Digitální Česko

The Path to Europe's Digital Decade: The Strategic Plan for the Digitalisation of Czechia by 2030

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Summary of the revised Strategic Plan for the Digitalisation of Czechia by 2030

This document, i.e. the Path to Europe's Digital Decade: The Strategic Plan for the Digitalisation of Czechia by 2030, has been prepared on the basis of Decision (EU) 2022/2481 of the European Parliament and of the Council[1] (hereinafter the "Decision") and aims to map how Czechia, within the framework of its current strategies, is meeting the targets set by this Decision in the areas of digital skills, digital infrastructures, digital transformation of businesses and digitalization of public services. The aim is also to indicate how Czechia will effectively continue its digitisation in order to meet the specific targets of the Digital Decade Policy Programme 2030 as set out in the Decision.

This strategic plan covers other strategic and position documents of Czechia and builds on the Digital Czechia strategy and its pillar Czechia in Digital Europe[2]. The document puts into context the current Czech digitisation strategies implemented under the responsibility of individual ministries and agencies. Given the interconnections and overlaps of the areas covered by the plan, a coordinated approach is essential. The European Digital Agenda Unit within the Section for European Affairs of the Government Office of the Czech Republic has been tasked with coordinating this Strategic Plan. The expert and substantive responsibility for the implementation of the set targets remains with the individual gestors and co-gestors. The European Digital Agenda Unit of the Government Office and other gestors and co-gestors of the Digital Agenda activities have worked closely together in the preparation of this Strategic Plan 2030 and will continue to do so during its implementation.

The individual parts of the document summarise the overall progress towards the digitisation of Czechia, the main challenges Czechia faces in this area and the most important digitisation initiatives. It also includes national trajectories that project how Czechia will meet the national digital targets set in accordance with the Decision, which are to be supported by key measures proposed by individual gestors, including their financing and timetable.

This document is subject to approval processes within the Government Council for Information Society and will be regularly updated to reflect current developments in all the above-mentioned areas of digital transformation and newly emerging measures. This document is the first update of the original 2023 document. The Decision requires EU Member States (MS) to revise their Strategic Plan one year after the first Strategic Plan is published and every two years thereafter.

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1 EUROPEAN PARLIAMENT AND COUNCIL. Decision (EU) 2022/2481 of the European Parliament and of the Council of 14 December 2022 establishing the Digital Decade Policy Programme 2030. Online. Available here [cit. 2023-10-23].

2 GOVERNMENT OFFICE OF THE CZECH REPUBLIC. Digital Czech Republic – The Vision. *Digitalnicesko.gov.cz*. Online. Available here [cit. 2023-10-23].

Introduction to the Strategic Plan for the Digitalisation of Czechia by 2030

Decision (EU) 2022/2481[3] of the European Parliament and of the Council of 14 December 2022 established the Digital Decade Policy Programme 2030 (hereinafter the "DDPP"). The Decision sets out the targets of the Digital Decade and the mechanisms for monitoring the achievement of these targets by 2030. Under the Decision, Member States are tasked with regularly reporting on the progress towards the objectives through national strategic plans for the Digital Decade – The Path to Europe's Digital Decade: The Strategic Plan for the Digitalisation of Czechia by 2030.

The aim of the national plan is firstly to assess the current state of digital transformation in the EU Member State (Part 1). The second objective is to develop "trajectories" (Part 2) to determine how the Digital Decade 2030 targets will be implemented in the national context. The trajectories are based on the Key Performance Indicators (KPIs), which were established by Commission Implementing Decision (EU) 2023/1353 of 30 June 2023.[4] There are 16 such indicators in total and they are linked to the Decision's digital targets. The Commission Communication C(2023) 7500[5], which sets out Union-level projected trajectories for the digital targets, serves as a background document for the trajectories.

The individual actions that contribute to the Digital Decade targets are an integral part of the plan (Parts 3 and 4). All these parts are logically structured according to the four basic areas of the Digital Decade, which are as follows: *Digital skills, digital infrastructures, the digitalisation of businesses, and the digitalisation of public services.* These areas also correspond to the pillars of the Government's Digital Czechia strategy and, as in the strategy, the gestors of these pillars are responsible for the implementation of individual measures. The Ministry of Education, Youth and Sports (MEYS) and the Ministry of Labour and Social Affairs (MoLSA) are primarily responsible for the digital skills part, the Ministry of Industry and Trade (MIT) together with the Czech Telecommunication Office (CTO) are responsible for the digital infrastructures part. The MEYS is responsible for measures relating to quantum computing. The MIT is also responsible for the implementation of the digital transformation of businesses. The digitalisation of public services part is co-managed by the Digital and Information Agency (DIA) and the Ministry of Health (MoH), the latter being responsible for the electronic health data part.

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3 EUROPEAN PARLIAMENT AND COUNCIL. Decision (EU) 2022/2481 of the European Parliament and of the Council of 14 December 2022 establishing the Digital Decade Policy Programme 2030. Online. Available here [cit. 2023-10-23].

4 EUROPEAN COMMISSION. Commission Implementing Decision (EU) 2023/1353 of 30 June 2023. Online. Available here [cit. 2023-10-23] & EUROPEAN COMMISSION. Corrigendum to Commission Implementing Decision (EU) 2023/1353 of 30 June 2023 setting out key performance indicators to measure the progress towards the digital targets established by Article 4(1) of Decision (EU) 2022/2481 of the European Parliament and of the Council. Available here [cit. 2023-10-23].

5 EUROPEAN COMMISSION. Communication from the Commission C/2023/7500 establishing Union-level projected trajectories for the digital targets. Online. Available here [cit. 2023-10-23].

The National Plan also includes cooperation on multi-country projects, in particular those implemented through the European Digital Infrastructure Consortium (EDIC). EDIC is a community of Member States working together to achieve at least one of the Digital Decade objectives (Part 5). The final parts of this plan mention stakeholder feedback (Part 6) and overall impact and conclusion (Part 7).

According to Article 7(1) of the Decision, the MS are required to submit a National Strategic Plan to the Commission by 9 October 2023. Czechia has done so, the National Strategic Plan was unanimously approved by the members of the Committee for Czechia in Digital Europe and was also approved by the Presidency of the Government Council for the Information Society (hereinafter referred to as the GCIS) before its final form was submitted to the European Commission. Subsequently, an English translation of the document was also prepared. At the same time, on 15 November 2023, Deputy Prime Minister for Digitalisation Ivan Bartoš submitted this document to the Government of the Czech Republic, which took note of it.

According to Article 8(3) of the Decision, the MS are required to submit to the Commission adjustments to their national strategic plans within five months of the publication of the second Report and every second year thereafter. The main objective of adapting the National Strategic Plans is to respond to the latest developments in the digital transformation, to introduce new measures and to respond to the findings and recommendations of the Commission in the relevant Report on the state of the Digital Decade 2024.

Therefore, the present document is an update of the original Strategic Plan and replaces the information contained therein. At the same time, it incorporates the feedback and comments of the European Commission, which were presented in the Report on the state of the Digital Decade 2024[6] (hereafter referred to as the 2024 Report) as recommendations for the National Strategic Plan for Digitalisation and at the same time responds to the current results of the set KPIs. The next prospective update will take place in 2026.

This document is an English translation of the original Czech version, which takes precedence over the English version in case of any contradictions.

[6] EUROPEAN COMMISSION. Report on the state of the Digital Decade 2024. Online. 2024. Available here [cit. 2023-10-18].

Part 1: Analysis of the current state of digital transformation

1.1 State of play

Digital transformation is one of the key priorities of the current government, as evidenced, for example, by the creation of the Digital and Information Agency (DIA) and other commitments outlined in the Government's January 2022 Policy Statement, a revised version of which was approved in March of that year[7]. At the same time, there is also a Government strategy entitled Digital Czechia, which is implemented on the basis of a set of several partial concepts, implementation plans and is in line with the needs of Czechia and the Union's policy. This government strategy also includes the concept of Czechia's engagement in the EU Digital Agenda called Czechia in a Digital Europe, which was updated in 2024, emphasising, among other things, the importance of the DDPP. This update is now in the approval process.

Digital policies[8] and cybersecurity[9] have also become one of the important priorities of the Czech Presidency of the Council of the EU in the second half of 2022, where several major advances have been reached in the negotiation of proposals in this area. The fulfilment of the general and partial targets of the Digital Decade remains a priority not only at national level, but also in the framework of European and international cooperation.

In 2023, the European Commission (EC) for the first time included the DESI index in the first Report on the state of the Digital Decade (hereafter referred to as the 2023 Report), which monitors the performance of the EU and individual MS in the field of digitalisation, while also no longer comparing the overall indexed level of MS digital transformation. On 2 July 2024, the second ever Report on the state of the Digital Decade 2024 (the 2024 Report) was published, describing the evolution of the digital transformation in the EU in 2023. It also includes a country report, which describes developments in Czechia with regard to the already developed strategic plan and gives specific recommendations that should be taken into account in the revision of the strategic plan.

According to the 2024 Report, Czechia has made progress especially in the area of digital skills and the use of artificial intelligence (AI) by businesses. Significant progress has also been made in 5G coverage and there were outstanding advances in quantum technologies or semiconductor chips. In contrast, there has been insufficient progress in the coverage of very high capacity networks (VHCN) or the digital intensity of small and medium-sized enterprises (SMEs). Table 1 presents the values of the individual KPIs compared to the EU level and shows the year-on-year progress. The 2024 report itself contains a number of additional indicators

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7 GOVERNMENT OF THE CZECH REPUBLIC. Policy Statement of the Government. Online. 2022. Available here [cit. 2023-10-23].

8 EUROSKOP. Achievements of the Czech Presidency in the digital area and telecommunications. *Euroskop.cz*. Online. Available here [cit. 2023-10-23].

9 NÚKIB. NÚKIB's work during CZ PRES enhances EU cybersecurity. *Nukib.cz*. Online. Available here [cit. 2023-10-23].

that describe the status and evolution of digital transformation in more detail and are available in the DESI dashboard[10].

Table 1: Results of the Report on the state of the Digital Decade 2024

Indicator	Czechia			EU	
	DESI 2023	DESI 2024	Year-on-year progress	DESI 2024	Year-on-year progress
VHCNs	53.2%	50.5%	-5.0%	78.8%	7.4%
FTTP network coverage	37.4%	36.1%	-3.7%	64.0%	13.5%
Total 5G network coverage	82.6%	94.6%	14.5%	89.3%	9.8%
Semiconductors	-	-	-	-	-
Edge nodes	-	10	-	1 186	
Cloud services	40.0%	35.2%	-6.2%	38.9%	7.0%
Artificial intelligence	4.5%	5.9%	14.5%	8.0%	2.6%
Data analysis	-	19.5%	-	33.2%	-
AI / cloud / data analysis	-	43.1%	-	54.6%	-
Digital intensity of businesses	52.5%	49.3%	-3.1%	57.7%	2.6%
Unicorns		4		263	
At least basic digital skills	59.7%	69.1%	7.6%	55.6%	1.5%
ICT experts	4.5%	4.3%	-4.4%	4.8%	4.3%
Notification of the eID scheme		Yes			
Online access to key public services for citizens	76.3	76.3	0.2%	79.4	3.1%
Online access to key public services for businesses	83.8	83.8	0.0%	85.4	2.0%
Access to electronic health records	46.6	51.1	9.5%	79.1	10.6%

Source: 2024 Report on the state of the Digital Decade

1.1.1 Digital skills

Digital skills are the first of the four digital targets set out in Article 4 of the DDPP. It sets a target of 80% of 16–74 year olds having at least basic digital skills by 2030. According to the Report, 69% of people in Czechia reached this level in 2022, which is above the EU average (55%).

