



**Polska Platforma
Technologiczna Fotoniki**

Cluster of Polish Photonics and Microelectronics

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EU-Taiwan cluster matchmaking, 31 May 2023

Polish Technological Platform on Photonics

- Coordinating the Microelectronics, Electronics and Photonics Cluster
- Integrating industry, R&D and academia
- Supporting business development, R&D, education & training
- Recognised partner for regional, national and EU agencies (member of regional and national permanent consulting bodies, member of Photonic21 Association)
- Active in European industry and R&D networks (member of Board of Stakeholders Photonic21, ECCP, ENDR, partner of PhotonHub Europe)

I3R - services for ecosystem

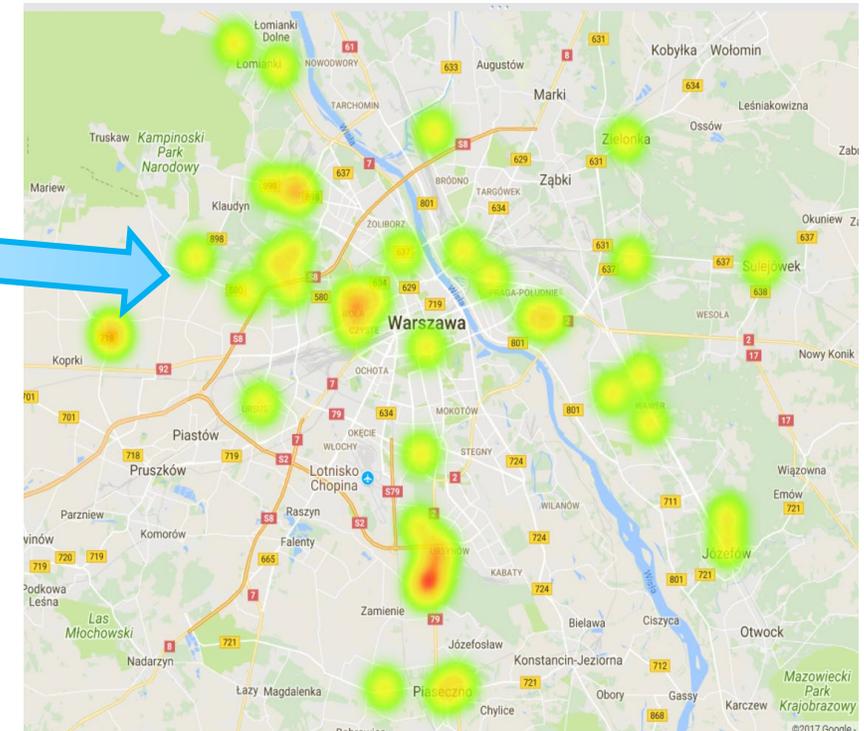
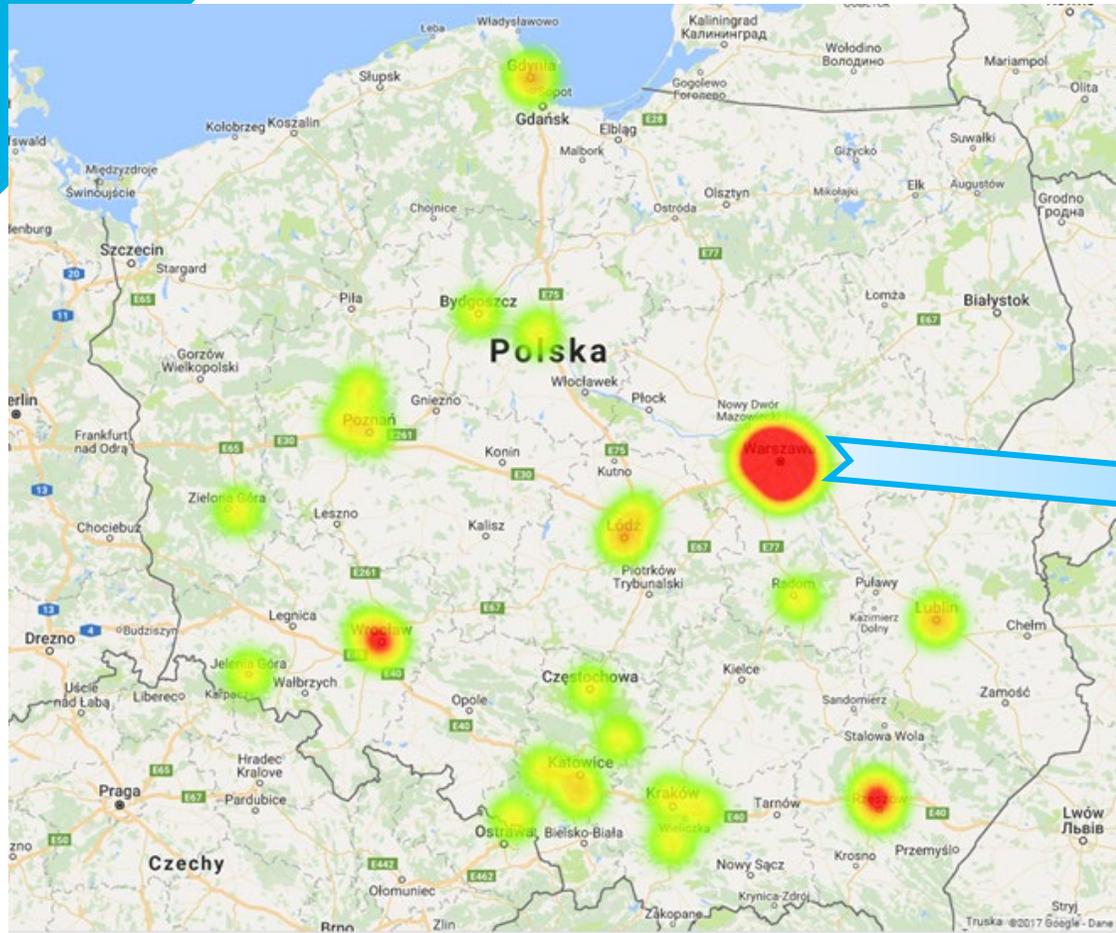
- **Integration**
of industry, research and academic actors

