

STUDY VISIT AND MATCHMAKING DIGITAL HEALTH

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DIGITAL HEALTH



Organisation name: Łukasiewicz Research Network – PORT Polish Center for Technology Development (Wrocław, Poland)

Organisation type: Research institute specializing in applied and basic research in material engineering and biotechnology

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Łukasiewicz – PORT | Research & Innovation

Łukasiewicz – PORT Polish Center for Technology Development is a leading research institute within the Łukasiewicz Research Network. The institute focuses on advanced research and development in **biotechnology, medicine, materials engineering and information technologies**, including **artificial intelligence (AI)** applications for healthcare.

Our work combines **advanced laboratory infrastructure, a biobank integrated with European networks**, and expert research teams in **life sciences, materials engineering and medical technologies**. We explore solutions in areas such as **precision medicine, diagnostics**, and **digital health**, applying AI and data analytics to accelerate innovation.

As an international research hub, Łukasiewicz – PORT collaborates with universities, hospitals, and industry partners worldwide to deliver breakthrough technologies that improve human health and quality of life.



Laboratory infrastructure

- 4 laboratory buildings
- 8 660 m² of laboratory space
- 12 500 m² of technical area, rooms, social facilities
- 3 research centers
- 6 core facilities
- 18 research groups

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Life Sciences & Biotechnology Center

Population Diagnostic Center



Quantitative Virology Group



Epidemiology Research Group



Bioengineering Group



Biobank Group



Genome Dynamics Group



Mechanisms of Neurodegeneration Group



Innate Immunity Group



Cancer Neurophysiology Group



Neuroplasticity and Metabolism Group



Translational Neuropsychiatry Group



Immunotherapy Group



Molecular Neurobiology Group



Biology of Astrocytes Group



Synaptogenesis Group

Materials Science & Engineering Center



Advanced Materials Synthesis Group



Photonic Materials Group



Advanced Semiconductor Epitaxy Group



Functional Macromolecules and Porous Materials Group

Research Support Assets at Łukasiewicz – PORT

Advanced Core Facilities



Accredited Laboratories (ISO/IEC 17025)

- Proteomics, metaboolics, cyytometry
- NMR, LC-MS/MS, microscopy



Medical Diagnostics Lab

- RT-PCR, serology
- Population diagnostics



Quality & Confidentiality

- Accredited quality systems
- Dedicated project managers
- Full data security



High-End Equipment

- Confocal & electron microscopes
- Flow cytometers
- NMR spectrometers
- PCR platforms, automated pipettes
- LC-MS systems



Project Support & Collaboration

- Grant writing (e.g., Horizon Europe)
- Technology transfer & spin-offs



Strategic Research Areas

- Diagnostics & treatment of civilization diseases
- Pharmacological safety ehancement national biomedical security



Chemistry for industry

- Functional materials with sensory properties and semiconductor technologies

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We are interested in collaboration in the area of **HORIZON-CL1-2026-2027_04_01_2025 (003)**; however, we are not limited exclusively to this scope. We are open to joint activities in any other scientific area presented in our presentation. Our research competences include, among others:



Life Sciences & Biotechnology Center:

- Oncology, neurodegenerative and psychiatric disorders
- Personalized medicine and pharmacological safety
- Advanced diagnostic technologies and therapeutic platforms
- Application of Artificial Intelligence in medicine (*future strategic direction*)



Population Diagnostic Center:

- Molecular epidemiology and pathogen–host interactions
- Epigenetics of infectious diseases
- Microbiome and immune response in the context of infectious diseases
- Social and economic epidemiology, sentinel studies
- Biological threats in the context of climate neutrality and food security



Materials Science & Engineering Center:

- Functional materials with sensory properties
- Semiconductor technologies
- Innovative solutions for industry and the R&D sector

We look forward to the opportunity to develop collaboration in the above-mentioned areas as well as in other future research initiatives.

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Project experience: ongoing project within Horizon Europe:

P4Health – Centre of Excellence for Precise Phenotyping and Biodatabanking

Partners: King's College London, CERBM

Aim: To enhance personalised medicine using AI-powered integration of biomedical and lifestyle data for precise disease profiling and tailored therapies.

SAME-NeuroID – Standardized Approaches to Modelling and Examination of Neuropsychiatric Disorders

Partners: ICM Paris Brain Institute, Max Planck Institute of Psychiatry, Erasmus MC

Aim: To standardize brain disorder models and protocols, improving reproducibility and interoperability in neuroscience research.

EUCAIM – European Federation for Cancer Images

Partners: 90+ organizations incl. EIBIR, BBMRI-ERIC, La Fe Hospital, Euro-BiolImaging

Aim: To create a federated, AI-powered platform for secure sharing and analysis of cancer imaging data across Europe.

SAUFEX – Secure Automated Unified Framework for Exchange

Partners: University of Warsaw, PAS, Faktabaari, Debunk, DROG

Aim: To develop an open AI-based platform for detecting and aggregating online disinformation, including in healthcare.

RITIFI – Research Infrastructure Technology Infrastructure for Imaging

Partners: 14+ institutions incl. CEA, VTT, ESRF, EATRIS ERIC, Fraunhofer

Aim: To strengthen Europe's imaging infrastructure through advanced technologies and cross-border collaboration.

Thank you