WIELKOPOLSKA IS LOOKING FOR PROJECT PARTNERS
– REGIONAL INNOVATION VALLEY –

Region: Wielkopolskie PL41

Entity: Regional government

Regional Innovation scoreboard: Emerging innovator (innovation index: 61.1)

Thematic area: 'Mastering the digital transformation'

What We Have: active universities, ICT cluster, long-term cooperation networks, regional co-funding, Piast AI factory

What We Need: project coordinator with expertise in HE projects, strong innovator region, region with strong and active ICT sector

Project aim:

The aim of the project is to build a strategical partnership with regions with high innovation performance, addressing one of the EU key priorities: digital transformation.

The project will focus on **fostering the implementation of ICT applications and services in the industry and socio-economic life**, with the focus on creating cutting-edge AI models and applications, especially in the areas of: health and life sciences (including biotechnology), manufacturing and logistics, space and robotics, mobility, sustainability (energy, climate change, agriculture), energy-efficient and intelligent construction and smart city and region management.

It will be achieved through:

- supporting researchers in turning their scientific results into innovative products and services,
- supporting innovative companies and universities in deploying and demonstrating deep technologies in real world environments and with end users,
- creating networks of innovation actors, including innovative companies, startups, universities, research institutions within the region,
- supporting international cooperation of innovators in order to exchange knowledge and experience to develop new solutions for economy and society.

The first stage of the project will be **connecting the key innovators from the partner regions** to establish cooperation and exchange of knowledge and experience. Linking crucial innovators i.e. universities, SMEs, supercomputing centres and industry will result in access to up-to-date specialist knowledge, ideas exchange as well as providing conditions for testing new solutions and experimenting with the latest technologies, which is crucial for providing final products, services processes and business models. The representatives of public administration will be an important addition to this cooperation, ensuring that the planned solutions translate into regional resources and challenges.

The second stage of the project will be **R&D works (TRL 6-8) aimed at developing IT solutions with high commercial potential**, especially new AI applications and solutions, addressing societal and economical

challenges. R&D works will focus on IT solutions that aim to solve key societal and economic challenges: digital transformation of the economy, faster adaptation to climate change, improving access to health and education services, increasing energy efficiency, as well as better city and region management.

Key words: ICT applications, artificial intelligence (AI); machine learning; Internet of Things (IoT); supercomputing centres; AI factories; services and systems aimed at improving the quality of life; integrated systems of public services; data management systems; intelligent transport, energy, lighting systems, waste management using Big Data; activities in the Smart City area; advanced systems for business; prototyping modern solutions using ICT; IT systems intended for managing complex infrastructure, embedded systems for infrastructure.

Key areas of implementation: health, life sciences, biotechnology, manufacturing and logistics, space and robotics, e-mobility, sustainability, energy efficiency, adaptation to climate change, innovative and resilient agriculture, energy-efficient and intelligent construction and smart city and region management.

Policy background:

The key policy objectives of innovation and research have been included in ***the Regional Innovation Strategy of Wielkopolska Region 2030*** (RIS 2030). It set the main challenges and strategic goals, as well as the tools for the implementation of actions.

The Strategy defines the management system of regional innovation policy, consisting of a hierarchy of institutions and organizations involved in the implementation of RIS 2030: working groups for smart specializations, the Smart Specializations Forum, The Wielkopolska Council of Thirty and the Wielkopolska Hydrogen Platform.

The issues of digital transformation of the regional industry is a particular interest of the Strategy. It is reflected under specialisations: **'ICT-based development'**. The scope of this specialisation includes two main areas: 1) technologies for the community and 2) ICT business applications. The first of these are software for intelligent systems in public and public sector, e.g. intelligent transport systems, energy systems, supporting operations for the needs of Big Data, data management systems, embedded systems and activities in the area of Smart City. The business use of ICT refers to the products and services supporting the development of smart specialisation of the region. This specialisation is strongly connected with development of other industries, where the use of information technologies is crucial for adapting products to the customers' expectations and needs.

More information about RIS 2030 Priorities may be found on the S3 Platform: https://s3platform.jrc.ec.europa.eu/region-page-test/-/regions/PL41#thematic-platforms

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Key innovators in region

Initiatives in the area of ICT-based development have been supported and implemented in the region for many years. *The Regional Innovation Strategy of Wielkopolska Region 2030* emphasizes that the development of the information technologies is the foundation for the growth of the ICT sector, as well

as the entire economy as society. The capital city of the region – Poznan focuses on developing technologies that improve the standard of living of modern society. Poznan was awarded with the Smart City title in 2020, due to its achievements in building an agile, open, resilient and sustainable city.

One of the leading entities operating in this area is **the Poznan University of Technology**, which implements, among others, AI Tech project. Its goal is to create a model for educating high-class specialists in the field of artificial intelligence, machine learning and cybersecurity. As part of the didactic activities, the University of Technology has launched the first and second degree studies on AI, focusing on key issues of computer science, with particular emphasis on artificial intelligence and practical skills in the field of: algorithmic, machine learning and neural networks, data analysis and exploration inductive reasoning, information acquisition and processing, image recognition and natural language processing, optimization techniques and decision analysis, as well as the use of AI in robotics (more information: https://si.cs.put.poznan.pl/).

