

National artificial intelligence strategy of the Czech Republic

POLICY DEVELOPMENT**STRATEGY/ACTION PLAN** CZECHIA

Timeline

2019 Approved/Agreed**2020 Implementation****2021 Implementation****2022 Implementation****2023 Implementation****2024 Completed****ID number 36336**

Background

The National artificial intelligence strategy (NAIS) is based on the assumption that current trends in artificial intelligence, automation, robotics, and related fields such as electromobility, data economy, and 5G networks, are crucial for the further development of industry, services, and the economy as a whole.

Objectives

The overall objective is to make the Czech Republic again one of the world's most advanced countries.

The main horizontal objectives of the strategy are:

- (a) to use these state-of-the-art technologies to help the Czech Republic to become an innovative economy and to support domestic companies and brands and further economic growth;
- (b) strengthen the safety and security of the population;
- (c) increase their comfort in everyday life;
- (d) ensure fast, efficient and helpful communication with the State.

Description

The NAIS follows up on and meets the objectives of the Government Innovation Strategy 2019–30 and is linked to the Digital Czech Republic programme. It was inspired by similar foreign strategic documents concerning AI and support for the digitisation of the industry and services.

The key to fulfilling the NAIS is primarily to support the concentration of excellent Research and development in AI, in particular by supporting the creation of the European Centre of Excellence, Test centre and digital innovation hubs. The strategy will be fulfilled by deepening cooperation with global AI centres, but also by maintaining top research and experts in the Czech Republic and, to complement, by simplifying and attracting conditions for the arrival of top foreign talent. It is essential to ensure funding for research, the

development of start-ups, the entire AI ecosystem, the transfer of know-how and the availability of resources for the innovation of SMEs. The driving force behind digital and AI transformation is the economy, and it is necessary to create conditions for its development. The State can contribute to this mainly by making available data, completing the digital infrastructure, supporting the transformation of enterprises, and introducing modern public administration services. Education, training and retraining, both technical and humanitarian, play a crucial role, targeting the skills needed in the next decade.

2019 Approved/Agreed

In May 2019, the Czech government adopted the National artificial intelligence strategy of the Czech Republic. The Ministry of Education, Youth and Sports oversees two priority areas: human capital and education system, and lifelong learning. These areas include the following measures (to be prepared/ implemented by 2021):

- (a) to carry out a pilot verification of the development of digital competences and computational thinking of children and students.
- (b) to enhance the offer of continuing professional development and retraining courses.
- (c) to raise awareness, promote and provide information support in the area of further education and preparedness for changes in the labour market.
- (d) to develop methodological support for headmasters, teachers and faculties providing teacher training related to the upcoming changes in the curriculum.

2020 Implementation

In 2020, the implementation of the NAIS was realised across many fields and institutions:

- (a) The European Centre of Excellence is being developed. In March 2020, the top Czech universities (Czech Technical University, Charles University and Masaryk University) signed a memorandum supporting the project to develop the centre in the field of AI for safer society. The centre would aim to create outstanding conditions for continuation of the existing AI research and launch a supra-national platform that would participate in calls in the framework of European AI ecosystem. In October 2020, the Ministry of Industry and Trade started the project that should last until 2022.
- (b) in February 2020, the Office of the Government, the Ministry of Industry and Trade and the Academy of Sciences launched an expert platform and forum for the law and AI;
- (c) funding schemes to support development of AI were launched;
- (d) the National strategy of research, development and innovation of the Czech Republic 2021+ was adopted (responsible bodies: the Research, Development and Innovation Council at the Office of the Government, Ministry of Education, Youth and Sports). Among other things the document reflects also the priorities of the NAIS in research, development and innovation. The support of projects of digitalisation and implementing AI in companies (especially SMEs) is envisaged. Companies should include innovations of production, services, management and skills of the staff. Further development of the digital innovation hub (DIH) network is proposed to provide services for companies. It is planned to use the ESF funding and research and development funding schemes administered by Czechinvest agency;
- (e) for AI impacts on the labour market and social system (responsible body: the Ministry of Labour and Social Affairs), regular monitoring of emerging technologies with the help of sector studies and forecasts is being developed in the framework of the Kompas project;
- (f) tools to support the strategy are also being developed in the wider framework of the National research and innovation strategy for intelligent specialisation of the Czech Republic (RIS2). Its general aim is to interlink main innovation actors: research, entrepreneurs and public sector. AI is one of the supported areas at the national level. The policy is implemented mainly through the regional innovation strategies where AI is also often included.

