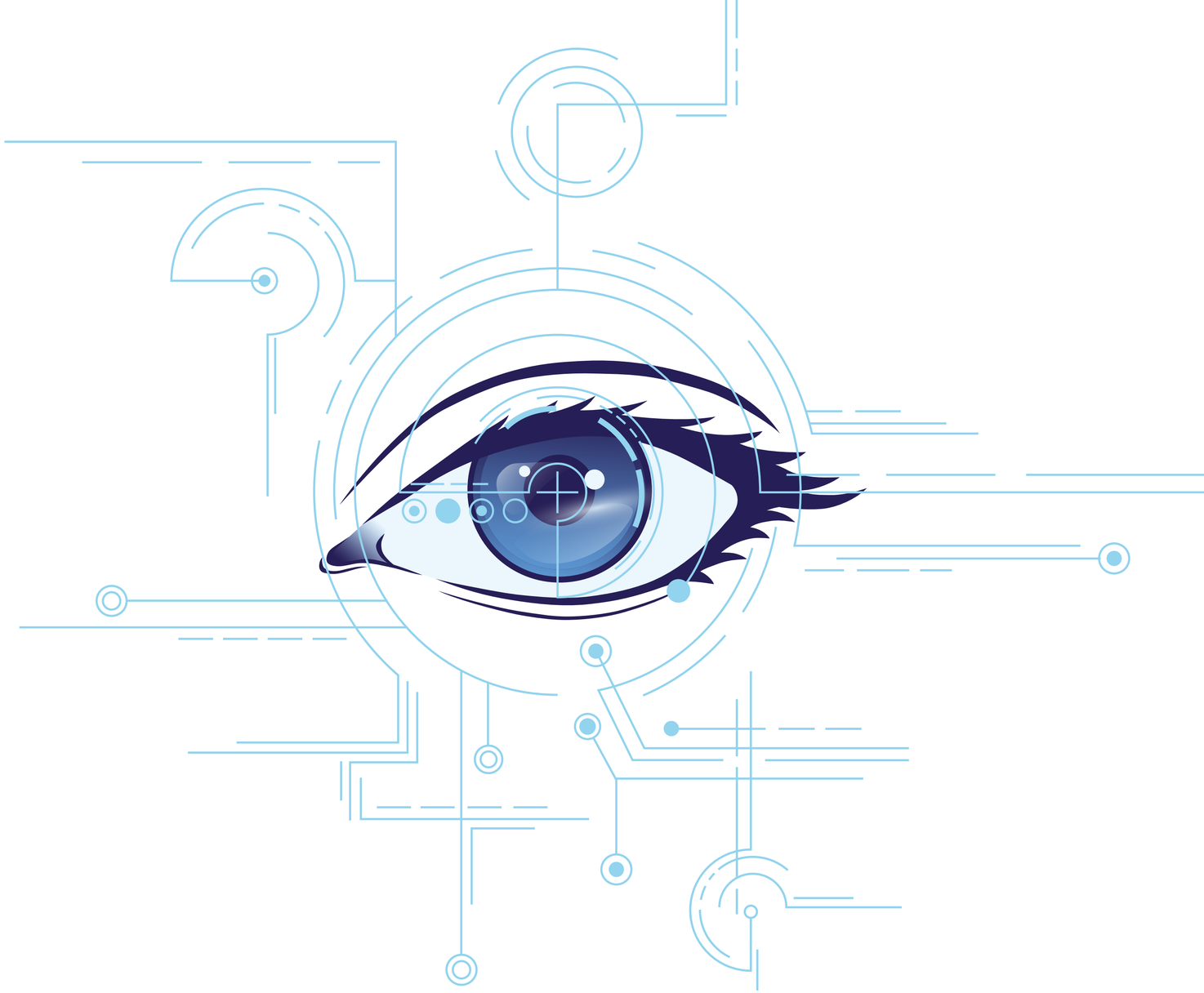
NATIONAL
INFORMATION
PROCESSING
INSTITUTE



NATIONAL INFORMATION PROCESSING INSTITUTE (OPI PIB)

We are an interdisciplinary scientific institute and a leader in IT system software development for Polish science and higher education. We hold knowledge about almost every Polish scientist, and their projects or research apparatus.