At the same time, this objective identifies the need to increase the number of ICT experts with an emphasis on promoting gender balance in this area. In 2023, only 4.3% of employed persons aged 15–74 were employed as ICT professionals, of which only 12.4% were women. The share of women in IT thus represents the worst result compared to the Member States, although there was a slight increase from the 2022 data of 10.9%. The number of graduates from higher education institutions and tertiary vocational schools in this area reflects the demographic curve to a large extent. According to data from the Czech Statistical Office (CZSO)[11], the percentage of higher education institution students in this area is gradually

[10] EUROPEAN COMMISSION. DESI dashboard for the Digital Decade. E*c.europa.eu*. Online. 2024. Available here [cit. 2024-08-23].

[11] CZECH STATISTICAL OFFICE. Students of higher education institutions in science, technology and ICT. Online, pdf. 2023. Available here [cit. 2023-10-23].

increasing, with 6.9% in 2018 and 7.7% in 2022. The numbers of graduates also reflect this trend of slight increase with 5.5% in 2018 and 6.1% in 2022. An increasing trend can also be observed in the representation of women, with 14% of students in 2015 and 18% in 2022.

It is evident from the available data that efforts to increase the number of ICT specialists require not only supportive measures at the level of initial education but also a greater focus on the use or development of tools for reskilling and upskilling within the framework of continuing education, which offer greater flexibility in terms of time. For this reason, in 2023, the MoLSA launched new instruments to actively support employment in response to the shortage of ICT experts. As part of these efforts, the ministry provides financial contributions to individuals for training courses in digital skills and has created the Database of Re/Upskilling Courses (the MoLSA e-shop). The aim of this database is to support the development of a wide range of digital competencies, from basic to highly specialised professional digital skills.

Additionally, year 2024 saw the launch of support for the development of employees' digital skills in companies through MoLSA. By 2025, a minimum of 130 000 people are to be supported to increase or deepen their digital skills. Support for the development of digital skills is also envisaged within the newly emerging network of regional training centres of the Labour Office of the Czech Republic. These activities not only support the development and increase of digital skills but can also help to increase the number of ICT specialists in Czechia. The total financial allocation that can be used to support the development of digital skills is CZK 6.5 billion.

Improving the digital skills of the Czech population is also a growing priority in the Government's Digital Czechia concept[12], which has been regularly updated since 2018 and was modified in 2022 to include the Digital Decade targets and objectives. In this context, a completely new pillar of digital learning has been added. This is linked to the Strategy for the Education Policy of the Czech Republic 2030+[13], which is included under Strategic Line 1.4 *Digital Learning* and sets out specific actions to support this objective. One of the partial targets is to increase women's participation in the digital domain. This objective is linked to the Digital Economy and Society[14] concept both in terms of equal opportunities and in terms of promoting ICT education and the acquisition of skilled workers, which is in line with the general objectives of the Digital Decade (specifically the objectives of promoting a human-centred, inclusive, transparent and open digital environment and of achieving gender balance by promoting continuous opportunities for all individuals to develop basic and advanced digital skills and competences).

Other activities in this area relating to education include the creation of the Interdepartmental Group for Digital Education and its transformation into the Committee for Digital Education under the Government Council for Information Society (GCIS) on 1 January 2023. The

[12] OFFICE OF THE GOVERNMENT OF THE CZECH REPUBLIC. Czech Republic in Digital Europe: Concept of the Czech Republic's place in the Digital Agenda for Europe. Online, pdf. 2023. Available here [cit. 2023-10-23].

[13] MEYS. Strategy for the Education Policy of the Czech Republic 2030+. Online, pdf (p. 31). 2020. Available here [cit. 2023-10-23].

[14] See note 10 (p. 8)

committee, as part of its activities, coordinates relevant stakeholders in digital education across the public, private, and non-profit sectors and serves as the key actor in the Structured Dialogue with the European Commission on digital education and skills. As part of its work, the concept Digital Czechia – Digital Education has been developed, along with a set of recommendations focused on, for example, increasing the representation of women in ICT, preparing specialists in cybersecurity, and improving lifelong learning opportunities for the development of digital skills.

Currently, revised Framework Educational Programmes (FEPs) for primary education and grammar schools are being implemented, introducing an entirely new computing curriculum and a new key digital competence at the school level. School leadership and teachers are supported in this process by a project of the National Institute for Education of the Czech Republic (NPI ČR), funded by the National Recovery Plan (NPO). The project has two main activities: the first involves providing training and consultations to schools on how to implement the new FEPs at the school level and how to develop students' computational thinking and digital competencies. The second activity involves establishing a network of IT consultants, the IT "Gurus", who provide schools with guidance and expert assistance in the digitalisation process and the procurement of digital technologies.

Additionally, in 2024, a new project of NPI CR – NPO 3.1 AIDIG – was supported. This initiative will assist schools in implementing the European Framework for the Digital Competence of Educators (DigCompEdu) and in addressing topics related to the rapid development of digital technologies, such as artificial intelligence, cybersecurity, digital well-being, financial and media literacy, and more.

1.1.2 Digital infrastructures

The second digital objective of the DDPP is to ensure secure, resilient, efficient and sustainable digital infrastructures. Czechia has long-standing shortcomings in the area of very high capacity network (VHCN) coverage; this is also linked to the lack of coverage of fibre to the premises (FTTP) broadband. In 2022 (Report 2024), 50.54% of households were covered by VHCNs, while 36.1% of households had access to FTTP.

The percentage decrease in VHCN and FTTP coverage recalculated against the 2021 data (2023 Report) is due to the development in the number of households. The significant increase of approximately 500 000 households in Czechia, as recorded in the 2021 Census, which was conducted after a ten-year interval, resulted in a sudden and substantial change. Absolute numbers of VHCN connections increased by more than 40 000 and address coverage by about 15 600 year-on-year.

It should also be noted that the definition of VHCN according to the DDPP is limited to only two technologies – FTTx and DOCSIS 3.1 – in contrast to the technology-neutral definition of

VHCNs[15]. Such coverage in Czechia is 50.54% of households according to 2022 data, while the coverage of all VHCN networks is 55.6%.[16]

New subsidy programmes have been launched to support the construction of VHCNs (including FTTP) and 5G networks in 2023 and 2024 under the NPO and the Operational Programme Technology and Applications for Competitiveness (OP TAC), totalling over CZK 8 billion, with the funds primarily targeted at rural areas that are less attractive for network construction.

The connectivity target also includes the area of 5G network coverage. Since the introduction of 5G in Czechia, there has been a rapid increase in coverage. As of 30 June 2023, the 5G network coverage stands at 94.6% of the population and 92.1% of the territory. This value is above the EU average; compared to other Member States, Czechia ranks 13th.

Czechia plays an important role in the production of semiconductor chips. Every day 10 million chips are produced in Czechia. There are two important semiconductor chip (integrated circuit) manufacturers in Czechia. One of them is an American company producing 200 mm SiC (silicon carbide) wafers and several types of silicon-based chips. This company is interested in building its entire value chain of silicon carbide substrate chip production in Czechia. There are also research and development centres focused on chip design, microcontrollers, carpacks and software for car manufacturers. Furthermore, three Czech companies are important suppliers for photolithography, the cornerstone of the front-end (production of custom chips), including for the world's dominant manufacturer of photolithography with unique EUV (Extreme ultraviolet lithography) technology.

Czechia also supported the European Chips Act[17], which it helped negotiate during the Czech Presidency. The Czech National Semiconductor Cluster, z.s. (CNSC), founded in 2022, brings together industrial HUBs, scientific institutions and public administration representatives. It was initiated by the Cabinet of the Minister for Science, Research and Innovation and the MIT. CNSC has also joined the Silicon Europe Alliance – The European cluster alliance for innovative electronics & software technologies, which represents more than 2000 companies and research institutions. Within the framework of regional cooperation, Czechia, through the South Moravian Region, joined the Brussels-based European Semiconductor Regions Alliance.

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[15] The definition of a VHCN network according to Article 2(2) of Directive (EU) 2018/1972 laying down the European Electronic Communications Code, as specified in the BEREC BoR Guidelines (23) 164 for very high capacity networks.

[16] As defined in the Directive, which sets out the European Electronic Communications Code, "'very high capacity network' means either an electronic communications network which consists wholly of optical fibre elements at least up to the distribution point at the serving location, or an electronic communications network which is capable of delivering, under usual peak-time conditions, similar network performance in terms of available downlink and uplink bandwidth, resilience, error-related parameters, and latency and its variation; network performance can be considered similar regardless of whether the end-user experience varies due to the inherently different characteristics of the medium by which the network ultimately connects with the network termination point".

[17] EUROPEAN PARLIAMENT AND COUNCIL. Regulation (EU) 2023/1781 establishing a framework of measures for strengthening Europe's semiconductor ecosystem and amending Regulation (EU) 2021/694 (Chips Act). Online. Available here [cit. 2024-12-11].

The Alliance brings together 12 regions to work together to develop a strong and integrated supply chain and implement the European Chips Act.

The targets for the support and development of the entire semiconductor ecosystem in Czechia are contained in the National Semiconductor Strategy, which was prepared by the MIT and approved by the Government on 10 October 2024. The strategy includes dozens of measures, from support for research and human resources development to support for export and the creation of new companies. Czechia is also involved in the Chips JU (Joint Undertaking) under which it co-finances Czech entities participating in excellent international research, development and innovation projects in the field of chips, semiconductors, microelectronics and other key digital technologies. The activities of Chips JU are also aimed at supporting capacity building in the EU in the field of semiconductor technologies, in particular through the creation of a pan-European network of competence centres in the field of semiconductors, or supporting the establishment of pilot lines that will provide industry with facilities for testing and verification of semiconductor technologies.

Czechia has been selected by The European High Performance Computing Joint Undertaking (EuroHPC JU) as one of six sites to host Europe's first quantum-accelerated computer in 2022. The LUMI-Q consortium project has been selected for this purpose and their quantum computer will be located at the IT4Innovations National Supercomputing Centre in Ostrava.

Czechia participates in the EuroHPC JU, which aims to build an ecosystem of first-class supercomputers in Europe and is currently also focused on supporting so-called AI factories, supercomputers oriented towards the development of artificial intelligence. Thanks to the IT4Innovation institute operating within the VŠB-TUO (Technical University of Ostrava), Czechia has built and operates the Karolina supercomputer. Negotiations for Czechia's participation in the consortium of the follow-on computer LUMI Next, which will be dedicated to AI computing, have now begun. Currently, a quantum computer LUMI-Q with a computational capacity of about 20 qubits will be located in Czechia for the calculation of complex quantum algorithms.

Work on building a quantum network has also begun in Czechia. The network will be used to distribute quantum keys that should ensure highly secure communication within critical infrastructure. Czechia is working on the National Quantum Strategy (NQS) that will support the entire ecosystem from research and development through education to commercialisation and practical applications in the areas of quantum computing, quantum communication, quantum sensors, metrology and quantum materials.

