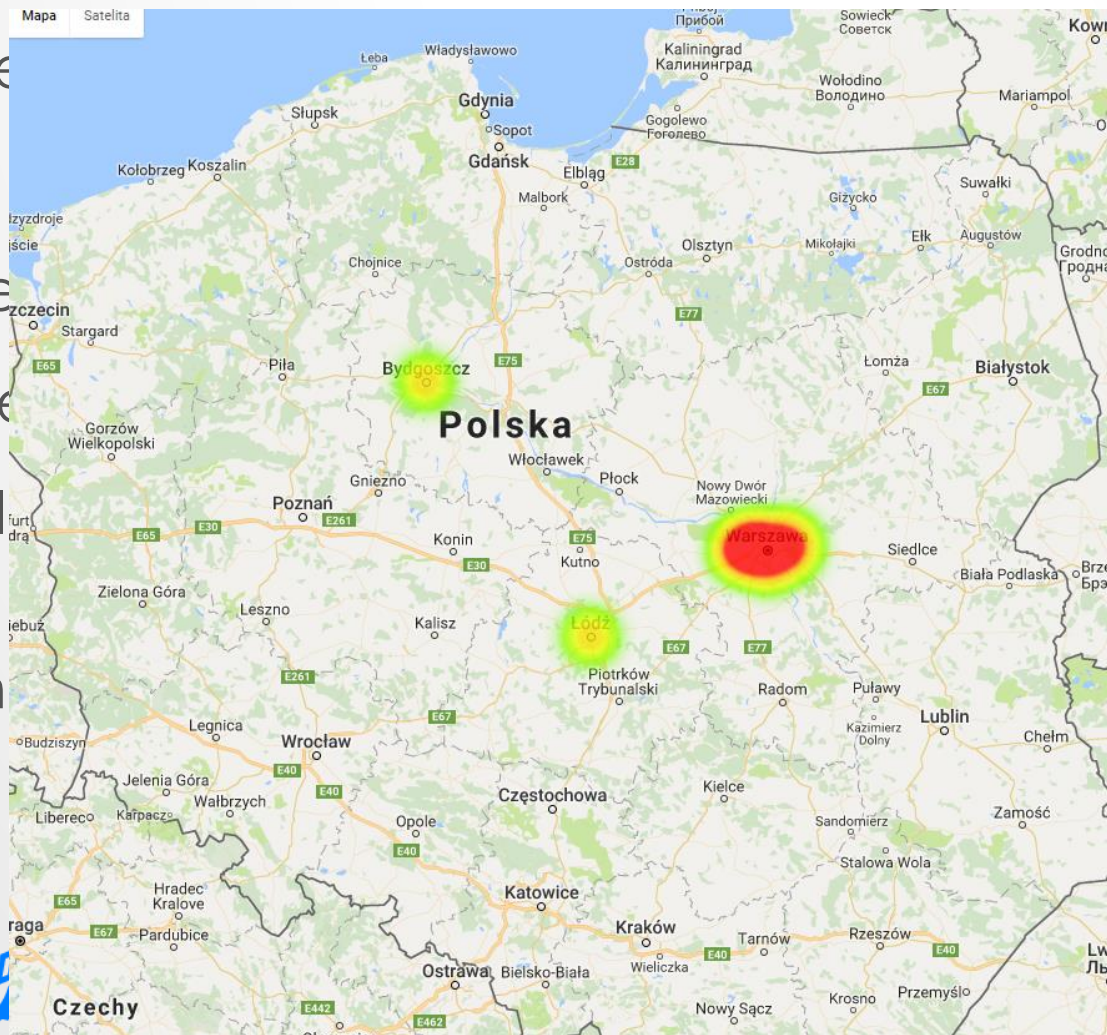


Korporacja Wschód



# DEFENSE AND SECURITY

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## • INFRAMET

PRZEDSIĘBIORSTWO  
**PREXER**<sup>®</sup> Spółka z o.o.