Our primary goal is to facilitate quick access to up-to-date and comprehensive information on Polish science. Gathering, analysing and compiling information on the research and development sector allows us to influence the shape of the Polish scientific policy. We develop intelligent information systems both for the public sector and for commercial use. We undertake research projects, analyse the activity of the Polish research and development sector and, more broadly, study how new media is shaping societies and influencing business as well as the development of artificial intelligence. The institute is supervised by the Polish Ministry of Education and Science.

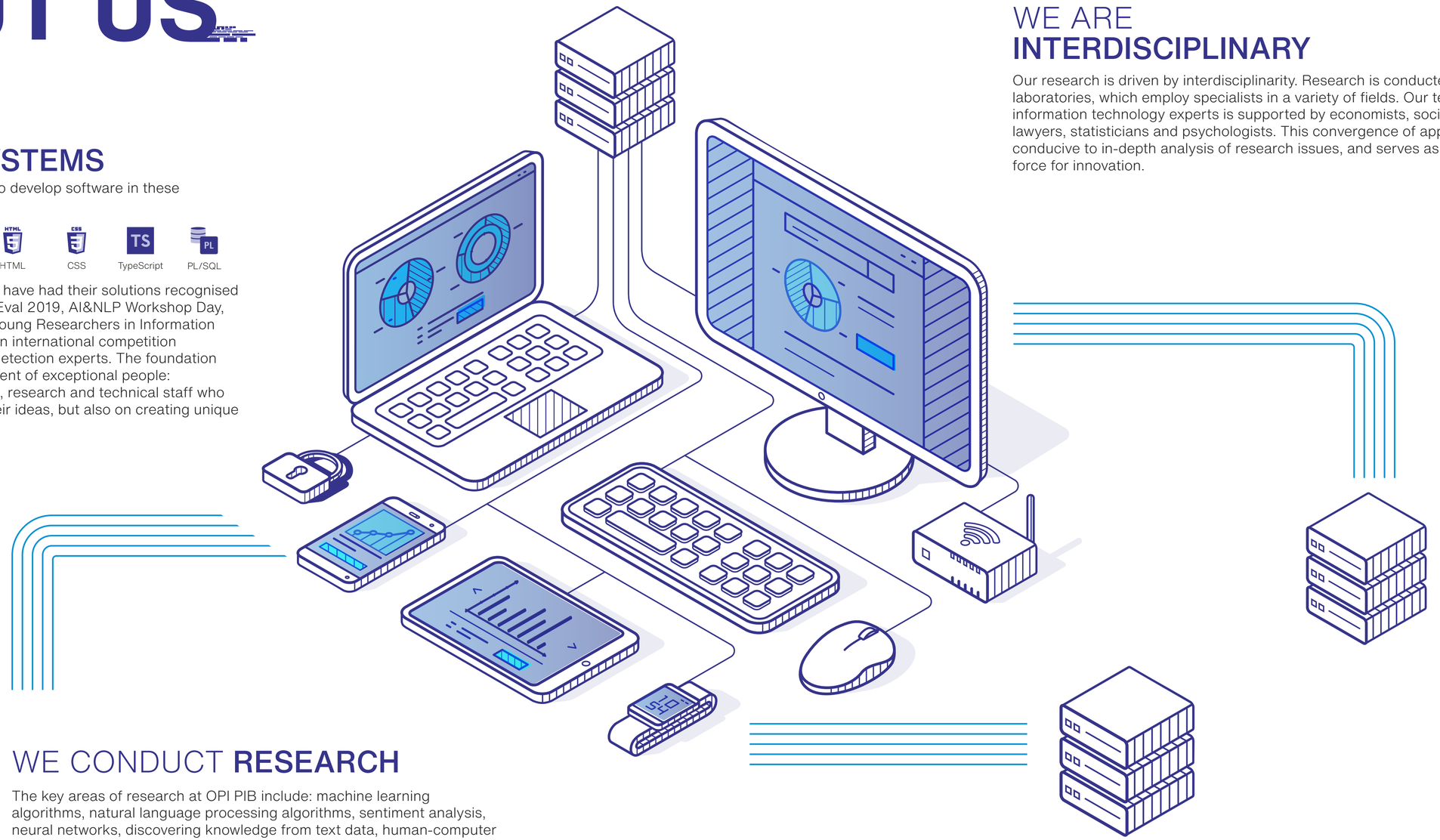
ABOUT US

WE CREATE
INFORMATION SYSTEMS

We employ over 200 programmers who develop software in these programming languages:

Java · JavaScript · React · Python · HTML · CSS · TypeScript · PL/SQL

These highly specialised professionals have had their solutions recognised at programming contests, such as PolEval 2019, AI&NLP Workshop Day, Workshop for Doctoral Students and Young Researchers in Information Technology 2018 (WDSIT 2018), and an international competition organized by a network of plagiarism detection experts. The foundation of our success is built on the commitment of exceptional people: professors; PhD holders; and scientific, research and technical staff who are focused not only on developing their ideas, but also on creating unique products and solutions.



WE ARE
INTERDISCIPLINARY

Our research is driven by interdisciplinarity. Research is conducted in seven laboratories, which employ specialists in a variety of fields. Our team of information technology experts is supported by economists, sociologists, lawyers, statisticians and psychologists. This convergence of approaches is conducive to in-depth analysis of research issues, and serves as a driving force for innovation.

WE CONDUCT **RESEARCH**