1.1.3 Digital transformation of businesses

The goal of the Digital Decade in the area of business digital transformation is for 75% of businesses to utilise at least one of the following technologies: cloud computing, big data, or artificial intelligence (AI). In the area of big data, a methodological change has been introduced, whereby from 2024 onwards, this technology is measured by the percentage of businesses conducting data analysis. The current figure for Czechia stands at 19.5%. Supporting the development of the Czech digital ecosystem through specific measures related to research, development, and the application of new technologies (including AI, cloud computing, and data analysis) in various economic sectors, business environments,

infrastructure, connectivity, and legislation is a key objective of the Digital Economy and Society pillar within the Digital Czech Republic framework.

The use of cloud computing, data analysis, and AI is supported under the Operational Programme Technology and Applications for Competitiveness. Czechia is also involved in the European Open Science Cloud, which aims to create a virtual environment with freely accessible services for storing and processing research data.

As part of the National Recovery Plan (NPO), European Digital Innovation Hubs receive funding to support the sustainable digital transformation of SMEs. Investments from the NPO in components 1.4 and 1.5, along with the Digital Enterprise Programme, which provides targeted support to at least 377 businesses, will significantly contribute to business digitalisation and the broader development of the digital society.

According to data from the 2024 Report, 5.9% of businesses in Czechia were using AI technologies in 2023. Although this figure is slightly below the EU average of 8%, it represents a 14% increase compared to the previous measurement. The advancement and accessibility of generative AI tools have significantly driven the adoption of AI applications, which businesses are increasingly integrating into routine operations. On 24 July 2024, the Czech government approved the National AI Strategy 2030 (NAIS), developed by the MIT in collaboration with other ministries. This strategy reflects the latest technological developments, trends, and policy initiatives in AI. Prepared in partnership with the public and private sectors, its goal is to maximise AI's potential for the benefit of the Czech economy and society. The document outlines priorities and objectives up to 2030 and defines measures in seven interlinked areas. To support the growth of the Czech AI ecosystem, three institutions – the Czech Technical University in Prague, Brno University of Technology, and the Technical University of Ostrava – are participating in the AI-ATTERS international consortium as part of the Testing and Experimental Facility for AI in Industrial Production project.

In 2023, 35% of Czech businesses used cloud technologies. The adoption of these technologies is supported by the NPO as part of the sustainable digital transformation strategy. The digital intensity of businesses is defined by the use of at least four out of twelve specified technologies. This list of technologies has historically evolved, and as of 2024, there are two versions: v4 and v3, which alternate annually. However, in the future, a unified version is expected. For the 2024 Report, v3 was used, with Czechia achieving 49.3% (based on 2023 data). This is comparable to the 52.5% recorded in the DESI 2022 report (based on 2021 data). As a result, it is not possible to directly compare the figures from the 2024 Report with those from the 2023 Report, as the latter used v4. To achieve this objective, Czechia will use support for the digital transformation of SMEs, e.g. through funds (OP TAC Digital and Virtual Enterprise) or European financial programmes (NPO or Digital Europe Programme).

In recent years, Czechia has seen a positive trend in the growing number of start-ups. The country has successfully established two new unicorns, bringing the total to four. The state agency CzechInvest has long focused on supporting start-ups. In 2022, it launched the first edition of the Technology Incubation programme, designed to support innovative start-ups in areas such as AI, mobility, creative industries, and ecotech. Within the framework of this conceptual support, start-ups are then further developed within HUBs focused on a given technological domain. CzechInvest actively supports both start-ups and investors, operates

the website Czechstartups.org[18] offering a comprehensive overview of the Czech start-up system and providing information on current State and private programmes to support them, and it also actively monitors the start-up environment and publishes detailed data on its website[19]. The MIT is another major investor supporting the development of start-ups, specifically through the Central European Fund of Funds and the Initial Public Offering fund.

The Start-up Internationalisation Programme, launched in June 2024 and also operated by CzechInvest, will contribute to the further growth of Czech start-ups. This initiative will enable at least 100 Czech start-ups to expand abroad, gaining access to new markets, partners, and investors.

1.1.4 Public services digitalization

The last digital target of the DDPP is the digitalisation of public services. In terms of online access to key public services, Czechia scores 76.3 for citizens and 83.8 for businesses. The country is taking the necessary steps to accelerate the digitalisation of public services and to secure the required administrative resources. Although Czechia's score for public administration digitalisation has been below the EU average in recent years, available data on individual indicators show an annual percentage improvement in the online availability of services.

The digitalisation of public administration is primarily supported by the NPO, specifically through components of the Ministry of the Interior (MoI), including: Component 1.1: Digital Services for Citizens and Businesses; Component 1.2: Digital Public Administration Systems; Component 4.4: Increasing the Efficiency of Public Administration (to a lesser extent).

The Digital and Information Agency (DIA), as the central government body, holds legal competencies that enable it to effectively manage the digitalisation of the state and specific IT projects. At the same time, DIA continues to coordinate the implementation of the Act on the Right to Digital Services, which obliges authorities to provide key services online and grants citizens the right to access these services digitally. This coordination takes place at multiple levels and involves representatives from both the public and private sectors, the latter as potential providers of digital solutions for public administration.

In 2023, the Single Digital Gateway Regulation entered its final implementation phase. Czechia has already met most of the regulation's requirements. Work also continues on the Once Only Technical System, which, once implemented, will enable data sharing among public administrations across the EU.

The Government successfully proposed and implemented an electronic identification system, allowing citizens to interact with authorities online. Several authentication methods are available, and the use of this form of communication has surged. In 2024, more than 6.5 million citizens had at least one eID method. The number of active data mailboxes has also

[18] CZECHINVEST. *Czechstartups.org.* Online. 2023. Available here [cit. 2023-10-2023].
[19] CZECHINVEST. Czech Republic in data: Start-up data. *Czechstartups.org*. Online. 2023. Available here [cit. 2023-10-23].

been growing over the long term, with the highest increase recorded at the beginning of 2023, when data mailboxes were made mandatory for all legal persons. By the end of 2024, nearly 5 million data boxes had been created, of which more than 3.7 million were active.[20]

The Citizen Portal serves as the entry point to Czech state online services. It is funded by the NPO and currently offers more than 600 services, with new ones being added rapidly. In addition to the traditional web interface, citizens have been able to use a mobile application since 2024, making government services fully accessible via smartphone. The app includes all functionalities of the web portal and allows users to handle various administrative tasks easily and quickly online, such as: Filing tax returns; Obtaining criminal record extracts; Registering with the DROZD system; Linking a data mailbox – all without the need to visit an office. The Citizen Portal now has more than 1.5 million users.

In January 2024, DIA also launched the eDoklady (eDocuments) mobile application, which can be seen as a precursor to the country's first "digital identity". Currently, it securely stores a digital copy of the national ID card. Citizens are already using the eDoklady app for identification with: Central government authorities; State bodies; Regional and municipal authorities with extended powers; Courts; Tax offices; Labour offices; The Police of the Czech Republic. Additionally, several hundred other state and private-sector entities voluntarily accept eDoklady. The increasing use of the eDoklady app is preparing both citizens and verifiers for the future implementation of the European Digital Identity Wallet.

In the area of electronic health record access, Czechia is still in the early stages of building its digital health infrastructure. For 2023, the country's eHealth score was 51.1, compared to the EU average of 79.1. Czechia plans to improve this situation through EU RRF funds via the National Health Information Portal, managed by the Ministry of Health (MoH). These funds will co-finance both central eHealth digitalisation projects (MoH, NPO) and hospital and emergency medical service projects (NPO/IROP), focusing on interoperability and making medical records accessible to both patients and doctors.

The most widely used eHealth services in Czechia are: eRecept (electronic prescriptions); ePoukaz (electronic medical vouchers); eNeschopenka (electronic sick leave system). These services are operated by the State Institute for Drug Control. A Medication Record (Lékový záznam) service is also available, giving both citizens and doctors an overview of issued and, if applicable, dispensed electronic prescriptions. Czech citizens also have access to the MoH's EZkarta mobile app, which provides information about vaccinations (including those of linked individuals). EZkarta will be expanded to include additional eHealth functionalities, including access to medical records. Through the Citizen Portal, some hospitals already offer patients access to their summary health records.

Ongoing eHealth digitalisation projects include: Digitalisation of Regional Public Health Authorities (KHS) – improving public health administration and enhancing responses to health threats. Telemedicine Project – strengthening remote interactions between patients and doctors using modern communication technologies. Finally, cybersecurity remains a top priority, ensuring the protection of sensitive health data and the security of information

[20] DIA. Statistics on the use of data boxes. *Mojedatovaschranka.cz*. Online. 2024. Available here [cit. 2024-10-30].

systems against unauthorised access and cyber threats. An essential part of these projects is the Trust Services initiative.

1.2 Challenges for Czechia

In the framework of the recommendations issued as part of the European Semester, significant progress has been made in implementing them since 2019. For the period 2019-2020,[21] the following has been recommended to Czechia in the area of digitalisation:

"Improve the quality and inclusiveness of education and training systems, inter alia by promoting technical and digital skills and by promoting the teaching profession."

In the context of the investment economic policy, focus on transport and in particular its sustainability, digital infrastructure and the transition to a low-carbon economy and energy transformation,"

Following the approval of the revised FEPs, which introduced new content in the educational area of Informatics and a new key digital competence, teachers are provided with methodological support, webinars, courses, peer-to-peer education, etc. In order to implement the FEPs at school level and to support the development of teachers' digital competencies. The project uses the outputs of other ESIF-funded projects, in particular support for the development of digital thinking, support for the development of digital literacy, support for the work of teachers, for example in the form of an online self-assessment tool for the evaluation of teachers' digital competences, developed on the basis of the European Framework for the Digital Competence of Educators (DigCompEdu). The NPO 3.1 – AIDIG project, which is currently underway, focuses on the implementation of the DigCompEdu framework mentioned above and thus on the development of teachers' digital competences.

In 2019, the National Plan for the Development of Next Generation Networks was updated to ensure quality coverage of high-speed electronic communications infrastructure to connect to data services.

Recommendations for 2020 were mainly focused on handling the Covid-19 pandemic, but some points remained in relation to previous recommendations:

"Promote employment through active labour market policies, provision of skills (including digital skills) and access to digital learning."

"Focus investments on green and digital transformation, particularly on high-capacity digital infrastructure and technology, with an emphasis on improving e-government."

The new Strategic Framework for Employment Policy until 2030 was prepared to address the challenges of digital skills, including the need to digitise and improve the training of employees in this area. The issue of adult learning is given considerable attention within the framework of the Work 4.0 Action Plan, whose measures are incorporated into the Digital

[21] COUNCIL (EU). Council Recommendation on the National Reform Programme of the Czech Republic COM/2019/503 for 2019 and Council Opinion on the Convergence Programme of the Czech Republic 2019. Online. Available here [cit. 2023-10-23].