Korporacja Wschód

# PROFESOR ZBIGNIEW PUZEWICZ

• 1930 - 2018



# FIBER OPTICS AND TELECOMMUNICATION



**FIBRAIN**  <sup>®</sup>



# FIBER OPTICS AND TELECOMMUNICATION

## 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

**FIBRAIN** ®

  
Innovation photonics technology

 **VECTOR**® | BE ABLE

 **TKable**

 **EXATEL**

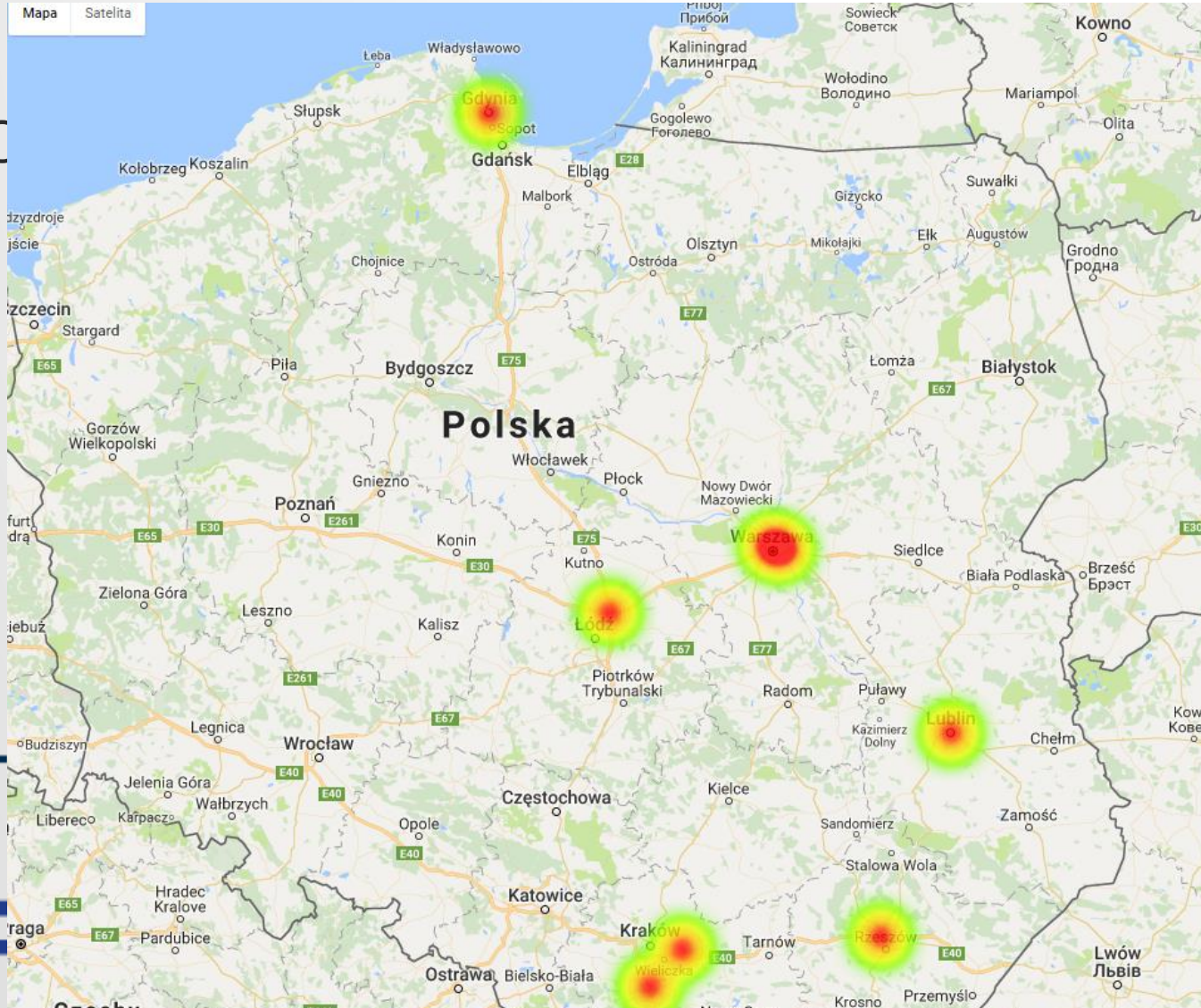