access to valuable
- **Information**
- **Inspiration**
for business and research cooperation
- **Representation**
before national and European public agencies

The Members



Geography



Activities

selected

- MSPO 2022, Kielce
- Laser World of Photonics 2022, Munich
- Czech-Polish Photonics 2023, Ostrava
- *Photonics 4 Defence* workshop, Kielce
- OpTecBB delegation, Warsaw
- Taiwanese semicon industry delegation, Wrocław
- 2nd International Photonics Job Fair, Warsaw



Teamwork

Some PPTF partners
across Poland and
Europe



Education, training and research

- 6 major academic hubs, 10+ universities
 - Warsaw (3)
 - Kraków (3)
 - Gdańsk (2)
 - Wrocław (1)
 - Lublin (2)
 - Toruń (1)
- 6 research institutes – or more
- Listed as National Smart Specialisation (KIS 9)
 - National and regional R&I strategies
- Technology park planned



and no.1 STEM women students number in Europe

Łukasiewicz-
IMIF

Industrial R&D
institution

Łukasiewicz - Institute of Microelectronics and Photonics, Warsaw

member of national R&D Łukasiewicz – network

- Research: materials, structures and devices, design and manufacturing technologies
- Design & manufacturing: semiconductor materials, structures and devices, semiconductors and microchips
- PhD and post-Doc students from around the globe

Planned investment: technology park for microelectronics and photonics (*Kampus Łukasiewicza*)



Łukasiewicz

Institute of Microelectronics
and Photonics

Polish Photonics and Microelectronics Industry

- 250+ companies across the country
 - (100 approx. Warsaw area)
- About 90% of SMEs
- Production value €4,1 Bn (2019)
- Manufacturing: materials, components, devices and applications
- Design- and software-houses (500+ employees in chip design)
- Export-oriented,
 - Top 3 markets: Europe, USA & Canada, Asia (without China)
- Investments in production capacity: international and local industry



Technologies

(selected)

- Materials and components:
 - GaN, SiC, III-V, graphene, OLED and PV materials, quantum dots, photonics crystals
 - IR detectors, blue diodes, quantum cascade lasers
- Printable semiconductors
- Special applications optics and thin film coatings
- Industrial femtosecond lasers
- Specialty optical fibers, soft glasses
- Optical metrology devices and systems
- IC and PIC design-houses, MWIR PIC technology



Polish Photonics and Microelectronics

More reasons to cooperate

- Highly skilled talents
- Experienced partners of European and US industry (TW too)
- „Fast-moving” - attitude
- Large market for semiconductor & electronics
- Favourable political momentum



Selected
companies

Materials and
devices

[Ensemble3](#)

semiconductor crystals

[LightHouse](#)

PIC design-house

[Noctiluca](#)

OLED and PV materials

[Photin](#)

MOCVD custom epitaxy

[QNA Technology](#)

blue quantum dots and inks

[TopGaN](#)

blue and violet laser diodes

[UNIPRESS](#)

GaN wafers

[VIGO Photonics](#)

IR detectors, III-V epitaxy

[XTPL](#)

electronics printing system and
nanoinks

[SYGNIS](#)

printable SiC and glass optics

Selected
companies

Support
technologies

Elproma

time synchronisation systems

Fluence

industrial femtosecond lasers

Insoptics

spectroscopy for plasma
processes

Lasertex

industrial laser metrology

Perspectiva Solutions

AI-enhanced laser diagnostics

Semicon

laser modules

Smarttech3D

3D scanners, optical metrology

Solaris Laser

laser marking systems

Solaris Optic

hi-end optical elements and
coatings

Selected
companies

Other
technologies

[Airoptic](#)

industrial gas analysers

[Atest-Gaz](#)

industrial gas detectors

[SHM System](#)

composite fiber sensors

[FIBRAIN](#)

optical fibers - telecom and
specialty

[FiberTeam](#)

fiber optics sensing systems

[ORCA Computing](#)

fiber optics quantum memory

[Photo4Chem](#)

industrial resins for 3D-print

[SDS Optic](#)

biophotonics cancer
diagnostics platform

[Telesystem-Mesko](#)

smart weapon guiding systems

Key take-aways on photonics and microelectronics in Poland

1. We have unique expertise and proven talents
2. We are ready and willing to cooperate

Thanks for listening –
What can we do together?



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