Czech Republic concept and the National Artificial Intelligence Strategy of the Czech Republic 2030. The Digital Literacy Strategy 2015–2020 and the follow-up projects DigiStrategie 2020 and DigiKatalog focus specifically on developing digital skills. The support for digital education and the development of new teaching methods (including the use of digital technologies) was implemented under the Operational Programme Research, Development and Education, and the Implementation of the Digital Education Strategy call.

The Spring Package of the European Semester in 2021 followed up on the Covid-19 pandemic issues; Czechia, with the help of the Recovery and Resilience Facility formalised in the form of NPO, was preparing for green and digital transformation, with digital transformation being one of the main pillars, which served as the basis for the continued digitalisation of the public administration.

For the period 2022–2023, the European Semester's recommendations for Czechia in the area of digitalisation were as follows:

"Expand public investment in green and digital transformation and energy security, including through the Recovery and Resilience Facility, RePowerEU and other EU funds."

As part of the regular monitoring of progress towards implementation of the NPO (twice a year), another round of monitoring reports covering milestones and targets with an expected completion date by the end of 2022 was conducted. The current status of NPO implementation is continuously monitored and the digital transformation is being strengthened.

For the period 2023-2024, Czechia was recommended to:

"Maintain nationally funded public investment and ensure the effective use of grants from the Recovery and Resilience Facility and other EU funds, in particular to support green and digital transformation."

In its report, the EC stated that the NPO responds to key challenges related to digital and green transformation and to challenges in the areas of education, labour market, public administration, research, development and innovation and health care, to which Czechia responded by agreeing that prioritisation of State investment in green and digital transformation was necessary. As part of the digitalisation of the administration, the building permit proceedings were also digitised with the support of the NPO. Czechia is implementing a project supported by NPO funds "Increasing efficiency, client orientation and use of evidence-based principles in public administration", which aims, among other things, to complete a database with relevant data in relation to the performance of public administration. Furthermore, the Employee Portal project is being implemented to build a system that would enable the digitalisation of certain processes in the field of human resources in public administration. The NPO also allocates a significant amount of funds to increasing basic digital skills.

In the previous section describing the current state of the digital transformation of Czechia with regard to the DDPP, the main shortcomings were identified in comparison with the European average, especially in the area of connectivity and integration of digital technologies, and the main possible causes and challenges were described. Ensuring access, collection,

consolidation and evaluation of ESG data (i.e. environmental, social and governance information), which is a key element of the sustainable finance framework, can be cited as another significant challenge in the green and digital transition. The implementation of the framework plays a crucial role in ensuring the necessary investments in the digital and green transition.

Partial progress in the digitalisation of public administration and health care can be mentioned as a positive consequence. Last but not least, it is necessary to mention the current geopolitical situation, specifically the effects of Russian aggression in Ukraine, which, in the context of the Digital Decade, is causing, among other things, an increase in cyberspace threats. As part of the 2023 NPO update, the allocation for cybersecurity was increased in this context.

In the report for Czechia, published together with the first report on the state of the Digital Decade, the EC draws Czechia's attention to the following: support for further development in the field of ICT and acquiring more cybersecurity experts; in the area of connectivity, according to the Commission, it is necessary to focus in particular on FTTP connections and to continue the development of 5G networks; in the digitalisation of businesses, it is necessary to focus on SMEs and help them with digital transformation; finally, in the area of digitalisation of public services, it is necessary to improve the accessibility of the user environment for citizens based on user feedback.

Last but not least, Czechia faces the challenge of effectively implementing existing strategies and performing the necessary follow-up and evaluation. The DDPP Decision can help Czechia address the challenge of compatibility of existing digital strategies and the creation of KPIs to serve as control mechanisms for their implementation. Thanks to multi-country projects, Czechia can gain know-how and help existing projects in priority areas of digitalisation. The DDPP thus represents an important link between the Czech digitalisation strategies under the Digital Czech Republic concept and the European Path to achieving common digital objectives by 2030.

For the period 2024-2025, no specific measures were recommended for Czechia explicitly related to the digital transition, but in general the recommendations concern the timely submission of a medium-term fiscal and structural plan, strengthening the administrative capacity to manage the recovery and resilience plan, developing analytical, managerial and IT skills in the Czech public administration, and promoting innovation by improving technology transfer from academia to business.

1.3 Strengths and advantages of Czechia

The most important initiative in relation to the implementation of the Digital Decade is the Digital Czech Republic concept, which was modified in 2022 to include the Digital Decade objectives and targets. In 2023, a section on digital skills has been added to the concept for this reason as well. Digital Czech Republic includes several concepts linked to specific implementation plans. In order to facilitate the digital transformation of the State administration, the Digital and Information Agency (DIA) was created, which is a central body

of the State administration with legal powers that enable it to effectively help manage the digitalisation of the State and specific projects in the areas of digitalisation and IT. These initiatives are essential for the managed digital transformation of Czechia, especially in connection with digital targets 1 digital skills and 4 digitalization of public services.

In the context of the European Parliament elections in 2024 and the arrival of the new EC College, the Government Office of the Czech Republic, in cooperation with members of the Committee for Czechia in Digital Europe, has prepared the document Czech Priorities for European Digital Policy 2024–2030[22]. This document summarises the priorities of the Czech Republic for the next legislative period and is primarily addressed to the new European Commission. The document reflects existing national strategic concepts in the field of the digital agenda and is followed by an update of Czechia in Digital Europe concept.

In November 2024, the third annual nationwide educational event on digitalisation, "Week for Digital Czechia", took place, organised by the Government Office the Czech Republic in cooperation with partner organisations. Over the course of a single week, a variety of workshops, lectures, courses, and seminars were held both in-person and online across Czechia. This year's edition focused particularly on digital skills needed for the evolving job market, internet security, and communication with the state. The event specifically addressed topics such as the use of AI, child internet safety, and the representation of women in ICT fields.

The main strength of Czechia lies in its population and strong human capital. This is true in the area of digitalisation and the potential for developing digital skills. The development of human capital is hampered by the low participation of women in IT professions, which represents a great potential for further increasing digital skills in Czechia.

While Czechia is not making sufficiently rapid progress under objective 2 digital infrastructures, there are several important initiatives that may prove crucial to progress in this area in the future. In 2022, the EuroHPC JU announced the selection of 6 sites to host the first European quantum computers, including Czechia. These will be integrated into networks of existing supercomputers. The LUMI-Q consortium was among the selected projects and their quantum computer will be located at the IT4Innovations National Supercomputing Centre in Ostrava. Additionally, work is currently underway on the development of a quantum network within the NPO (QCI project), which will be used for quantum key distribution, ensuring highly secure communication within critical infrastructure.

On 24 July 2024, the Czech government approved the National Artificial Intelligence Strategy of the Czech Republic 2030, which serves as the strategic framework for the development and use of trustworthy AI in Czechia. This strategy will be implemented through an Action Plan, which will outline specific initiatives, such as grant programmes, business guidelines, retraining courses, and the introduction of new AI solutions. The current version of the Action Plan was prepared by the MIT in cooperation with key gestors in individual focus areas and will be presented to the government as part of the Implementation Plans for Digital Czech Republic. In this document, the MIT will advocate for the urgent need to develop AI as a

[22] OFFICE OF THE GOVERNMENT OF THE CZECH REPUBLIC. Czech Priorities for European Digital Policy 2024–2030. Online. Available here [cit. 2024-10-18].

strategic technology, for example, through the TWIST programme (Transfer, Research, Development, and Innovation for Strategic Technologies).

The TWIST programme explicitly focuses on supporting the development of strategic technologies, particularly AI, quantum technologies, semiconductors, and microelectronics, while also strengthening the transfer of research and development outcomes into practice. The programme will be implemented between 2025 and 2031, with total funding of CZK 5 billion. The Action Plan will include investments totalling approximately CZK 19 billion and will be updated annually to respond to changing conditions.

Three Czech institutions (Czech Technical University in Prague, Brno University of Technology, and the Technical University of Ostrava) are part of the AI-MATTERS consortium, which brings together leading organisations from eight European countries to establish a European reference testing and experimentation facility for AI. AI-MATTERS consists of 25 top-tier technology centres, which together have created eight national centres, providing specialised services essential for the development of Europe's AI sector. The facility will support the full integration, testing, and experimentation of cutting-edge AI-based technologies, aiming to solve challenges and improve solutions in various application industries, including validation and demonstration. AI-MATTERS is co-financed by the NPO, the State budget, and the Digital Europe Programme.

One Czech institution (Masaryk University in Brno) with links to other Czech entities is part of the Testing and Experimentation Facility for Health AI and Robotics (TEF-Health) consortium as an associate member. The activities of TEF-Health aim to facilitate and accelerate the validation and certification of AI and robotics systems in healthcare facilities. The TEF-Health consortium includes 51 academic and private-sector partners from nine European countries, as well as a European research infrastructure comprising members from 11 EU countries.

Czechia is also participating in a multi-country project aimed at the expansion of 5G corridors in Europe, and a study funded by CEF Digital is currently underway to prepare the implementation of 5G and FRMCS communication systems in relation to Connected and Automated Mobility on the Brno (CZ) – Bratislava (SK) railway corridor.

In the NPO, 22% of the total budget is dedicated to digital priorities.[23] The main investments will focus on promoting digital skills and the digital transformation of businesses. The Framework Education Programmes have been changed (schools prepare their own curricula in accordance with them), within the framework of which the educational area of Informatics has been innovated and a new key digital competence introduced. At the same time, massive investment has been made in improving the technical equipment of schools, providing digital teaching aids and supporting learning opportunities for teachers in this area (webinars, consultations, peer to peer activities, etc.). In this context, a network of "IT gurus" has been created within the framework of a project of the National Institute for Education, which offers expert advice to schools in the field of digitalisation. Czechia has also launched the Central European Digital Media Observatory, which aims to strengthen capacity and cooperation between Member States and the EU in the areas of improving detection, coordinating

[23] EUROPEAN COMMISSION. Digital Economy and Society Index (DESI) 2022: Czechia. *Ec.europa.eu*. Online. Available here [cit. 2023-10-23].

responses, working with online platforms and industry, raising awareness and empowering citizens to respond to online misinformation.

Additionally, in 2024, a new project of NPI CR – NPO 3.1 AIDIG – was launched. This initiative will assist schools in implementing the European Framework for the Digital Competence of Educators (DigCompEdu) and in addressing topics related to the rapid development of digital technologies, such as AI, cybersecurity, digital well-being, financial and media literacy, and more.

The Operational Programme Technologies and Application for Competitiveness (OP TAC) is focused mainly on supporting SMEs, including in the field of cloud computing. Businesses of all sizes can further benefit from the support of digitalisation activities covered by the RRF under the programmes for digital transformation of manufacturing and non-production companies and increasing resilience. Six European Centres for Digital Innovation have been set up to help businesses develop projects to apply AI, HPC and cybersecurity technologies in digital transformation and automation.

As of the beginning of 2023, data boxes were established for all legal entities, which must now use them on a mandatory basis. This legislation will enable a rapid increase in the number of eID users. In order to increase voter turnout, the possibility of electronically applying for a voter ID card through the Citizen Portal was also introduced in 2022. This portal is now managed by the DIA; it offers citizens access to online government services and it is the main medium for eGovernment services in the future. In the future, all websites of State administration bodies and institutions should also have a uniform design and switch to the gov.cz domain to ensure greater clarity, transparency and increased resistance to cyberattacks. In all these activities, however, care must continue to be exercised to ensure a sufficient level of cybersecurity and the protection of the personal data of citizens and other persons using these services.

