

Łukasiewicz

Institute
of Artificial
Intelligence and
Cybersecurity

Łukasiewicz – AI

A brief overview

Polish Artificial Intelligence Society Symposium
Wrocław, September 11-12, 2025



Łukasiewicz Research Network

22 institutes

12 cities

4500 scientists & experts

4 directions of research



Defence and national security



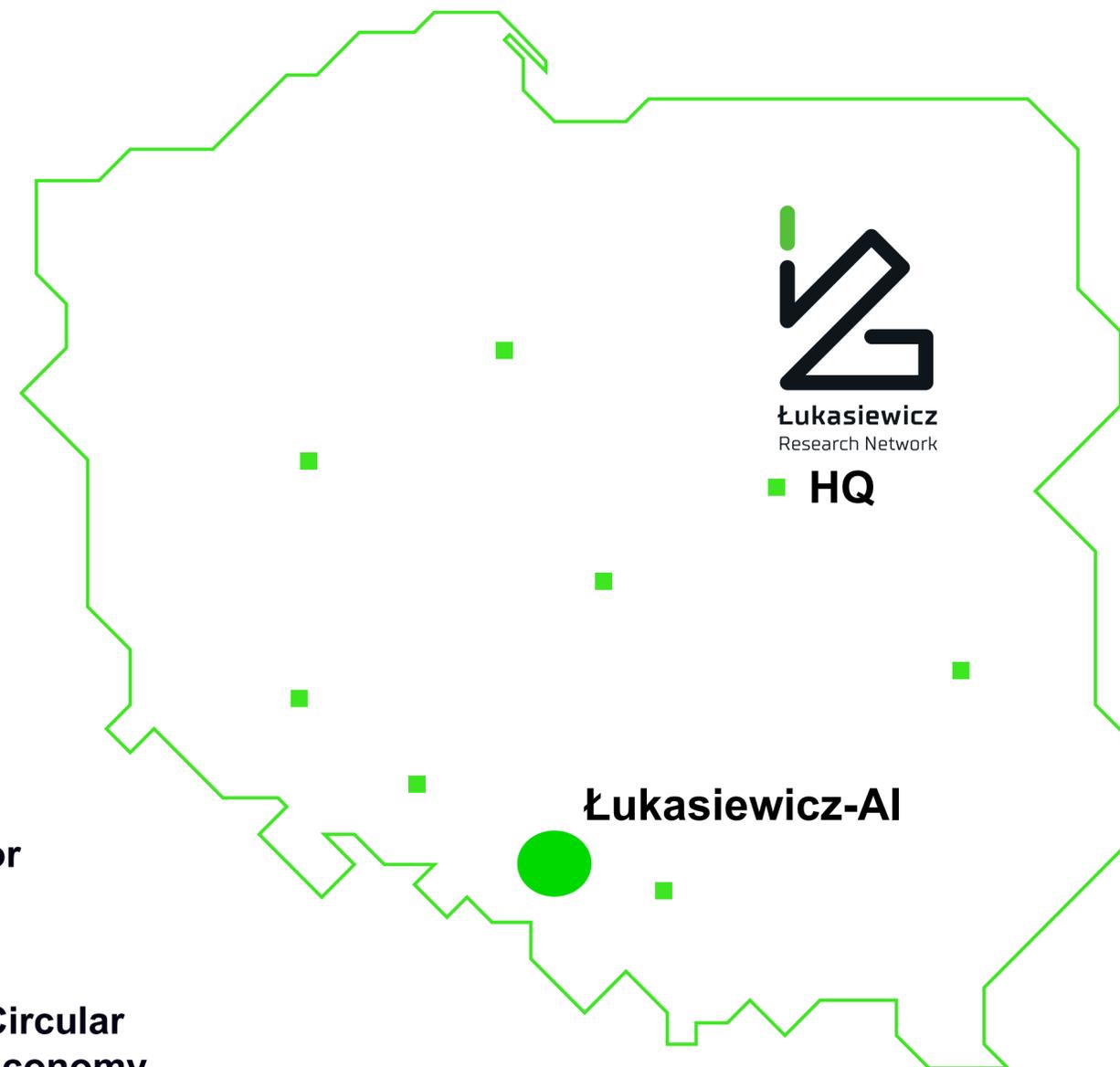
Chemistry for industry



Energy transition



Circular economy



Łukasiewicz – AI: the history and presence

Established in 1975 as R&D Center SMEAG.

