

## ERASMUS POLICY STATEMENT (EPS)

### Participation in Erasmus+

The National Information Processing Institute (OPI PIB) is a national research institute that provides IT infrastructure for the higher education and science sector in Poland. Scientists employed at OPI PIB conduct research in two scientific disciplines: 1) information and communication technology (ICT; scientific field: engineering and technology); 2) sociology (scientific field: social sciences). Our key areas of research include machine learning algorithms, natural language processing algorithms, sentiment analysis, neural networks, discovering knowledge from text data, human–computer interaction (HCI), computer-assisted decision-making systems, artificial intelligence, scientometrics, sociology of science, and innovative artificial intelligence methods in medical diagnosis. Our research is conducted in research laboratories, bringing together professionals in a variety of fields, including information technology, sociology, economics, law, statistics, and psychology. In 2022, the OPI PIB was awarded scientific categories, which authorised the institute to confer doctoral degrees in sociology and ICT. In 2023, the institute concluded an agreement to join the Doctoral School of Information and Biomedical Technologies of the Polish Academy of Sciences established by the Institute of Fundamental Technological Research (TIB PAN) in collaboration with:

1. the Systems Research Institute of the Polish Academy of Sciences
2. the Nalecz Institute of Biocybernetics and Biomedical Engineering of the Polish Academy of Sciences
3. the Institute of Theoretical and Applied Informatics of the Polish Academy of Sciences
4. the Mossakowski Medical Research Institute of the Polish Academy of Sciences
5. the Institute of Computer Science of the Polish Academy of Sciences
6. the Institute of Fundamental Technological Research of the Polish Academy of Sciences
7. the NASK National Research Institute.

The doctoral school will foster innovative ICT research initiatives in the social and medical dimensions. Given that the doctoral school intends to commercialize the products and services it designs and develops, collaboration with the business sector will be promoted. Doctoral students will acquire skills that are relevant for the responsible and sustainable development of technologies and will familiarize themselves with the principles of research and research ethics. As part of the newly established doctoral school, OPI PIB intends to develop a didactic offer in English. The institute will contribute to the doctoral school's education programme by providing:

- Methods of software development and maintenance of modern ICT systems
- Big data analysis and visualization
- Alternative methods of controlling interfaces of information systems
- Creating new artificial intelligence algorithms that are inspired by neuroscience
- Machine learning methods in the field of natural language processing and image processing.

The curriculum of the doctoral school will be based on the European Credit Transfer and Accumulation System (ECTS), which will enable doctoral students to recognize and transfer their achievements. OPI intends to proceed with the development of detailed guidelines for awarding and recognizing ECTS credits. With OPI PIB currently in the process of recruiting its first ICT doctoral candidates, the present statistics for doctoral student and staff remain at zero.

The agreement to join a doctoral school is part of a wider strategy of the institute to foster scientific excellence, as stipulated in the Strategy of the National Information Processing Institute for 2021–2025 and beyond. The document focuses on a vision of research internationalization and other scientific activities of OPI PIB's research staff. It also prioritizes the strengthening of international cooperation with higher education institutions and other organisations that provide courses and conduct research that is similar to OPI PIB's areas of scientific interest. An important element of this strategy is obtaining certifications and accreditations that are recognizable in Europe and internationally to ensure that research and teaching at OPI PIB meets the highest standards. Currently, the institute employs forty two researchers, including professors, assistant professors, and research technical specialists. An exchange program for OPI PIB's doctoral students and staff members is scheduled to roll out between 2024 and 2027.

As part of Erasmus+, OPI PIB declares its readiness to participate in the following activities:

- Learning mobility that is mainly related to academic exchange of doctoral students and staff members – KA1: Learning mobility of individuals,
- Cooperation in the field of innovation and good practices regarding capacity building of higher education, in particular in the field of scientific research and cooperation between entrepreneurs and the institute – KA2: Cooperation action among organizations and institutions.