The Ministry of Education, Youth and Sports was appointed as a manager for human capital and education; the role of a guarantor was assigned to the Czech National Coalition for Digital Skills and Jobs (the Coalition, *Digikoalice* in Czech). The key objectives include the gradual transformation of education, given the impacts of artificial intelligence; a change in the way of teaching in schools at all levels and methodological support for teachers, headmasters and schools' governors; and the development of computational thinking in students.

In 2020, the coalition participated in the implementation of key objectives: the innovations of the ICT curriculum for basic education and upper secondary VET, and the development of computational thinking and digital literacy, including the digital infrastructure in schools and its administration (a dedicated working group was set up for this purpose). In collaboration with the Upskilling project, the coalition participated in the development of IT skills for adults, reskilling programmes and motivational tools encouraging participation in these programmes.

2021 Implementation

In 2021, the investment towards the launch of the European Centre of Excellence in AI for Safer Society was approved in the framework of the National recovery and resilience plan. The launch of the centre aims to ensure significant research capacity in the field and enable other subjects to implement and test new AI applications. The main national project is focused on AI technologies supporting safer society.

The building of the network of European digital innovation hub (EDIH) continued. In 2021, successful participants in the national call were selected as candidates eligible to apply for European EDIH call.

2022 Implementation

Several projects are currently implemented in the field of artificial intelligence. Namely, for example, technology incubation, artificial intelligence centres and support for technology start-ups.

The European Centre of Excellence in Artificial Intelligence for Security and Citizen Protection was launched to promote research, collaboration and deployment of new applications in the field of artificial intelligence. It builds on existing European initiatives in the field of artificial intelligence, with which it also cooperates. It also responds to the European Commission's initiatives and focuses on the regulation of AI. The aim is to prevent disruption or damage to human safety, health and fundamental rights.

There are 5 main pillars of the activities of the Centre:

- (a) high-risk AI systems (designing and evaluating methods for AI development that provide safety guarantees and prevent breaches of human security, health or human rights);
- (b) a sociotechnical view of AI (developing procedures to determine what methods and guarantees are appropriate for a given application domain based on societal requirements);
- (c) AI regulation (creation of a regulatory framework of transparent and firm rules that enable enforcement to protect human safety, health and fundamental rights);
- (d) AI principles in key areas (ensuring that the emerging legal framework is in line with the principles prevailing in sectors where a major AI related transformation is expected);
- (e) AI as a link between social and computational sciences (in the context of AI, social science should be considered partly as a computational science and vice versa).

In 2022 the building of the network of European digital innovation hub (EDIH) continued. There are currently (February 2023) 6 entities from Czechia listed as EDIHs.

2023 Implementation

The Czech Republic recognises AI to be a key technology that presents a number of opportunities for the Czech economy, state and society. In order to strategically and coherently support the development and use of this technology, the 2019 National artificial intelligence strategy of the Czech Republic is under revision, with a more complex strategy planned for 2024. The Ministry of Industry and Trade conducted a public consultation from 28 June to 20 August, 2023, receiving 517 responses from various stakeholders (general public, public administration, private sector, academia, research institutions, and non-profit organisations). Respondents answered questions in three blocks. The first part of the questionnaire focused on the respondents' experience with artificial intelligence, the second on their opinions on artificial intelligence, and the third block of questions focused on specific areas that, according to the respondents, should be primarily reflected in the updated strategic document.

The results of public consultation show that AI is perceived mostly positively, although respondents also recognise potential risks associated with it. Research and development in AI were viewed more positively than practical application. Respondents prioritised AI applications in cybersecurity, healthcare, education, public administration, and industry. Key areas for recommended for the updated strategy included research, development and innovation; practical AI application; ethical and legal frameworks; and strengthening AI skills and education.

2024 Completed

The updated National Artificial Intelligence Strategy 2030 was approved by Government Resolution No. 520 on 24 July, 2024. The strategy aims to leverage AI to boost economic competitiveness, improve state efficiency, and enhance societal preparedness and resilience. It outlines seven interconnected key areas dedicated to various aspects of AI:

- (a) AI education and expertise;
- (b) AI skills and labour market impacts;
- (c) Ethical and legal aspects of AI;
- (d) Security aspects of AI;
- (e) AI in industry and business;
- (f) AI in public administration and public services.