As a Institute of Innovative Technologies EMAG at the time, in 2019 was incorporated to Łukasiewicz Research Network.

Since 2025 is known as **Łukasiewicz Research Network – Institute of Artificial Intelligence and Cybersecurity** and engages almost 200 employees(*), specializing in applied computer science and information technologies.

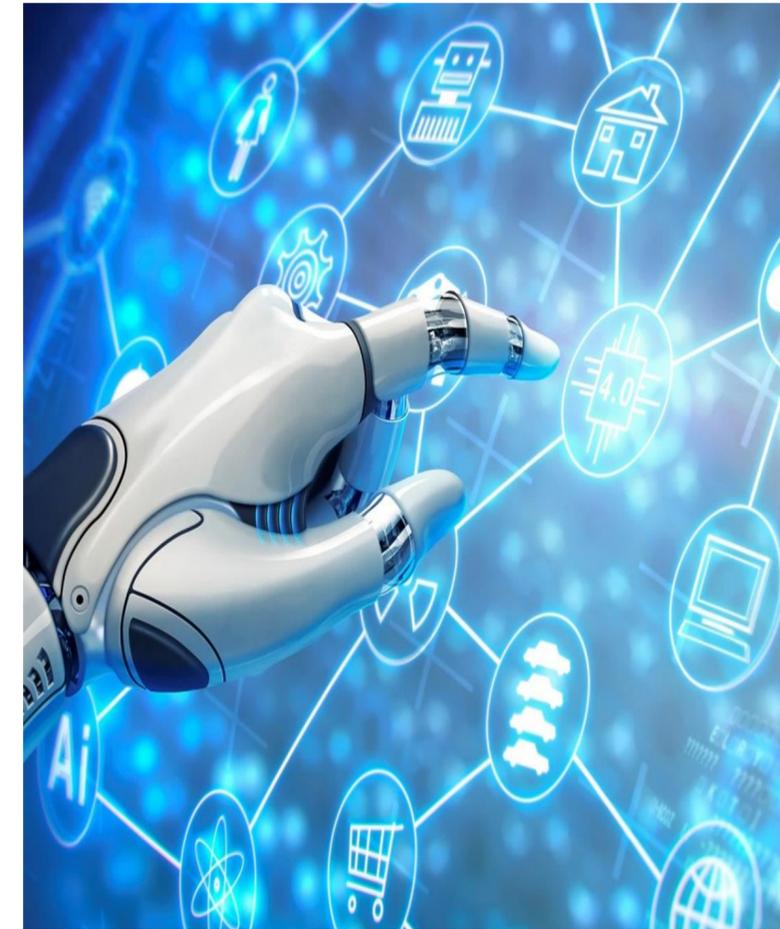
3 Research Centres

- Research Centre for Innovative Technologies
- Informatics Research Centre
- Cybersecurity Centre

We offer dedicated IT solutions for optimization, and for efficient and secure operations for companies, industry and administration.



We are the **Leader of Cybersecurity and Artificial Intelligence** area in the Łukasiewicz Research Network.



Łukasiewicz – AI: the scientific and research activities

Łukasiewicz Research Network – Institute of Artificial Intelligence and Cybersecurity brings together a dynamic research environment with strong academic and industrial links:

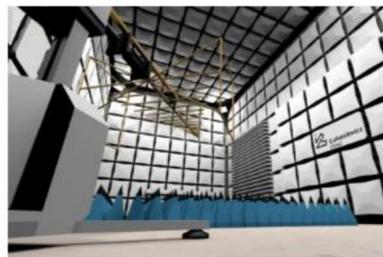
- **over 70 researchers and experts**, including full professors, associate professors, and assistant professors;
- **close cooperation with Polish universities**, with staff members co-affiliated with institutions such as the Silesian University of Technology, the University of Silesia, and the University of Economics in Katowice;
- **active project portfolio**: 11 national and international projects currently in progress, with 4 more scheduled to start soon;
- **over 10 research groups**, covering key areas such as AI Systems, Industrial Informatics and Big Data, Health and Accessibility, Transport Systems, and Hydrogen Technologies;
- **8 specialized laboratories**, supporting applied research, prototyping, testing, and certification.