 **FCA**  
OPTYKA NA BIZNES

**CORNING**

 **PPTF**



# FIBER OPTICS AND TELECOMMUNICATION



S  
is for telecoms  
S  
duction



# 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



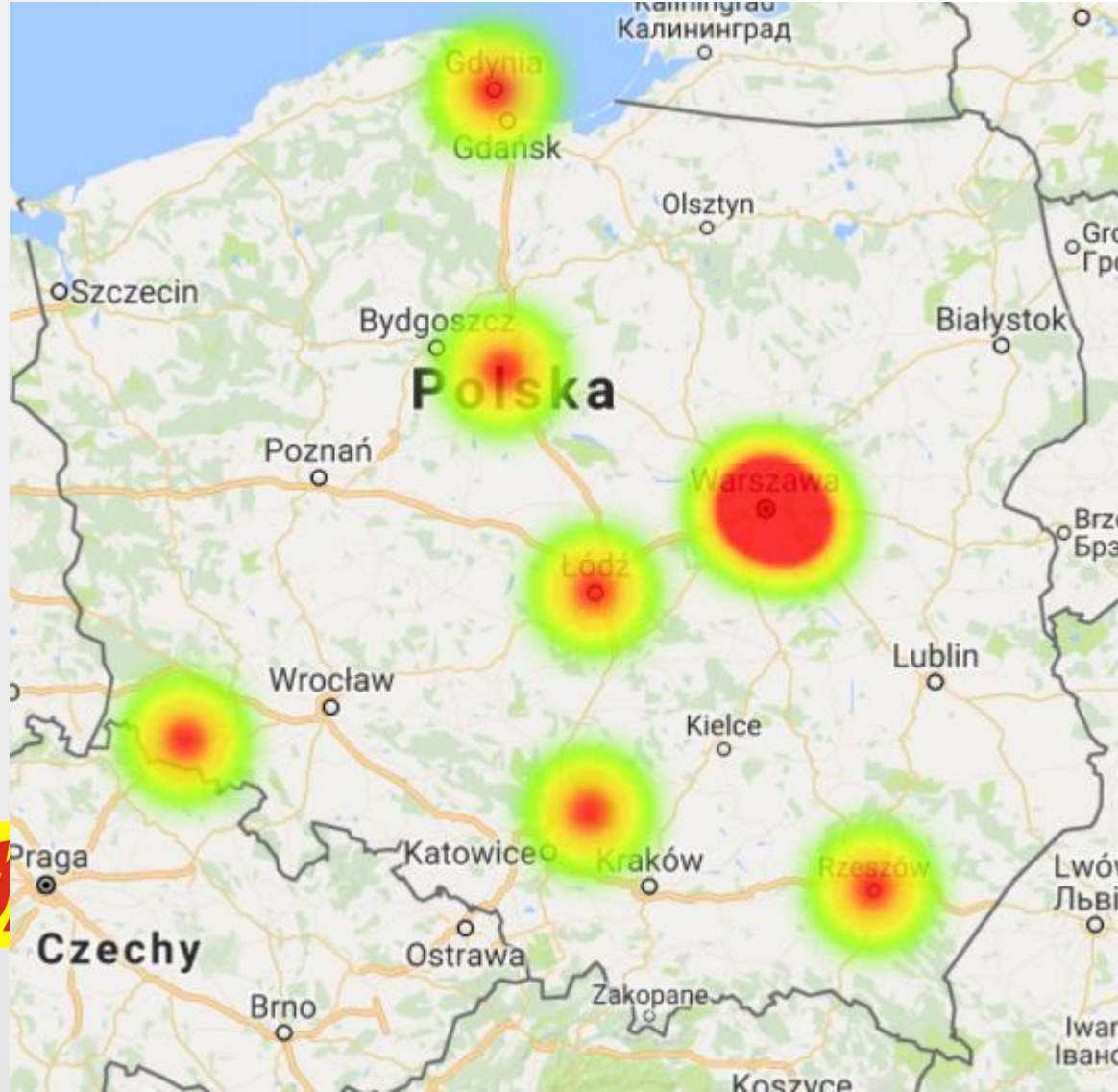
- Vision and thermographic systems
- Measurement systems
- Data analysis
- Environmental sensing
- Laser marking and coding
- Cutting and drilling