The key areas of research at OPI PIB include: machine learning algorithms, natural language processing algorithms, sentiment analysis, neural networks, discovering knowledge from text data, human-computer trust, computer assisted decision making systems and artificial intelligence.

OUR LABORATORIES

LABORATORY OF **DATABASES AND BUSINESS ANALYTICS:**

- Designs and implements advanced data processing and visualisation systems for the public and private sectors.
- Analyses data using modern tools and methods.
- Conducts business and research projects fusing computer science and social sciences, including political economy.
- Prepares reports for institutions involved in shaping research and development policies in Poland and the European Union.
- Makes recommendations for changes in the science and higher education sector, and in innovation.

LABORATORY OF **INTERACTIVE TECHNOLOGIES:**

- Runs projects that fuse technology and social sciences with a view to humanity and its needs.
- Studies phenomena related to human-computer interaction and its social context.
- Works as a group of specialists in a variety of fields, including: IT, sociology, psychology, neuroscience, statistics and user-oriented design.

LABORATORY OF **NATURAL LANGUAGE PROCESSING:**

- Develops intelligent tools to discover knowledge from large textual and internet data corpora.
- Studies natural language processing and machine learning methods.
- Designs e-services for public and commercial entities, including key systems for the Ministry of Science and Higher Education: the Polish Scholarly Bibliography (PBN) and the Uniform Anti-plagiarism System (JSA).
- Creates systems supported by practical artificial intelligence methods.

LABORATORY OF **INTELLIGENT INFORMATION SYSTEMS:**

- Maintains and develops some of the largest IT systems for the science and higher education sector.
- Ensures data security.
- Develops e-services.
- Conducts research on machine learning using the latest algorithms and neural networks.

LABORATORY OF **STATISTICAL ANALYSIS:**

- Identifies social phenomena.
- Analyses and visualises qualitative and quantitative data.
- Designs services.
- Creates reports and prepares scientific publications.

