

## National strategies on Artificial Intelligence A European perspective in 2019

### Country report – Poland



In August 2019, the Ministry of Digitisation has published a draft of its national AI strategy, entitled [Artificial Intelligence Development Policy in Poland for 2019-2027](#) (Poland, 2019). The policy draft has been released for public consultation, with the aim of gathering feedback and recommendations from relevant stakeholders. The public consultation lasted until September 9<sup>th</sup>. The collected feedback will be used to revise the actual draft. The current progress and milestones in developing the national AI strategy can be followed on a [roadmap](#) released by the Ministry of Digitisation. The Polish Government foresees to approve the national AI strategy by the end of the first quarter of 2020.

The Committee of the Council of Ministers for Digitalisation has been appointed to govern and coordinate the implementation of the national AI strategy of Poland and to evaluate it on a yearly basis.

The objective of Poland's strategy is to encourage the growth and innovation of the knowledge-based economy by supporting AI science and research developments and to prepare citizens for the digital transformation by improving their competences. Along the process of achieving these objectives it is important to account for the protection of human dignity and to ensure conditions for fair competition.

In particular, the Polish strategy is providing strategic guidance and policy initiatives to develop a holistic AI ecosystem with the aim of meeting the following objectives:

- Reforming the educational system and providing lifelong learning opportunities in AI-related fields;
- Encouraging growth and innovation of AI companies through dedicated support in AI research, including the provision of sufficient financial resources;
- Increasing national and international partnerships in AI;
- Creating a data ecosystem with trustworthy and high-quality data and increased data exchange mechanisms;
- Reinforcing the digital infrastructure, regulatory framework and test environments to foster the development of AI innovations.

In terms of funding, the Polish strategy presents initial estimations on the budget that could be earmarked to foster AI developments in Poland. According to these projections, the total of national and international coordinated investments for AI innovations (including private funds of Venture Capital) allocated until 2023 amount at PLN 1.8 billion. More concrete investment plans will be defined and released at a later stage.

### 1 Human capital

Educating the population to gain awareness of the benefits of AI and to acquire the necessary competences and skills to develop AI applications is an essential element to prepare for the transformations and challenges that AI will bring along. To this purpose, the Polish government is setting up a range of policy initiatives to reform the educational system. To foster AI and digital competences of students in **preschool, primary and secondary education**, the Polish government proposes to increase courses in IT, to create traineeship programs in AI in various disciplines, to develop programming and coding courses (such as R and Python) and to train students in data processing. Winter and summer schools in the field of AI are also considered for younger students to prepare them with basic knowledge in AI. **The revision of children's and students' curricula should not only focus on acquiring technical skills but should equally target soft skills such as critical thinking, empathy and interpersonal skills.**

In terms of **higher education**, the Polish strategy foresees the development of Master programs in AI with modular courses to prepare students to particular key sectors such as healthcare and logistics. An Academy of Digital Applications will be set up to develop courses in AI, machine learning and cybersecurity at university level and will target around 1000 students. This initiative will be complemented with the 'Algorithm and Programming' championships that challenges above-average students of higher education to solve complex algorithmic and programming problems. Finally, the Polish Academy of Sciences has established a [Doctoral School on Information Technology and Biomedicine](#) providing PhD scholarships in AI related fields. To facilitate the transition of PhDs to the labour market, the Ministry of Science and Higher Education is providing grants to doctoral students to be employed by an entrepreneur while he/she is still conducting its basic research at the university.

Besides policy initiatives to support formal education in AI, the Polish government is aiming to raise the awareness of AI to the citizens in general and to foster a **culture of lifelong learning** for the workforce in particular. **Raising the public awareness** will be encouraged among others through the development of Massive Open Online Courses (MOOCs) and the creation of an online platform providing an overview of the educational offerings in AI. Entrepreneurs will be informed about the available competence programs for lifelong learning trainings in AI. Finally, the upgrade of AI competences will also be encouraged in the public administration.