NANO CARBON  
TECHNOLOGIES



# INDUSTRY

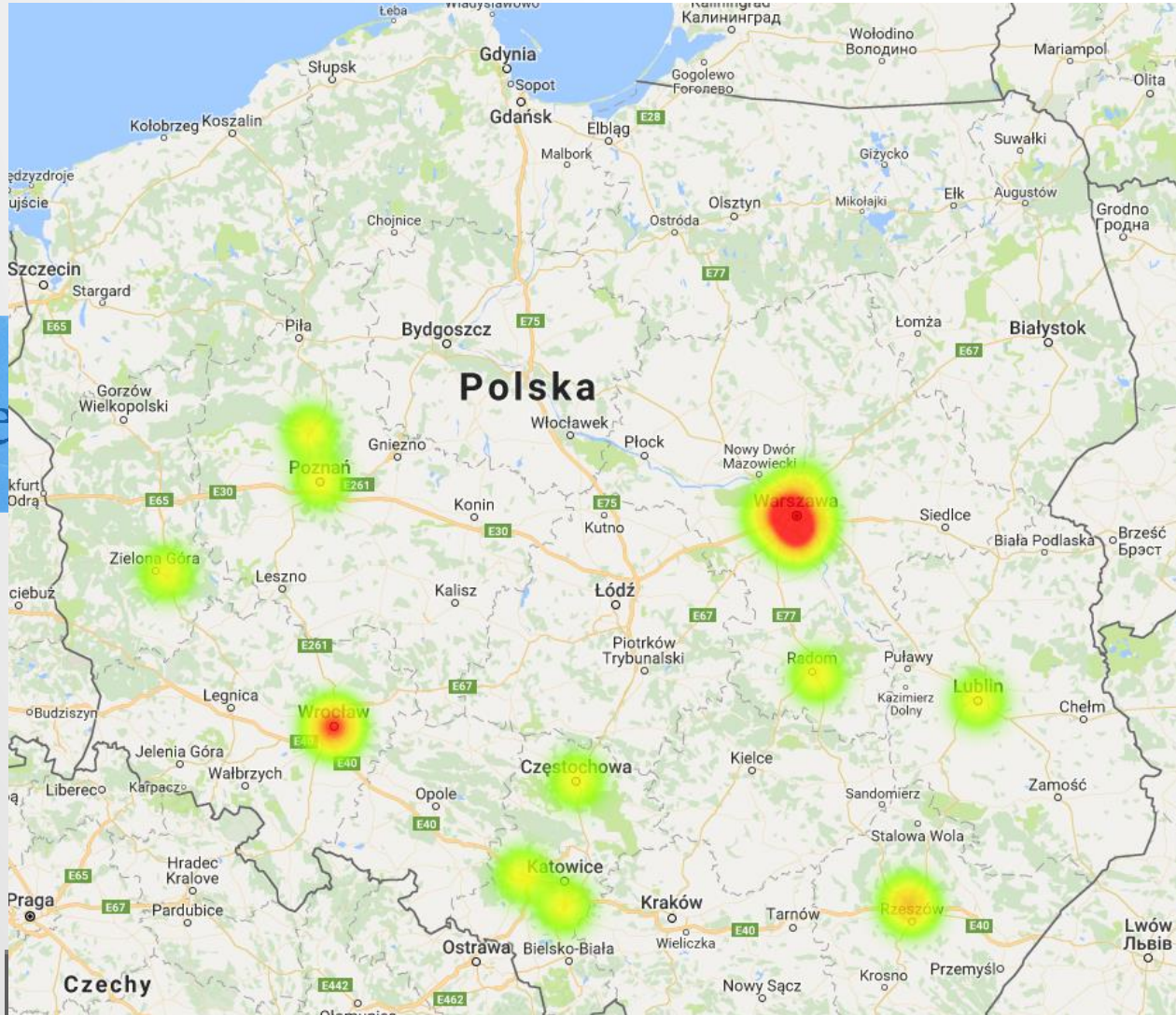


# PHOTOVOLTAICS

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



# PHOTOVOLTAICS AND INDUSTRY



ts  
ells  
olutions  
als



Spirvent

ULE  
NOLOGIES



# MEASUREMENT EQUIPMENT

**SMARTTECH 3D**  
www.skaner3d.pl

Hi – tech made in Poland