In November 2024, an update of the Czech Republic's 2030 strategic framework was approved. It is an overarching development framework setting priorities and objectives for the development of Czechia until 2030, which also translates the global goals of the 2030 Agenda (SDGs) into the Czech environment. Within the framework of its update, the topic of the so-called dual transition, i.e. the link between green and digital transition, is also addressed, both in the overall orientation and directly in one of the specific objectives of the strategic framework. The Strategic Framework Czech Republic 2030 perceives the dual transition as one of the basic elements of modernising the Czech economy and strengthening its competitiveness.

Part 2: National trajectories and targets to contribute to the EU's digital targets

2.1 Digital skills

2.1.1 Basic digital skills

Objective: 80% of the population aged 16 to 74 have at least basic digital skills

Indicator name (KPI): basic digital skills

National KPI baseline: 59.7% (2021)

National KPI target (for 2030): 80%

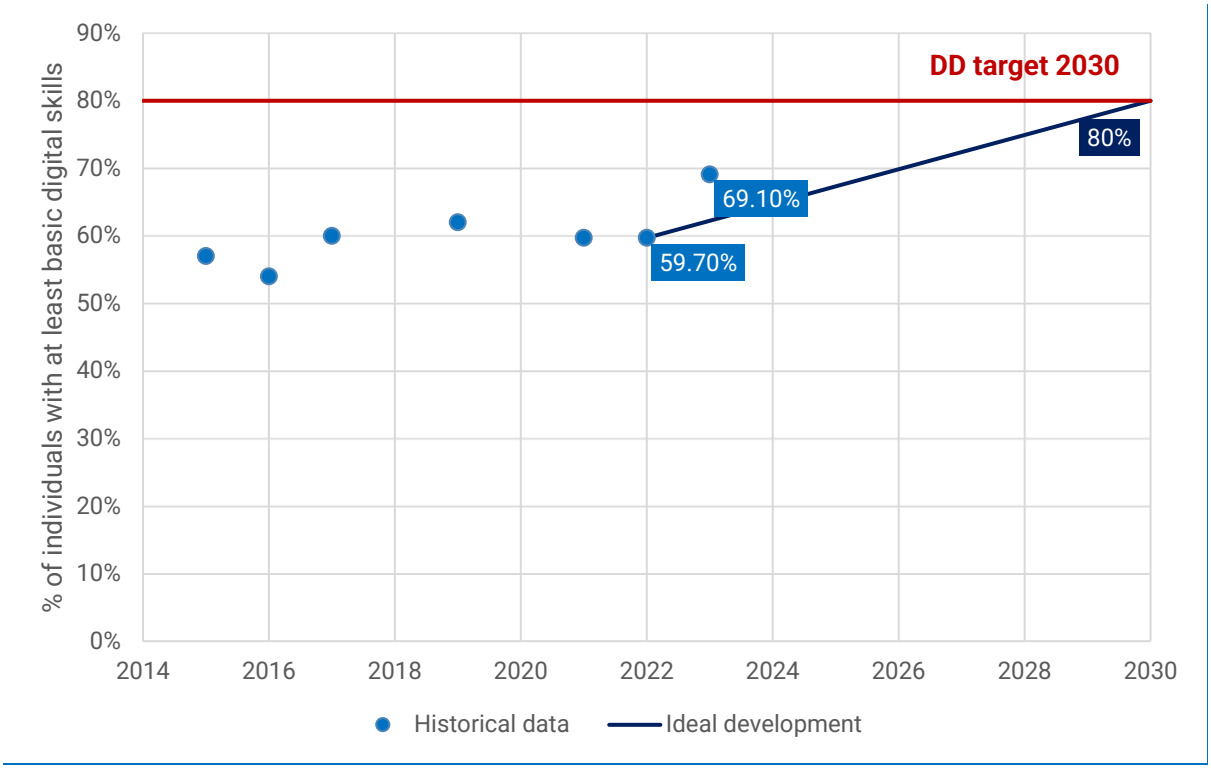
EU KPI baseline: 54% (2021)

EU KPI target (for 2030): 80%

Source of data: Eurostat, EU Survey on ICT Usage in Households and by Individuals

KPI definition: At least basic digital skills, measured as the percentage of individuals aged between 16 and 74 years old disaggregated by sex with "basic" or "above basic" digital skills in each of the following five dimensions: information, communication, problem solving, digital content creation and safety skills. It is measured based on the activities that individuals carried out during the previous three months; and gender convergence, measured as the percentage of women and men among those individuals with "basic" or "above basic" digital skills.

Chart 2: Basic digital skills



Reasoning: The development of basic digital skills is one of the main pillars of the Government's Digital Czech Republic concept, but the development of this indicator over time is linked to other demographic indicators and the need to implement long-term strategies and concepts. Given the complexity of the topic, it is difficult to estimate the exact trajectory for Czechia over time. The decrease compared to previous years is due to a change in the measurement methodology; in 2021 Eurostat added the area of security to the measurement. Compared to the baseline trajectory, the 2023 results show a rapid increase in values that exceeded the expected trajectory.

2.1.2 ICT specialists

Objective: at least 20 million ICT professionals are employed in the Union, while maintaining equal access for women in this field and increasing the number of ICT graduates

Indicator name (KPI): ICT specialists

National baseline: 4.5% (2022)

National KPI target (for 2030): 7%

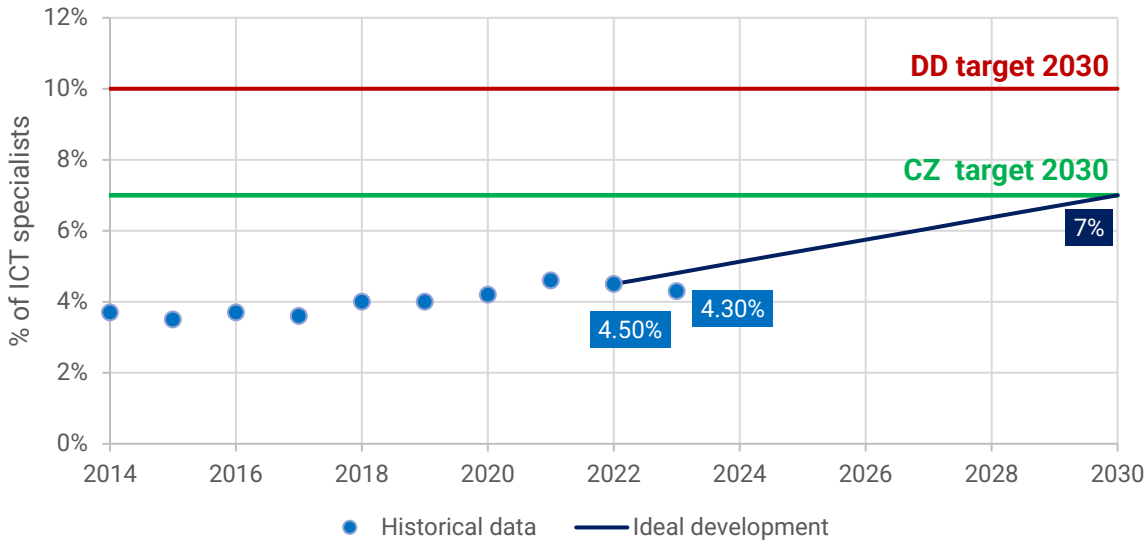
EU baseline: 4.5% (2022)

EU KPI target (for 2030): 10%

Source of data: Eurostat – Labour Force Survey

KPI definition: ICT specialists, measured as the number of individuals aged 15-74 who are employed as ICT specialists; and gender convergence, measured as the percentage of women and men among those individuals employed as ICT specialists. In accordance with the ISCO-08 [(3)] code classification, ICT specialists are workers who have the ability to develop, operate and maintain ICT systems, and for whom ICT constitutes the main part of their job, including but not limited to ICT service managers, ICT professionals, ICT technicians, ICT installers and servicers.

Chart 3: ICT specialists



Reasoning: Czechia maintained a gradual linear growth in ICT specialists above the EU average until 2022. As with the previous indicator, this indicator is one of the themes of the Digital Czech Republic concept, but it can also be influenced by demographic developments. In general, however, this indicator is on an upward trend but is currently stagnating, which may be due mainly to demographics and the slow take-up of the measures implemented. New education programmes and strategies are also currently being implemented which will lead to an increase in interest in studying in this field, but for the reasons mentioned above it is not possible to estimate more accurately the development in individual

years. For consistency of KPI measurement, the target values and historical data have been converted to percentages as a share of ICT specialists.

In initial education, activities are currently underway to expand the range of professionally oriented study programmes at higher education institutions (funded by the NPO under component 3.2), including in the area of ICT professionals training (e.g. programmes focused on cybersecurity, etc.). In the area of regional education, an innovation of the system of secondary school fields of study is being prepared, which will subsequently be reflected in the planned revision of the framework education programmes for individual secondary school fields of study. As these are relatively significant changes, it is necessary to take into account that the implemented/planned changes will take longer to take effect (ensuring successful implementation of the proposed changes, time delay before there are the first graduates of the offered programmes, etc.).

2.2 Digital infrastructures

2.2.1 Gigabit networks (VHCN coverage)

Objective: all end users in a fixed location are covered by a gigabit network to the endpoint

Indicator name (KPI): gigabit networks (VHCN coverage)

National baseline (FTTP and DOCSIS 3.1 only; DESI): 53.2% (BCE Report 2022)

National baseline (all technologies; ALL): 59.3% (BCE Report 2022)

National KPI target (for 2030): 95%

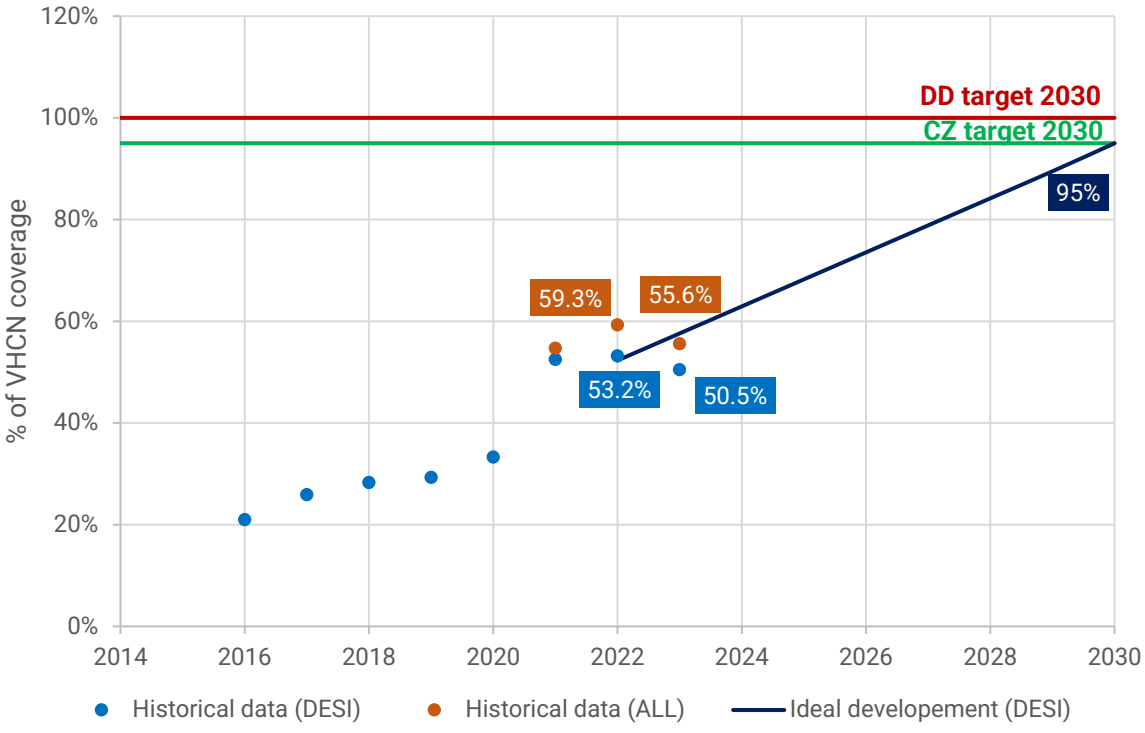
EU baseline: 73% (BCE Report 2022)