Erasmus+ projects are part of the strategy to internationalize research at OPI PIB. Participation in Erasmus+ constitutes an important element of the institute's educational offer. By joining Erasmus+ initiatives, doctoral candidates, researchers, and administrative staff will be given the opportunity to exchange knowledge and consolidate research collaboration with other institutions. Widening mobility opportunities will contribute to the improvement of the quality of study programmes and development of science, both at the National Information Processing Institute and at partner HEIs.

## Strategy, objectives and impact

Recognizing the global dimension of science, the Strategy of the National Information Processing Institute for 2021-2025 and beyond underscores the crucial role of international collaboration in enhancing the quality and impact of research and innovation.

This approach contributes to increasing the visibility of OPI PIB's researchers and doctoral candidates and to recognizing their achievements internationally. In the initial stage, the strategy involves promoting researchers' presence at major IT conferences, establishing and strengthening international partnerships through agreements, and seeking grants within international teams. An important element of the Institute plan is obtaining the HR Excellence in Research certificate. A fundamental step towards internationalization is to obtain ECHE accreditation and foster collaboration and exchange of OPI PIB's doctoral candidates, researchers, and academic and administrative staff.

The planned objectives that result from the activities include:

- Development of an educational offer in English for the purpose of the doctoral school;
- Broader international collaboration with higher education sector institutions that is ensured through the exchange of scientific and administrative staff and doctoral candidates;
- Implementation of international exchange programs for doctoral candidates and administrative staff as part of international programs and bilateral agreements;
- Greater engagement of OPI PIB's doctoral candidates and other researchers in international initiatives, such as European research projects, including those implemented under the Horizon Europe and subsequent framework programmes;
- Increased sense of initiative and entrepreneurship, self-empowerment and self-esteem among participants of Erasmus+ Actions,
- Improved foreign language competences of OPI PIB's doctoral candidates and staff members;
- Enhanced intercultural awareness and a more engaged role in society, with a particular emphasis on collaborative international initiatives pertaining to the design and development of innovative products and services.

Increased motivation to participate in international initiatives following the mobility period abroad.

## Indicators

Objectives pertaining to the development of the institute:

- Enhance the mobility of OPI PIB's doctoral students and staff members;
- Encourage talented doctoral students to get experience abroad, improving their understanding of their future professions;
- Increase the number of international publications and projects;
- Deliver high-quality education and propose an education and training offer in English;
- Expand knowledge, skills, and qualifications of OPI PIB's doctoral candidates and staff members, as well as partner institutes and universities;
- Conclude new bilateral agreements with foreign partners.

OPI PIB's participation in the Programme will help the institute achieve the following qualitative and quantitative indicators. Indicators pertaining to the improved quality of education:

Introduction and improvement of the internal quality system of doctoral education;

- Development of cooperation with foreign partners to ensure high-quality education;
- Preparation of an educational and training offer in collaboration with representatives of the economy, market, and science sectors;
- Allocation of Erasmus funding for mobility projects and for KA2 projects;
- The number of outgoing and incoming doctoral candidates;
- The number of outgoing and incoming staff;
- Proportion (%) of doctoral candidates and staff taking part in mobility;
- The number of signed inter-institutional agreements;
- The number of innovations/newly introduced actions by KA2 projects;
- The number of beneficiaries (organizations, individuals) from KA2 projects;
- The satisfaction level of KA1, mobility participants.

Indicators pertaining to enhanced mobility and transnational collaboration:

- Development of a network of international contacts to enable the transfer of knowledge, increase the number of partnerships, and implement joint research and educational projects;
- Promotion of internship opportunities in foreign institutions.

Indicators pertaining to strengthening research-related education:

- Creation of new learning and teaching methods in collaboration with entrepreneurs and scientists, considering the social dimension of ICT innovations;
- Introduction of internships and apprenticeships in other foreign institutions.

Implementation of educational, training, and research projects in collaboration with international organisations.