*SMARTTECH rozwija swoje produkty, poszerza rynki zbytu i powiększa Dream Team.*



*Siatka dystrybutorska pokrywa już prawie wszystkie kontynenty i 20 krajów*

*Ciągły rozwój produktów*





# MEASUREMENT EQUIPMENT

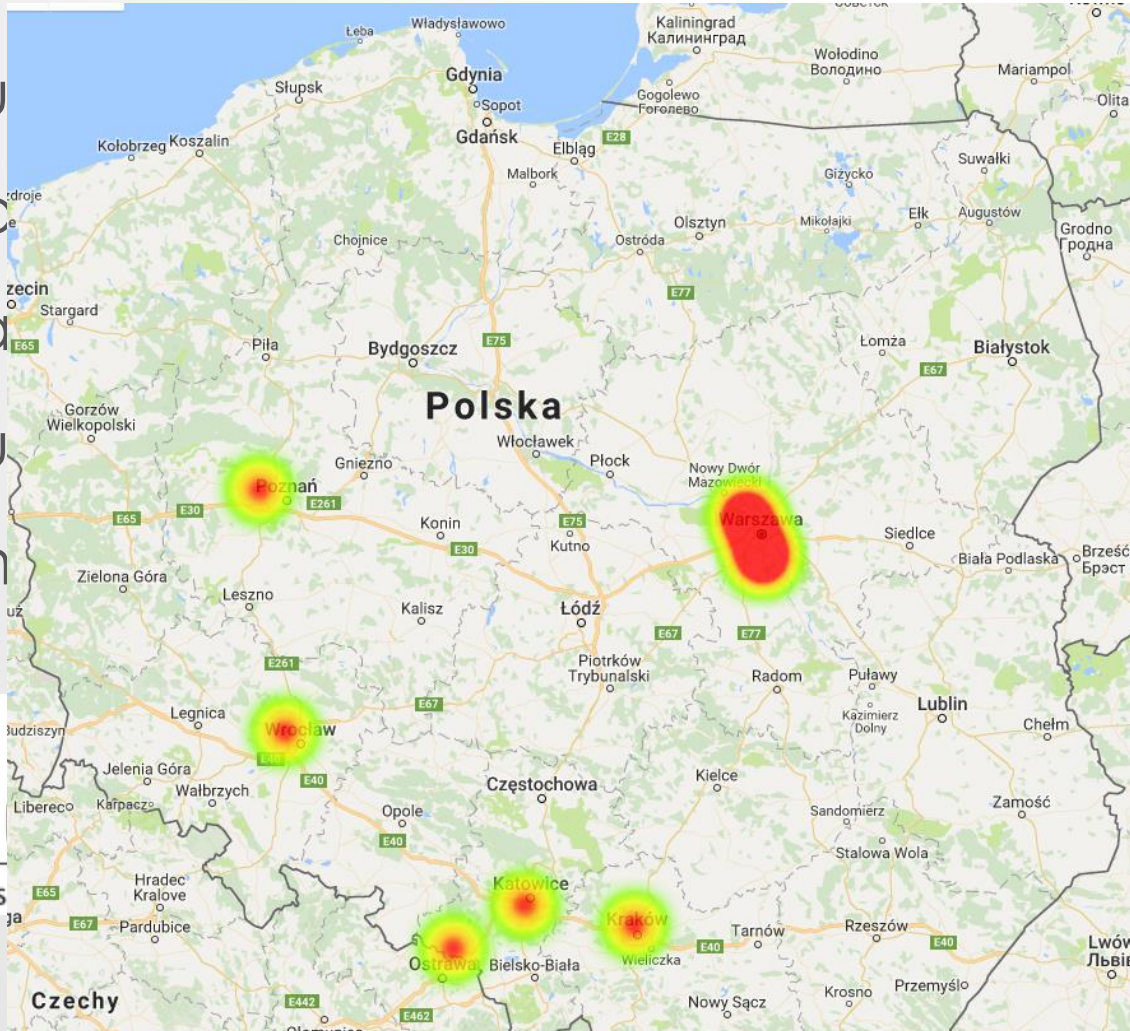
- Measurement systems
- Multispectral measurements
- 3D scanning
- Measurement services
- Equipment calibration