EU KPI target (for 2030): 100%

Source of data: External studies – Broadband coverage in Europe studies for the EC (Omdia and Point Topic) – Gigabit 2013-2022 (baseline-DESI); CTO (baseline-ALL)

KPI definition: Gigabit connectivity, measured as the percentage of households covered by fixed Very High-Capacity Networks (VHCN). The technologies considered are those currently able to deliver gigabit connectivity, namely Fibre to the Premises and Cable DOCSIS (4) 3.1. (5) The evolution of the Fibre to the Premises coverage will also be monitored separately and taken into consideration when interpreting VHCN coverage data.

Chart 4: Gigabit networks (VHCN coverage)



Reasoning: Given the increase in values between 2021 and 2022, a similar trend can be expected in subsequent years. The trajectory set reflects the definition of KPIs as per the approved Commission Implementing Decision of 30 July 2023. However, as explained in Part 1.1, this definition used for the DESI is not entirely technology neutral. Therefore, historical data (ALL) based on this VHCN definition in accordance with Directive (EU) 2018/1972 and BEREC guidelines are also shown in the chart for comparison. With reference to Commission Implementing Decision 2022/2481, we also see the

possibility of future adjustments to the definition of this KPI in cooperation with BEREC, or adjusting it to more comprehensively reflect the stated targets. Networks in a liberalised market, such as Czechia within the EU, are built by the commercial sphere under market conditions and the State's aim is not to interfere negatively with competition. The State should identify and remove obstacles to network development and seek legislative and non-legislative measures to facilitate, accelerate and cheapen construction. It is understood that Czechia is not alone in this effort; a regulation on gigabit infrastructure was adopted in April 2024, and other options are being discussed to help network development, especially in locations where market mechanisms are failing. Therefore, there are also subsidy mechanisms and block exemptions (GBER) to cover at least some of the "white spots", i.e. places where market mechanisms fail and it is verified by public consultation that there are no relevant networks and will not be built on a commercial basis in the next 3 years. This is also stated, for example, in the Analysis of the state of development of NGA networks in Czechia for providing access to high-speed internet available at a fixed location (pp. 134–138)[24]. Therefore, as part of non-legislative measures, subsidy mechanisms are targeted at these areas, both from the National Recovery Plan and from European Structural Funds, Operational Programme Enterprise and Innovation for Competitiveness (OPPIK), OP TAC.

These are particularly areas where VHCN coverage is very problematic, especially given the nature of the landscape and built-up areas, and even more close if the KPI is currently set only for FTTx and DOCSIS 3.1 coverage. Given the existence of these areas in Czechia, setting a national target of 100% would be unrealistic. Therefore, based on expert estimation, a provisional value of 95% was chosen. Given the developments over the last year, and given the pace of construction, construction capacity and the difficulty of setting up fixed VHCN connections in increasingly financially challenging locations, reaching this value for 2030 is difficult to achieve and the value of the target will be reassessed in 2026 when this document is next revised following the revision of the DDPP targets and also following the implementation of the Gigabit Infrastructure Act. Based on the rationale of the Implementing Decision and with reference to the historical data (ALL) above, we also see the possibility of meeting the target values using other technologies that do not currently fall under the definition of this indicator.

The percentage decrease in the VHCN coverage recalculation from the 2021 data (2023 Report) is due to the form of household count monitoring as discussed in Part 1.

2.2.2 Gigabit networks (FTTP coverage)

Objective: monitor fibre to the premises (FTTP) coverage as a complementary indicator to VHCN coverage

Indicator name (KPI): gigabit networks (FTTP coverage)

National baseline: 36% (BCE Report 2023)

National KPI target (for 2030): 60%

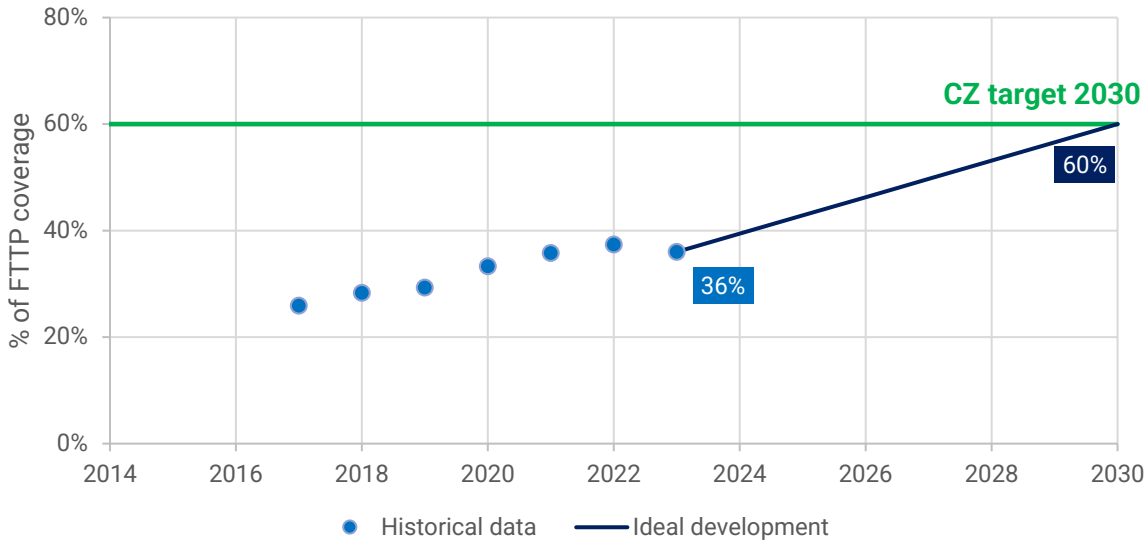
EU baseline: 63.99% (BCE Report 2023)

Source of data: External studies – Broadband coverage in Europe studies for the European Commission by Omdia and Point Topic

KPI definition: Gigabit connectivity, measured as the percentage of households covered by fixed Very High-Capacity Networks (VHCN). The technologies considered are those currently able to deliver gigabit connectivity, namely Fibre to the Premises and Cable DOCSIS 3.1. The evolution of the Fibre to the Premises coverage will also be monitored separately and taken into consideration when interpreting VHCN coverage data.

[24] MIT. Analysis of the state of development of NGA networks in the Czech Republic. *Mpo.cz*. Online. 2023. Available here [cit. 2023-10-23].

Chart 5: Gigabit networks (FTTP coverage)



Reasoning: Although the DDPP does not impose a specific target for FTTP coverage, this additional indicator is also monitored separately. On the basis of the EC recommendation contained in the 2024 Report, a separate trajectory for FTTP coverage has been added to the roadmap update, which is based on and takes into account the expected network construction from the subsidy calls under the NPO and OP TAC, but the actual development until 2030 may differ, especially with regard to the market situation. The percentage decrease in the FTTP coverage recalculation compared to the 2021 data (2023 Report) is due to changes in the number of households as discussed in Part 1.

2.2.3 5G coverage

Objective: all populated areas are covered by next-generation high-speed wireless networks with at least 5G performance in line with the principle of technology neutrality

Indicator name (KPI): 5G coverage

National baseline: 83% (BCE Report 2022)

National KPI target (for 2030): 100% (assuming the use of satellite technology, provided that this technology will provide services with at least 5G-comparable performance)

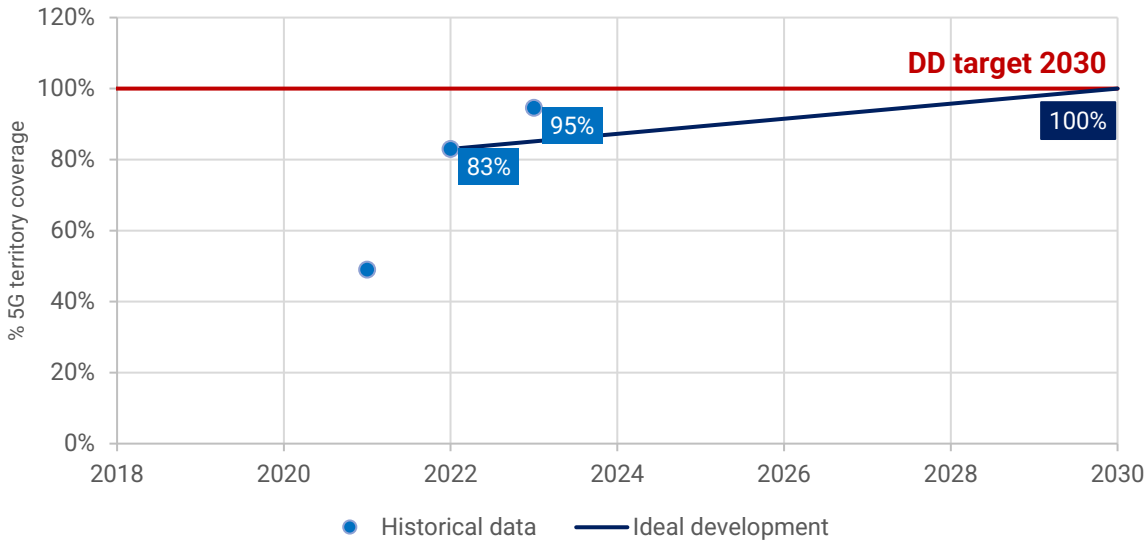
EU baseline: 81.2% (BCE Report 2022)

EU KPI target (for 2030): 100%

Source of data: External studies – Broadband coverage in Europe studies for the EC (Omdia and Point Topic) – Gigabit 2013-2022

KPI definition: 5G coverage, measured as the percentage of populated areas covered by at least one 5G network regardless of the spectrum band used.