LABORATORY OF **APPLIED ARTIFICIAL INTELLIGENCE:**

- Runs projects that connect new technologies and medicine.
- Is developing the eRADS system designed to support doctors during the diagnosis of cancer patients.
- Develops e-services for the Polish National Agency for Academic Exchange (NAWA) and the Medical Research Agency.

LABORATORY OF **BUSINESS SYSTEMS:**

- Is developing the Electronic Proposal Submission Service (ZSUN/ OSF).
- Solves technical issues in cooperation with the Polish Ministry of Education and Science, the Polish National Science Centre (NCN) and the Polish National Centre for Research and Development (NCBR), so that applications for science funding reach decision-makers quickly and efficiently.

OUR PROJECTS

Another key task of OPI PIB is to create and maintain comprehensive science and higher education databases and systems.

POL-on

The Integrated System of Information on Science and Higher Education (POL-on) is the most extensive data repository on Polish science and higher education, which incorporates PBN (the Polish Scholarly Bibliography), POL-index (the Polish Citation Database) and ORPPD (the Polish National Repository of Theses).

ELA

The Polish Graduate Tracking System (ELA) presents information on the earnings of the alumni of specific faculties and universities. It allows prospective students to make more informed choices about their studies.

ZSUN OSF

The Electronic Proposal Submission Service (ZSUN/ OSF) is a system used to register and handle applications for financing science projects submitted to the Ministry of Science and Higher Education, the National Science Centre, and the National Centre for Research and Development.

JSA

The Uniform Anti-plagiarism System (JSA) is used by academic supervisors to ensure that theses have not been plagiarised. The system is available free of charge to all Polish higher education institutions.

NAVOICA

NAVOICA is an open education platform offering free Massive Open Online Courses (MOOC) in various fields of science. The website forms a cooperation network between universities and other recognised educational institutions, which translates into high quality courses and excellent education results.

PBN

The Polish Scholarly Bibliography (PBN) is a database containing information on the academic articles published by Polish scientists, publications of scientific units, and Polish and foreign journals. PBN forms a part of the POL-on system.

pol-on 2.0 SEDN

SEDN (System for Evaluation of Scientific Achievements) is designed to present and assess the achievements of scientific units operating in Poland. The units are evaluated with the SEDN application and awarded appropriate scientific categories (C, B, A, A+).

NAWA

The system of the Polish National Agency for Academic Exchange (NAWA) is designed to handle academic exchange and the international cooperation of Polish universities. NAWA is used by students, scientists and institutions to submit scholarship applications. The system supports processes to evaluate scholarship applications, issue decisions, sign agreements and submit reports.

radon

RAD-on (Reports, Analyses, Data) is an integrated information platform that gathers, processes and provides information on science and higher education in Poland. It integrates nine systems: POL-on, Inventorum, Polish Science, ORPPD, ZSUN/ OSF, PBN, SEDN (the System for Evaluation of Scientific Achievements), SWWR (the Support System for Selection of Reviewers) and ELA.

OUR RESEARCHERS' WORK **HAS BEEN PUBLISHED IN LEADING SCIENTIFIC JOURNALS AND TRADE MAGAZINES, INCLUDING:**

- Expert Systems with Applications,
- International Journal of Electrical Power & Energy Systems,
- International Journal of Intelligent Systems,
- Knowledge-Based Systems.

WE IMPLEMENT **STRUCTURAL FUNDS**

European Funds
Smart Growth

over PLN 2 billion

2014-2020
measure: 4.2
Development of modern research infrastructure of the science sector.