- Lab design
- Equipment services



# MEASUREMENT EQUIPMENT

- Measu
- Multisp
- 3D sca
- Measu
- Equipn



t services



creo TE  
Instruments



# SPACE APPLICATIONS



**SPACE PL**

Polish Space Industry Association



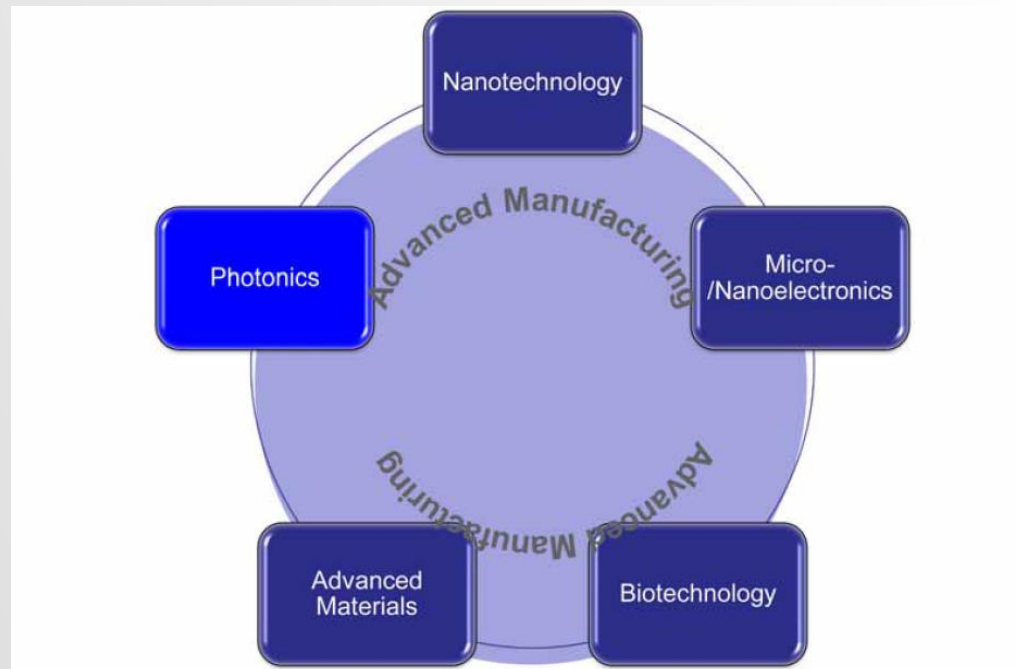
Sensing and Imaging  
Research Center



**creo TECH**  
Instruments S.A.



# KEY ENABLING TECHNOLOGIES NATIONAL SMART SPECIALISATIONS



## KIS 15. Photonics

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!