Chart 6: 5G coverage



Reasoning: The chart shows the significant development in 5G network coverage in Czechia between 2020 and 2022. The current DESI population coverage is 94.6%, exceeding the expected trajectory of the indicator. The Czech Telecommunication Office's data on 5G network coverage is available on a per capita or per covered area basis. Therefore, they may differ slightly from the data recalculated for the Broadband coverage in Europe studies for the EC (Omdia and Point Topic) – Gigabit 2013–2022 used by the European Commission. As outlined in Chapter 1.1, 5G coverage will continue to be provided at least in accordance with the conditions set out in the radio frequency allocations for the relevant frequency bands. The values enforceable by the State reach 99% coverage of the population of each district in the country and 90% coverage of the territory of each district in the country as of Q1 2031. These values were determined with regard to the actual technical feasibility of coverage with respect to the characteristics of Czechia. However, it is possible that a higher level of coverage will be achieved, especially in view of possible technological developments, but also with the help of subsidy support for 5G coverage in sparsely populated areas.

2.2.4 Semiconductors

Objective: Union production of high-end semiconductors, in compliance with Union law on environmental sustainability, shall account for at least 20% of world production in value terms

Indicator name (KPI): semiconductors

National baseline: unknown

National KPI target (for 2030): unknown, to be added later depending on the availability of the EC study.

EU baseline: 10% (2022)

EU KPI target (for 2030): 20%

Source of data: International Data Corporation study in progress

KPI definition: Semiconductors, measured as value generated, in terms of revenues, by semiconductor activities in the Union, in all stages of the value chain, with respect to the global market value. For the first year, reporting will be done on the basis of those activities in Europe.

Reasoning: As the EC study is still ongoing and no data is yet available, this trajectory will not be projected in the roadmap.

2.2.5 Edge nodes

Objective: at least 10 000 climate-neutral, highly secure nodes at the edge of the network are deployed in the Union, deployed in such a way that low-latency (i.e. a few milliseconds) access to data services is guaranteed wherever businesses are located

Indicator name (KPI): edge nodes

National baseline: 10

National KPI target (for 2030): 144

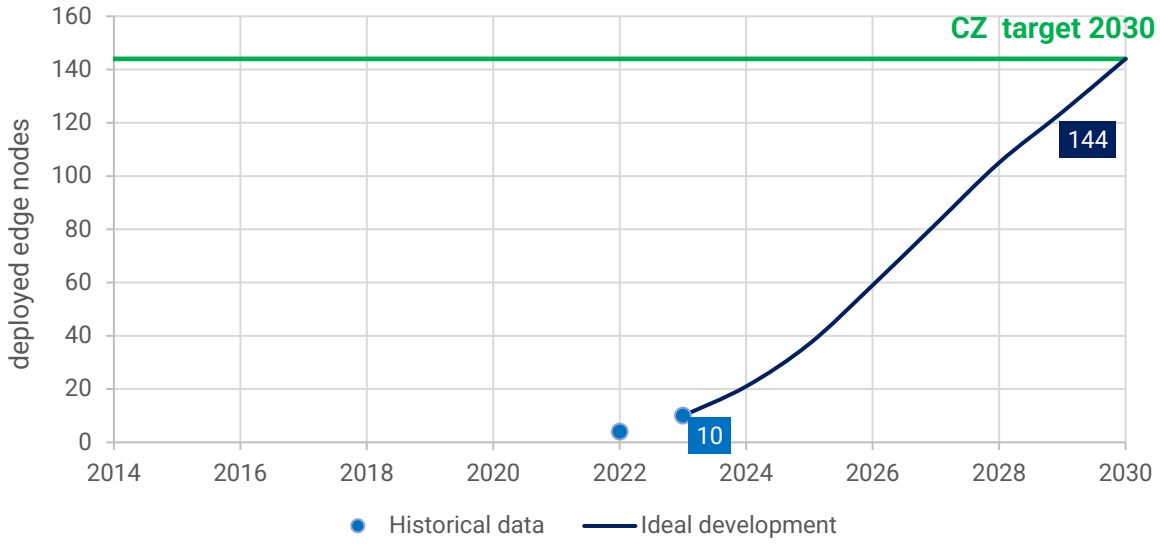
EU baseline: 1 186

EU KPI target (for 2030): 10 000

Source of data: external Edge observatory study (ongoing)

KPI definition: Edge nodes, measured as the number of compute nodes providing latencies below 20 milliseconds; such as an individual server or other set of connected computing resources, operated as part of an edge computing infrastructure, typically residing within an edge data centre operating at the infrastructure edge, and therefore physically closer to its intended users than a cloud node in a centralised data centre.

Chart 7: Edge nodes deployment



Reasoning: Due to the lack of national data and the absence of historical data, the trajectory presented is taken from an external study commissioned by the EC Edge Observatory.

2.2.6 Quantum computing

Objective: The Union has the first quantum-accelerated computer by 2025, paving the way for it to become a leader in quantum capabilities by 2030.

Indicator name (KPI): quantum computing

National baseline: 0

National KPI target (for 2030): 1

EU baseline: 0

EU KPI target (for 2030): 3

Source of data: study on the Quantum Technologies Flagship initiative

KPI definition: Quantum computing measured as the number of operational quantum computers or quantum simulators, including accelerators of High Performance Computing supercomputers, deployed and accessible to the user communities.

Reasoning: Due to the nature of the indicator and the impossibility of quantifying contributions, this trajectory will not be projected. However, Czechia has been selected by The European High Performance Computing Joint Undertaking as one of six sites to host Europe's first quantum-accelerated computer in 2022. The LUMI-Q consortium project at IT4Innovations was selected for this purpose.

Further activities and research in this area are being carried out at a number of universities (e.g. Czech Technical University in Prague or Masaryk University in Brno). The Operational Programme Jan Amos Komenský (OP JAK) also supported two projects in the field of quantum technologies and materials, each worth CZK 500 million (Czech Academy of Sciences and the University of West Bohemia in Pilsen). The project will involve researchers from several higher education institutions and institutes across Czechia. Given the capacity of the State, Czechia will focus in particular on support in this area at the national level and in cooperation with other Member States.

2.3 Digital transformation of businesses

2.3.1 Cloud services / data analysis / artificial intelligence

Objective: at least 75% of businesses in the Union use one or more of the following in line with their business activities: cloud services; data analysis; artificial intelligence

Indicator name (KPI): cloud services or data analysis or artificial intelligence

National baseline: 43.1% (2023)

National KPI target (for 2030): 60%

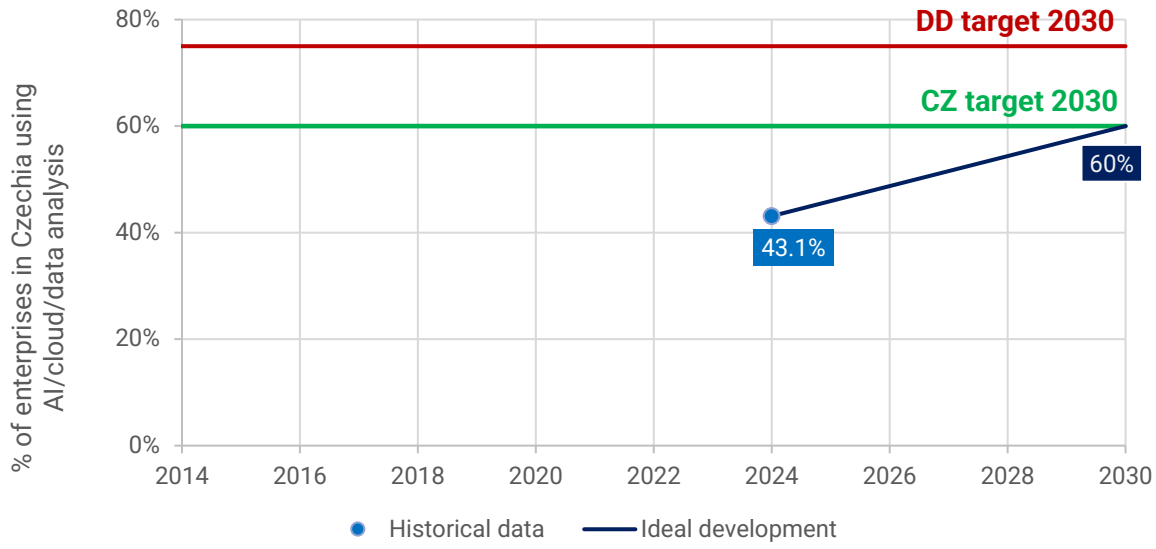
EU baseline: 54.6% (2023)

EU KPI target (for 2030): 75%

Source of data: EU Survey on ICT Usage and e-commerce in enterprises

KPI definition: Businesses using artificial intelligence technologies or using sophisticated or intermediate cloud services or performing data analysis

Chart 8: Cloud services / data analysis / artificial intelligence



Reasoning: This indicator corresponds to the original target of 75% of businesses in the Union using at least one of the following: cloud services, data analysis or artificial intelligence. In the absence of historical data for such a merged indicator, the trajectory is based mainly on historical data for separate indicators on cloud services and artificial intelligence.

2.3.2 Cloud services

Objective: at least 75% of businesses in the Union use one or more of the following in line with their business activities: cloud services; data analysis; artificial intelligence

Indicator name (KPI): Cloud computing

National baseline: 40% (2023)

National KPI target (for 2030): 60%

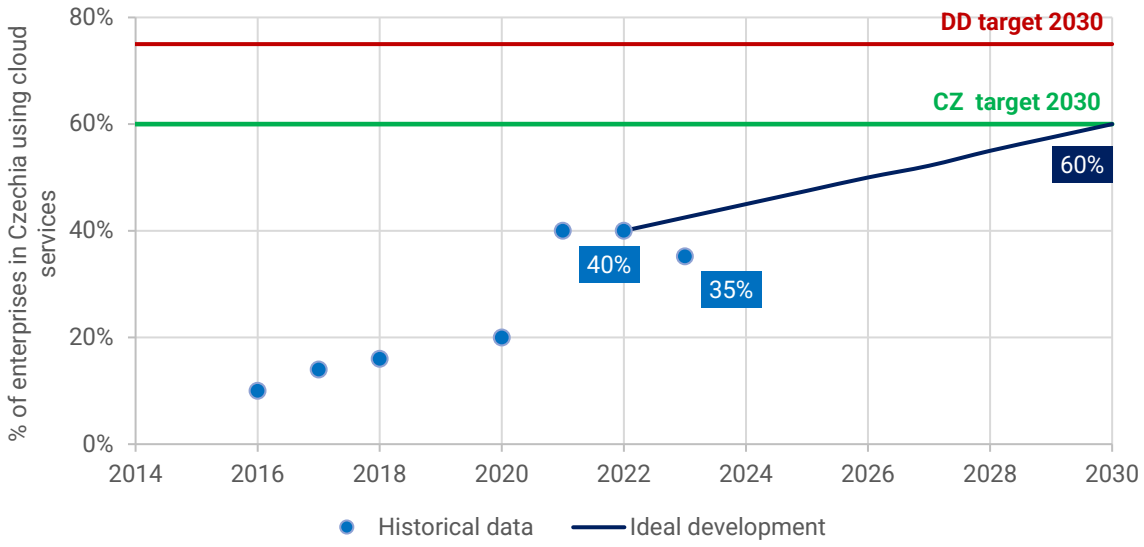
EU baseline: 38.9% (2022)

EU KPI target (for 2030): 75% (overall indicator)

Source of data: EU Survey on ICT Usage and e-commerce in enterprises

KPI definition: Cloud computing, measured as the percentage of enterprises using at least one of the following cloud computing services: finance or accounting software applications, enterprise resource planning (ERP) software applications, customer relationship management (CRM) software applications, security software applications, hosting the enterprise's database(s), and computing platform providing a hosted environment for application development, testing or deployment.

