



Ministry of Science and Higher Education
Republic of Poland

Co-financed by the project of Minister of Science and Higher Education "Industry Contact Points for the Horizon Europe Research and Innovation Framework Programme"



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STUDY VISIT & MATCHMAKING

Digital hospital

Digital Hospital Matchmaking

Advanced sensing and stimulation technologies for data-driven healthcare

Contact



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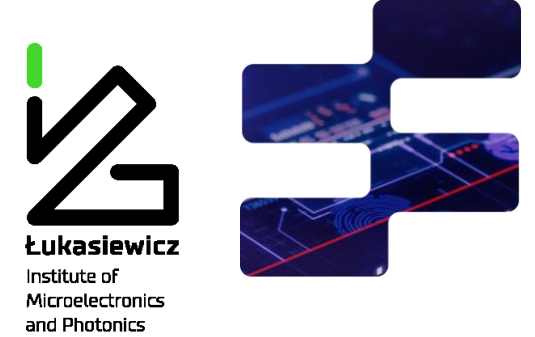
Focus for Digital Hospital matchmaking:

Advanced photonic sensing and neuromodulation hardware for data-driven healthcare workflows



Organisation & research support asset

Łukasiewicz–IMiF



- supports R&D consortia with device-level technologies for healthcare, sensing and photonics

Key assets:

- Thin-film, micro-/nanoelectronic, optoelectronic and photonic technologies
- Sensor structures, surface functionalisation and prototype development
- >1,200 m² cleanroom infrastructure: CMOS-compatible, GaN, SiC, MEMS, LTCC and photonics
- In-house compliance and certification support for electronic products and systems
- Experience in >100 international and EU-funded projects

Our role in Digital Hospital consortia:

From functional materials and device structures to prototype modules ready for validation with clinical, digital and industrial partners



Calls of interest - Two Digital Hospital Collaboration Tracks



Track A – Photonic diagnostic sensing

- HORIZON-HLTH-2027-02-IND-02-two-stage

Portable and versatile Point-of-care diagnostics

→ IMiF contribution: photonic/electro-photonic sensing modules, surface functionalisation and miniaturised diagnostic prototypes

- HORIZON-HLTH-2027-02-TOOL-01-two-stage

Predictive biomarkers of disease progression and treatment response using AI methodologies for chronic NCDs

→ IMiF contribution: biomarker detection hardware generating high-quality data for AI-supported clinical decision-making

- HORIZON-CL4-2027-05-DIGITAL-EMERGING-03

Advanced integrated photonic devices for extended features and ultra-low power consumption

→ IMiF contribution: integrated photonic sensing structures, thin-film technologies and low-power device concepts

Track B – Neuromodulation and personalised intervention

- HORIZON-HLTH-2027-02-DISEASE-14-two-stage

Clinical trials for innovative interventions for neurodegenerative diseases

→ IMiF contribution: neuromodulation device concepts and stimulation structures for integration with clinical, rehabilitation and digital monitoring protocols



Track A:

Photonic Biomarker Detection for Point-of-Care Digital Hospital Workflows



Need:

Hospitals need faster, sensitive and workflow-compatible biomarker detection closer to the patient

Concept:

Integrated photonic/electro-photonic sensing platform for rapid and selective detection of protein and metabolic biomarkers

IMI contribution:

- Photonic sensor structures and thin-film technologies
- Surface functionalisation for selective biomarker detection
- Signal readout and prototype diagnostic modules
- Integration of sample handling and detection concepts

Partners sought:

- Clinical partners – biomarkers, samples and validation needs
- AI/data partners – biomarker data interpretation and decision support
- Photonics and modelling teams – sensor optimisation
- Industry partners – device integration, scaling and diagnostics applications

Target calls:

HLTH-2027-02-IND-02 | HLTH-2027-02-TOOL-01 | CL4-2027-05-DIGITAL-EMERGING-03



Track B:

Neuromodulation Devices for Personalised Digital Therapy Pathways



Need:

Neurological and neurodegenerative conditions require more personalised, monitorable and technology-supported intervention pathways

Concept:

Non-invasive neuromodulation device concepts integrating stimulation structures, electronics and digital monitoring interfaces

Ł-IMiF contribution:

- Design and prototyping of stimulation structures
- Materials, thin-film and surface engineering
- Miniaturisation and integration of electronic/photonics components
- Device concepts for integration with clinical, rehabilitation and monitoring protocols

Partners sought:

- Clinical and neurophysiology partners – use cases, protocols and validation
- Digital health partners – monitoring

Target call:

HLTH-2027-02-DISEASE-14





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Thank you

Open to collaboration in Horizon Europe 2027 consortia

on Digital Hospital diagnostics and personalised intervention technologies



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and Photonics

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