INNOVATIVE ECONOMY
NATIONAL COHESION STRATEGY

over PLN 1 billion

2007-2013
measure: 1.1.1, 1.3.1, 1.3.2

INFRASTRUCTURE AND ENVIRONMENT
NATIONAL COHESION STRATEGY

over PLN 3.2 billion

2007-2013
measure: 13.1

Polish-Swiss Research Programme

over PLN 96 million

2009-2017
in five thematic areas

STRATEGIC RECIPIENTS OF OUR **SYSTEMS AND RESEARCH** RESULTS INCLUDE:

Ministry of Education and Science

Łukasiewicz Research Network

The National Centre for Research and Development

Polish Accreditation Committee

NAWA

National Science Centre Poland

Rada Doskonałości Naukowej

WE ALSO HAVE **BUSINESS RELATIONSHIPS** WITH PUBLIC AND PRIVATE ORGANISATIONS, INCLUDING:

Ministry of Economic Development, Labour and Technology

centrum archiwistyki społecznej

Medical Research Agency

VIVE Textile Recycling

WE ARE SUCCESSFUL IN OBTAINING **GRANTS**. WE HAVE CONDUCTED **PROJECTS** ALONGSIDE:

Kozminski University

SGH

CNT UKSW

European Commission

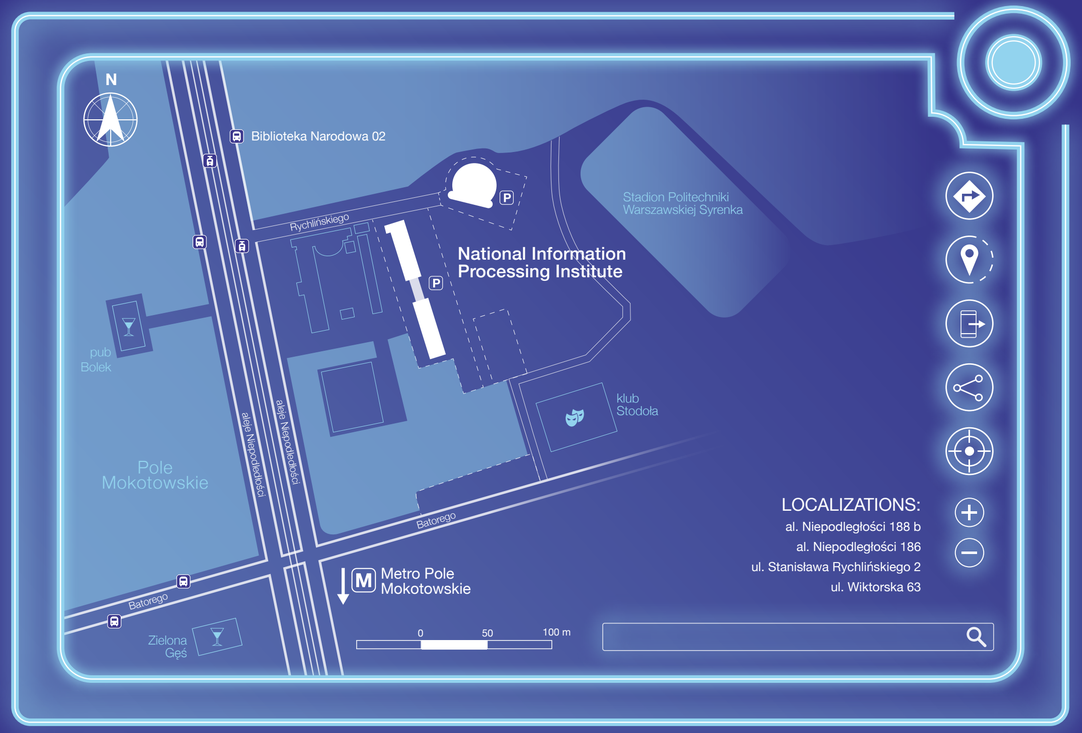
Visegrad Fund

AS PART OF THE HORIZON 2020 PROGRAMME, WE ARE PARTICIPATING IN THE E-BALANCE PLUS PROJECT, WHICH AIMS TO **CREATE AN ENERGY BALANCING PLATFORM.**

European Union

The project is financed by Horizon 2020 – the European Union framework programme for research and innovation under grant agreement no. 864283.

CONTACT US



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