ITSEF Laboratory
(IT Security Evaluation
Facility)



Radio Equipment
Laboratory



Electromagnetic
Compatibility Laboratory



Cable and Environmental
Research Laboratory



Electric Machines
and Devices Laboratory



Gas Measuring Devices
Laboratory



Calibration Laboratory



Accredited product
certification body

Łukasiewicz – AI: other activities

- **CUBE (Complex Security Services)** – 24/7 monitoring of IT infrastructure, including databases, clusters, networks and network equipment, personal computers, and enterprise applications.
- **Advanced Data Analysis and Decision Support Systems** – services in advanced analytics, industrial metrology, machine learning, and artificial intelligence, supporting business, public administration, and industry in strategic decision-making.
- **Trainings** – specialized training programs designed to strengthen digital competences in areas such as:
 - **Cybersecurity and IT risk management** (threat detection, incident response, compliance with NIS2, RODO, and sectoral standards),
 - **Artificial Intelligence and Data Science** (applications in industry, healthcare, administration, and smart cities),
 - **Standardization and certification** (e.g., Common Criteria, ISO/IEC norms, trustworthy AI frameworks).
- **Certifications** – accredited laboratories providing conformity assessments, IT security evaluations, and certifications aligned with international standards.
- **Implementation & Commercialization Department** – dedicated support for technology transfer, adaptation of R&D results to market needs, and building partnerships with enterprises, public administration, and international consortia.

Łukasiewicz – AI R&D International Projects

HORIZON EUROPE



Mine.IO A Holistic Digital Mine 4.0 Ecosystem

An Industry 4.0 digital twin for the mining industry: optimisation, automation, and robotisation

Łukasiewicz – AI: Development of AI-based technology for monitoring the metal ore flotation process in collaboration with Łukasiewicz – ITR, AGH University and KGHM Polska Miedź S.A.



FP1 – MOTIONAL Europe's Rail Flagship Project 1 MObility management multImodal enviroNment aNd digitAl enabLers

Redefining rail transportation: improved planning and operational management

Łukasiewicz - AI: Development of a tool to support multimodal travel



FP4 - Rail4EARTH - Europe's Rail Flagship Project 4 Sustainable and green rail systems

Providing innovative products and services to improve sustainability of the European transport landscape

Łukasiewicz - AI: Implementing algorithms for electrochemical warehouse operation control; determining electrochemical storage parameters, developing functional requirements and test cases for demonstrators, establishing a methodology for Energy hubs and smart green stations.

Łukasiewicz – AI R&D International Projects

DIGITAL EUROPE



EDIH SILESIA SMART SYSTEMS Capacity building and deployment in the EDIH network to enhance digital transformation in the Silesia and Opolskie Voivodships in Poland

The Regional Digital Innovation Hub Silesia Smart Systems (EDIH-SILESIA) is specialised in: artificial intelligence, cybersecurity and additive manufacturing.

Łukasiewicz – AI: Providing services for SMEs aimed at increasing their digital maturity.



OSCRAT Open-Source Cyber Resilience Act Tools

Enhancing cybersecurity resilience among European SMEs through the development of an open-source, free tool for supporting compliance with the Cyber Resilience Act (CRA)

Łukasiewicz – AI: Defining the scope of the CRA automation tool; identifying requirements from stakeholders and end-users, sharing the experience in developing tools for cybersecurity compliance



CTI-AI - AI-led Cyber Threat Intelligence (CTI) for Security Operations Centers and National Cyber Security

Optimizing the scalability of cybersecurity resources and advancing the maturity of SOC and CTI operations through AI-enhanced technologies and methodologies.

Łukasiewicz - AI: Coordination of the project

Łukasiewicz – AI R&D National Projects

**cALL
POL**



CALL-POL (Childhood ALL in Poland) National harmonization of diagnostics and treatment of acute lymphoblastic leukemia in children

To facilitate access to the latest therapies for Polish children suffering from acute leukemia: the proposed therapies will be available to all children in Poland and treatment options will be identified using advanced and state-of-the-art molecular diagnostic tools

CyberBEAM

CyberBEAM Cybersecurity Assessment and Certification System – Lightweight Certification Programs

The development of NASK-PIB and Łukasiewicz-AI activity in the field of cybersecurity compliance assessment and certification, e.g. lightweight Cybersecurity Assessment and Certification System, IoT Fast Cybersecurity Assessment and Certification Program.

Osocze Support and optimization model of therapy with autologous platelet-rich plasma (PRP) – PLASMA

Support for medical facilities/doctors and PRP patients; development of PRP Therapy Hybrid System, optimizing PRP therapy processes.



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