The National Artificial Intelligence Strategy of the Czech Republic 2030 serves as a strategic framework for specific activities in the field of AI. Specific plans are detailed in a supporting Action Plan (part of the Implementation Plans of the Digital Czech Republic under the concept of Digital Economy and Society). The action plan will be evaluated and updated annually to enable a flexible response to technological developments and their impacts.

The EU's AI Act, establishing a legal framework for artificial intelligence systems based on risk levels, entered into force on 1 August, 2024. In the Czech Republic, the Office of the Government led negotiations on this regulation. In addition to the AI Act, the Council of Europe adopted the Convention on Artificial Intelligence, Human Rights, Democracy and the Rule of Law on May 17, 2024. Implementation in the Czech Republic focuses on ensuring that existing authorities and processes adequately address the Act's requirements, including oversight of AI development (Ministry of Industry and Trade) and data protection and privacy in AI applications (Office for Personal Data Protection). Furthermore, Czech institutions are developing testing environments to assist companies in complying with the AI Act's provisions.

Bodies responsible

- Ministry of Industry and Trade

Target group

Learners

Young people (15-29 years old)
Adult learners

Education professionals

Teachers
School leaders

Entities providing VET

Companies

Thematic categories

Governance of VET and lifelong learning

Coordinating VET and other policies

Modernising VET infrastructure

Improving digital infrastructure of VET provision

Modernising VET offer and delivery

Modernising VET standards, curricula, programmes and training courses
Acquiring key competences
Integrating digital skills and competences in VET curricula and programmes
Supporting Centres of vocational excellence (CoVEs)

Teachers, trainers and school leaders competences

Systematic approaches to and opportunities for initial and continuous professional development of school leaders, teachers and trainers

Supporting lifelong learning culture and increasing participation

Promotion strategies and campaigns for VET and lifelong learning
Providing for individuals' re- and upskilling needs

Subsystem

IVET CVET

Further reading

[Website of the Ministry of Industry and Trade - Artificial intelligence strategy](#)

[Analysis of the development potential of artificial intelligence in the Czech Republic](#)

[The National strategy of research, development and innovation of the Czech Republic 2021+ ; portal of the Office of the Government of the Czech Republic](#)

[Government Council for Information Society - Annual report 2020](#)

[First Czech universities launch project of European Centre of Excellence - press release of](#)

Related policy developments

2025 Implementation

Strategy to support small and medium-sized enterprises in the Czech Republic 2021-27

Strengthening cooperation between companies, especially SMEs and schools, will be implemented by means of promoting and organising joint events. The strategy also promotes organising of students' work placements and internships in businesses.



Type of development

Strategy/Action
plan

Subsystem

CVET

2025 Completed

VET-related measures in the Czech National recovery and resilience plan

Section 3 of the plan, Education and labour market, proposes the following reforms and measures in education and training:

Transforming HE institutions to adapt to new forms of learning and changing the labour market needs by 2026:



Type of development

Strategy/Action
plan

Subsystem

IVET CVET

2025 Implementation

National Coalition for Digital Skills and Jobs (DigiKoalice)

In October 2016, the National Coalition for Digital Skills and Jobs (DigiKoalice) was established by the Ministries of Education, Labour and Social Affairs, Industry and Trade, the Office of the Government, and the Czech ICT Alliance, as part of the digital education

strategy.

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Type of development

Strategy/Action
plan

Subsystem

IVET CVET

2020 Completed

The Digital education strategy

The Digital education strategy targets basic and secondary schools and includes measures addressing teacher training, pedagogical research, support for headmasters, infrastructure and connectivity issues of the schools, innovation in modern methods of education and teaching, priorities in communi

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Type of development

Strategy/Action
plan

Subsystem

IVET CVET

2022 Completed

Digital literacy strategy 2015-20

Czechia has in place a Digital literacy strategy for 2015-20 aimed at supporting digital literacy of adults through continuing education and lifelong learning. The action plan for the strategy was adopted in 2016.

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Type of development

Strategy/Action
plan

Subsystem

CVET

2025 Implementation

Key competences in the education strategy

The 2014 Education strategy for 2015-20 supports upper secondary VET learners acquiring skills and knowledge (including basic skills) at a level allowing them to pursue a career and to continue learning.

Type of development

Strategy/Action
plan

Subsystem

IVET

2022 Completed

Labour market barometer

The Kompas project was launched by the Ministry of Labour and Social Affairs in 2017, aiming at establishing by 2020 a labour market barometer, a permanent system of labour market forecasting with a strong regional focus.

Type of development

Practical
measure/Initiative

Subsystem

IVET CVET

“ ... ” Cite as

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