## 2 From the lab to the market

To foster basic and applied research in AI, the Polish government will set up a **Virtual Research Institute for Artificial Intelligence (VIR)**, in collaboration with businesses, academia and non-governmental organisations. The VIR for AI will support the Committee of the Council of Minister for Digitalisation in coordinating research challenges of the Polish AI Strategy. The [NASK Public Research Institute](#) will take up this role as a Centre for CyberSecAI. This institute is primarily focused on monitoring, testing and responding to threats on AI systems and on standardising and certifying cyber security procedures for AI systems. Furthermore, research and innovation in AI will be encouraged through a wide range of **funding mechanisms**, supported by funding programs of the Polish Development Fund ([PFR](#)), the Digital Poland Project Centre ([POPC](#)), the National Centre for Research and Development ([NCBiR](#)) and the Polish National Science Centre ([NCN](#)). It includes funding instruments such as public procurement (with the objective to earmark at least 10% of budgets of governmental entities to AI) and other dedicated funding in the field of AI. In addition, the Committee of the Council of Ministers for Digitalisation will set up guaranteed credit and loan programs to foster AI developments in Polish industries. These instruments could be complemented with European funding schemes (e.g. Horizon2020, Horizon Europe and Digital Europe), venture capital and crowdfunding initiatives. The Polish strategy identifies the following **priority sectors** with the highest potential to benefit from AI applications: industry, healthcare, transport and logistics, agriculture, energy, public administration, trade and marketing, construction and cybersecurity.

## 3 Networking

To foster the competitiveness of the Polish industry and to strengthen the research competences of the scientific community, the Polish strategy proposes various policy initiatives to encourage a **culture of collaborations in AI developments**. The [Future Industry Platform](#), the [Virtual Research Institute](#) and the [GovTech program](#) have recently been created to respond to the traditional lack of cooperation. The objective of these programs is to create synergies across the research and industry community and to serve as a platform for sharing expertise and partnership opportunities. The development of a collaborative AI ecosystem will be further encouraged through Digital Innovation Hubs which aims at fostering the dialogue between the public administration, the industry and scientific community. Lastly, AI Challenges Platforms similar to kaggle.com will be set up to foster collaborative research and developments of AI applications.

## 4 Regulation

In order to create a **trustworthy and sustainable environment for the development of AI**, the Polish government will set up a range of observatories and chairs to tackle ethical and legal issues. An AI Observatory for the Labour Market will be established to analyse the impact of AI on the labour market and to propose legislative and regulatory reforms for social policies. An Observatory of international AI policy and Digital Transformation will be formed to monitor European and international policies and regulations. Its task will be to coordinate and formulate recommendations for international initiatives. As part of the Virtual Research Institute for AI, a Department of Ethics and Law which will be set up to research and analyse the challenges related to law and ethics in AI and to come up with recommendation for legislative reforms and ethical guidelines. The Committee of Minister of Digitalization will be entitled to set up a legal task force to analyse and formulate legal initiatives.

The Polish government will support mutual recognition of interoperability standards and certification or compliance procedures of trustworthy AI. The priority of this policy will be securing trade secrets.

## 5 Infrastructure

Recognising that data is an essential enabler for the development of AI solutions, the Polish government is setting up **data policies** to ensure the availability of high-quality data and to improve interoperability and data sharing. To this purpose, the strategy foresees to further extent the [open data platform](#) containing open data collections of the public administration. In the same vein, virtual data warehouses will be created in which companies can share their industrial data in trustworthy and cyber secured data spaces. These warehouses will act as API interfaces with transparent interoperability rules and clear data protection regulations to foster cooperations across companies in decentralised networks of like-minded members. The government will also investigate the use of data trusts. Overall, the governments' objective will be to incentivise public institutions and businesses towards data collection and data sharing. To do so, the Ministry of Digital Affairs will create an inventory of available data sources, which could be classified by sector (e.g. medical, energy, industrial, agricultural or transport). To facilitate data analyses, the Polish government intends to invest in **cutting-edge digital and telecommunication infrastructure**, such as high computer performance centres and increased connectivity through 5G networks.

## 6 Update

The Polish strategy will be monitored and evaluated on a yearly basis.

## Reference

Poland (2019). Polityka Rozwoju Sztucznej Inteligencji w Polsce: na lata 2019 – 2027. międzyresortowy zespół analityczno-redakcyjny.

<https://www.gov.pl/attachment/a8ea194c-d0ce-404e-a9ca-e007e9fbc93e>

## Background information

This country report has been prepared in the context of [AI Watch](#) and the [OECD AI Policy Observatory](#).

AI Watch is the European Commission knowledge service to monitor the development, uptake and impact of Artificial Intelligence (AI) for Europe, launched in December 2018.

The OECD AI Policy Observatory (OECD.AI) is an inclusive hub for public policy on AI. It aims to help countries encourage, nurture and monitor the responsible development of trustworthy AI systems for the benefit of society.

This country report has been created on the 25<sup>th</sup> of February 2020. Please visit <https://ec.europa.eu/knowledge4policy/ai-watch/poland-ai-strategy-report> for regular updates.

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