

STUDY VISIT AND MATCHMAKING DIGITAL HEALTH

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DIGITAL HEALTH



Łukasiewicz

Institute of Microelectronics and Photonics

We are part of the **Łukasiewicz Research Network** –
the third-largest public R&D institute network in
Europe (440 labs, 4 500 researchers).



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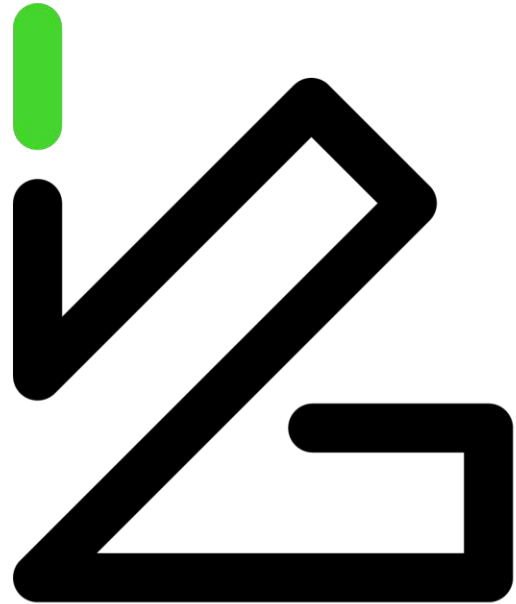
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Our research support asset



Łukasiewicz

Institute of
Microelectronics
and Photonics

- Over 50 years of experience in advanced research and technology development
- Key R&D areas: micro- and nanoelectronics, optoelectronics, photonics, sensors, power electronics, transparent/flexible electronics, materials engineering
- Four technology lines: silicon devices, optoelectronic components, wide-bandgap semiconductors and LTCC systems
- Unique infrastructure: over 1,200 m² cleanroom, CMOS-compatible, including GaN, SiC, MEMS, LTCC, and photonics technologies
- In-house certification & compliance center for electrical/electronic products and systems
- Active in international and EU-funded projects, including innovations in hydrogen tech, graphene, silicon carbide, high-frequency devices, MIR lasers, GaN lasers, and more

**Ideal environment for development of advanced optical sensors,
photonic device prototyping, biomaterials and surface engineering**

Calls of interest

- HORIZON-HLTH-2027-01-IND-02: Portable and versatile Point-of-care diagnostics

Ultra-sensitive optical sensors for the detection and determination of pathogenic markers and rapid diagnosis.

- HORIZON-CL4-2026-04-MATERIALS-PRODUCTION-40: New or enhanced IAM enabled sensing functionality

Advanced thin-film structures for multi-parameter sensor applications.

- HORIZON-HLTH-2027-01-TOOL-02: Advancing bio-printing of living cells for regenerative medicine

Surface-engineered 3D scaffolds made of non-biological materials tuned for assembling with established tissue

Project idea

A) Innovative photonic-based platform for biomarker detection

We are developing an integrated sensor platform to enable rapid and selective detection of protein and metabolic molecular biomarkers for prognostic, diagnostic and therapeutic clinical applications

The system combines optical detection, signal processing and sample handling

- Medical institutions – for access to relevant biomarkers and clinical samples

Looking for:

- Photonics research teams – interested in theoretical modeling and photonic structure design
- Industrial collaborators – for future device integration, scaling or diagnostics applications

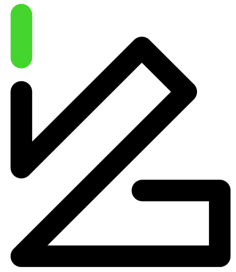
B) Innovative 3D scaffolds for bioprinting

Development and manufacturing scaffolds with desired properties and engineered surfaces for biocompatibility

- Medical institutions & research teams – for common projects, testing designs, prototypes fabrication
- Industrial collaborators – for future implementations

Looking for:

We offer advanced infrastructure, interdisciplinary expertise, and full-cycle sensor and scaffold development capabilities



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Collaborative Project Experience

- Participating in over 100 national and European R&D projects, including Horizon 2020 and earlier EU frameworks
- Partnerships with universities, research organizations, industry clusters, and OEMs: Institute of High Pressure Physics, VIGO Photonics, CB RTP S.A., Crocus Labs GmbH, TEKNOMA, Dacpol
- Integrates with European semiconductor ecosystem via involvement in the **EU Chips Act** pilot line consortium (GaN/SiC/FD-SOI technologies) alongside partners such as UNIPRESS, Pisa/CELENI etc.
- Experience in diverse forms of cooperation: national/international consortia, working with SMEs, large enterprises, industry clusters, and academic partners

Ł-IMI F offers seasoned experience in implementing collaborative R&D, cross-sector consortia, and multi-institutional EU-funded projects. Ready to engage with medical institutions, photonics research centers, industry consortia or clusters.