Since January 2022, **the Artificial Intelligence Center** has been operating at **the Adam Mickiewicz University** in Poznan. Its purpose is to conduct research in the field of AI at the highest world level, the effects of which will be implemented in the economy and will have a significant impact on improving the quality of life in society. Additionally, the university offers studies in the field of quantum computing, created in cooperation with the IBM Quantum Network. Students have the opportunity to work with technologies that are unique on an international scale and to acquire competence in the field of digital data processing and cybersecurity.

Another active entity in the field of development and implementation works in the area of ICT is **Łukasiewicz - Poznan Institute of Technology**. The Institute designs solutions for mobile devices, web platforms, single-chip computers - IT with a scientific element with the use of AI in text, image, sound, prediction and anomaly detection. The list of projects implemented by the Institute: https://pit.lukasiewicz.gov.pl/projekty/.

Numerous projects in the field of development and application of artificial intelligence are being developed by **Poznan Supercomputing and Networking Center (PCSS)**, functioning in the structures of the Institute of Bioorganic Chemistry, Polish Academy of Science (more information on projects: https://www.pcss.pl/technologie/sztuczna-inteligencja-i-uczenie-maszynowe/). In March 2025, The European Commission announced the creation of six new AI factories, one of which will be established in the PCSS in Poznan. It will receive €50 million (around 200 million PLN) in funding from the EC to build the **Piast AI factory**. An additional 340 million PLN will be provided by the Polish government. The initiative aims to create a network of specialized R&D centers across Europe. The Piast AI factory in Poznan will focus on accelerating the adoption of AI technologies in academia and industry, particularly in health and life sciences, IT and cybersecurity (including quantum technologies), space and robotics, sustainability (energy, agriculture, and climate change), and the public sector.

Project initiatives in the region

Multiple projects are being implemented in the area of ICT development, especially regarding solutions for medical technologies, such as: “Artificial intelligence in the analysis and modeling of large medical data sets as well as in medical diagnostics and therapy” and “REGIONAL-COVID HUB”. Poznań University of Medical Sciences conducts research in the field of digital transformation and cybersecurity, due to the growing amount of digital data in the medical area and the need for fast and effective processing. University is working towards obtaining the title of the Regional Center for Digital Medicine within the Medical Research Agency (a state agency responsible for the R+D in the field of medical sciences and

health sciences). Another area of interest is the use of ICT tools for innovative communities and business use of ICT tools: the Poznan University of Economics focuses on the analysis of the relationship between humans and AI, the impact of intelligent machines on economic behavior, as well as verification of the credibility of information sources on the Internet. In 2024, as part of the NATO Science for Peace and Security program, the Poznan University of Technology began work on increasing the security of Internet of Things systems in smart cities, with particular emphasis on the City of Poznan as a key end user. The university also carries out activities for AI tools supporting business process management. These projects indicate the high activity and experience of regional research units in the area of ICT applications.

The regional authority has been building a regional brand around the development of ICT technology for years, participating, together with key entrepreneurs, at international fairs and events such as: CEBIT AUSTRALIA 2019, CEBIT ASEAN Thailand 2019, GITEX GLOBAL 2022, ROBOTWORLD 2024, International Robot Exhibition (iREX) 2025 (planned).

External Networks and Partnerships

Wielkopolska is a member in the S3 Partnership '**Wireless ICT'**, aiming to develop and to implement a common strategy enabling investments in the field of fast and energy- and resource-efficient wireless ICT. The partnership's mission is to help develop and implement a common strategy enabling investments in the field of fast and energy- and resource-efficient wireless ICT. The focus is on health, smart manufacturing, autonomous vehicles, smart cities.

Business sector:

The IT business sector in Wielkopolska is well-developed. There are over 500 --- entities operating in 2024 in the region, generating exports worth over 1,185 million PLN (i.e. approx. 275 million EUR). The most important entities operating in this area include: Beyond.pl – the core and edge data center with a target capacity of 42MW, powered by 100% renewable energy; iTTi – an IT company focusing on the development of innovative applications and dedicated software especially for the manufacturing, warehousing and space sectors; Apollogic – an IT soluction company, adcising on digital transformation using the potential of AI, IoT, mixed reality and predictive analytics.

The organization that has been effectively working for the development of the industry since 2008 is the Wielkopolska ICT Cluster. It is a leader among IT clusters operating in Poland and it includes 63 companies, 3 scientific units and 7 business environment institutions. Most of the entities operate in the Poznan agglomeration. The cluster's strategic goals include animating cooperation and coordinating projects, building strong relationships within the association, creating a global brand of Poznan and Wielkopolska associated with the development of ICT innovations and internationalisation. The cluster's authorities emphasize the strong connection with the region and fulfilling the social mission, among others, by creating innovative and practical ICT solutions for residents, supporting local innovators, expanding the broadband network and WiFi points, digitizing cities and villages, creating urban spaces, making life easier for the disabled and seniors, digitizing cultural heritage.potencjał kadrowy

Human potential:

Potential in IT fields is also visible among pupils and students in the region, which correlates with the economy's high demand for highly educated workforce. 14 universities in the region offer studies in 24 fields related to ICT, mainly the Poznan University of Technology and the Adam Mickiewicz University in Poznan. In 2023, over 6,000 students were studying computer science. Each year, over 900 graduates

receive their diplomas. The educational offer includes both general computer science courses and specialisations such as Data Science, bioinformatics, geoinformatics, IoT, quantum computing and artificial intelligence. Vocational education in the field of ICT is also well developed. In 2022 more than 14 thousand students were attending technical schools and gaining skills in IT fields.

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