Chart 9: Cloud services



Reasoning: This indicator is one of the three composite indicators related to the digital transformation of businesses and the target is to reach a value of 75% for at least one of them.

One of the newer manifestations of digitalisation in the business sector is the use of cloud computing services, where businesses use provided storage space, services or programmes available from the Internet via remote access, e.g. using a web browser. The popularity of using cloud services is growing, especially among large enterprises. One factor that may lead to the 60% target not being met is activities that restrict access to the EU internal market for non-European suppliers from like-minded EU countries.

As the 2024 Report introduced an indicator that combines the measurement of all three required indicators with respect to the definition of the target, it is only a complementary indicator with a target at the national level only.

2.3.3 Data analysis

Objective: at least 75% of businesses in the Union use one or more of the following in line with their business activities: cloud services; data analysis; artificial intelligence

Indicator name (KPI): data analysis

National baseline: 19.5% (2023)

National KPI target (for 2030): 35%

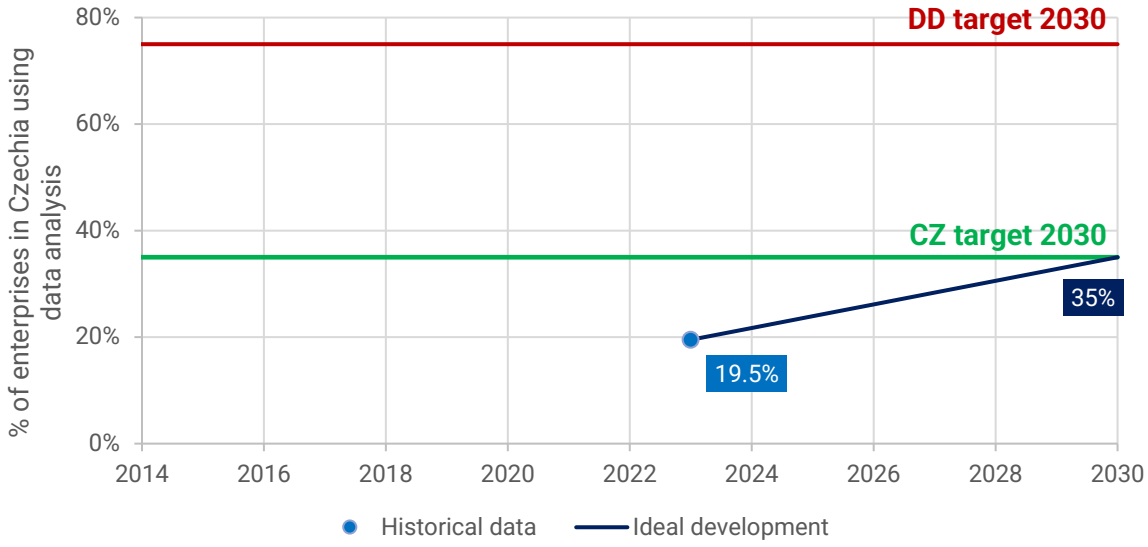
EU baseline: 33.2% (2023)

EU KPI target (for 2030): 75% (overall indicator)

Source of data: Eurostat, EU Survey on ICT Usage and e-commerce in enterprises

KPI definition: Big data, measured as the percentage of enterprises analysing big data from any data source (internal or external). As of the 2024 report, big data will be measured by the percentage of enterprises performing data analytics (internally or externally).

Chart 10: Data analysis



Reasoning: As part of data collection for the 2024 Report, the methodology was changed and the indicator "big data" was replaced by the indicator "data analysis", which better describes the objective to be measured. On the basis of this adjustment, the national target has been adjusted to 35%. Czechia has set an ambitious target of 35%, which can be facilitated by the adaptation of the new regulation, i.e. Data Act, which aims to boost Europe's data-driven economy by unlocking the potential of industrial data, optimising its availability and reuse. Furthermore, according to the results of the CZSO survey, it seems advisable for businesses in Czechia to make more use of data analysis from social networks and other social media, as well as location data from portable devices, as is the case in other MS.

As the 2024 Report introduced an indicator that combines the measurement of all three required indicators with respect to the definition of the target, it is only a complementary indicator with a target set at the national level only.

2.3.4 Artificial intelligence

Objective: at least 75% of businesses in the Union use one or more of the following in line with their business activities: cloud services; data analysis; artificial intelligence

Indicator name (KPI): artificial intelligence (AI)

National baseline: 5.9% (2023)

National KPI target (for 2030): 21%

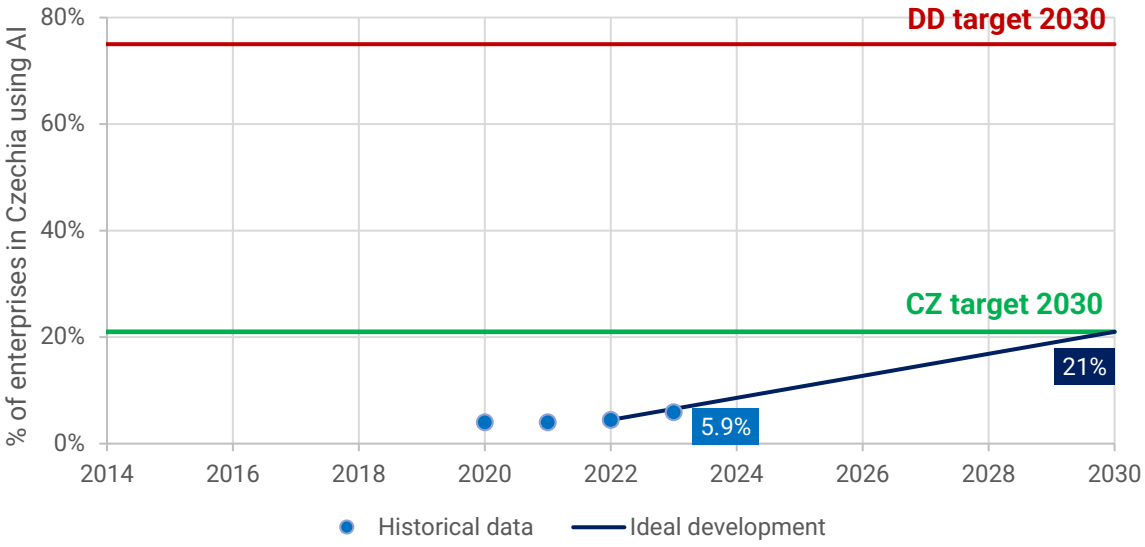
EU baseline: 78% (2023):

EU KPI target (for 2030): 75% (overall indicator)

Source of data: Eurostat, EU Survey on ICT Usage and e-commerce in enterprises

KPI definition: Artificial intelligence, measured as the percentage of enterprises using at least one artificial intelligence technology.

Chart 11: Artificial intelligence



Reasoning: Czechia perceives the importance of using AI in the digital transformation of businesses and currently several initiatives and plans are underway to increase its use. According to statistical surveys, artificial intelligence is used in Czechia, for example, to predict the development of events, in process automation or in business management, and it is widespread among large enterprises. A quarter of them used some form of AI technology. The use of artificial intelligence technologies is most prevalent in the IT sector.

Czechia is able to meet the 21% target provided that the democratisation of AI use enabled by the introduction of generative AI (e.g. ChatGPT) continues. However, future approved AI regulation needs to be of high quality and not impose unjustified obstacles to AI innovation. At the national level, Czechia wants to support the development of artificial intelligence in companies also through the implementation of future measures of the National Strategy for Artificial Intelligence, in which Czechia will also seek greater support for this segment to improve the future economic development and competitiveness of Czechia.

Given the positive developments, the national target has been increased from 16% to 21%. As the 2024 Report introduced an indicator that combines the measurement of all three required indicators with respect to the definition of the target, it is only a complementary indicator with a target at the national level only.

2.3.5 Digital intensity of businesses

Objective: more than 90% of SMEs in the Union achieve at least a basic level of digital intensity

Indicator name (KPI): digital intensity of SMEs

National baseline: 49.3% (v3; 2023); 68% (v4; 2022)

National KPI target (for 2030): 80%

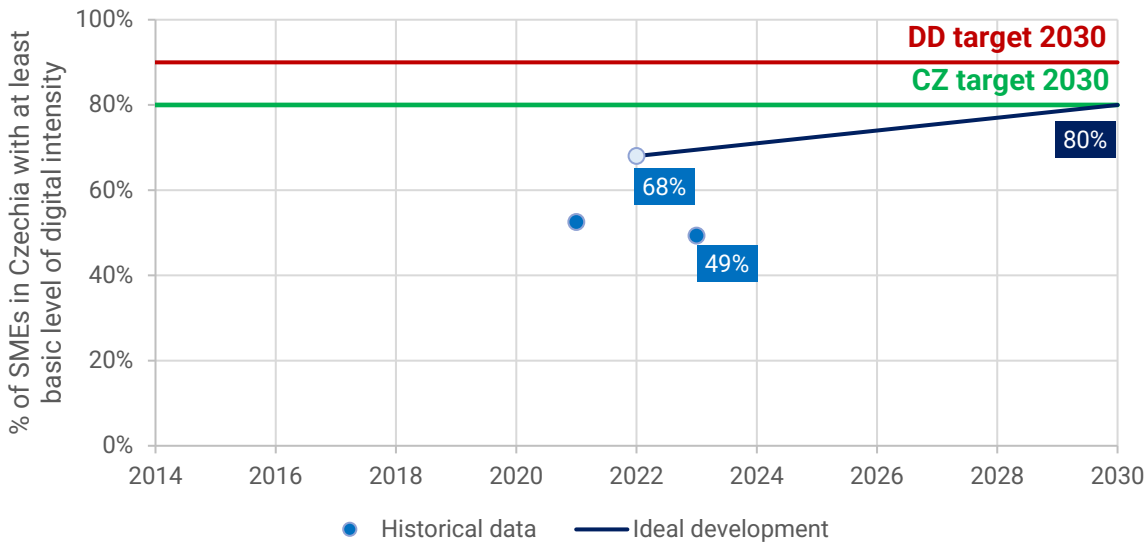
EU baseline: 57.7% (v3; 2023); 69% (v4; 2022)

EU KPI target (for 2030): 90%

Source of data: EU Survey on ICT Usage and e-commerce in enterprises

KPI definition: SMEs with at least a basic level of digital intensity, measured as the percentage of SMEs using at least 4 of 12 selected digital technologies.

Chart 12: Digital intensity of businesses



Reasoning: Due to the change in measurement methodology, it is not possible to base the data on time series, so it is not possible to indicate a baseline. Therefore, the presented trajectory cannot indicate the actual development of the variable over time, as it is based on two different versions of the indicator (v3; v4), as described in Part 1. For a more accurate trajectory estimate, the indicator must be stabilised; the trajectory proposed based on data from the v4 indicator will thus be retained.

To achieve this objective, Czechia will use support for the digital transformation of SMEs, e.g. through funds (OP TAC digital and virtual enterprise) or European financial programmes (NPO or Digital Europe Programme).

2.3.6 Unicorns

Objective: The Union facilitates the growth of innovative and emerging businesses and improves their access to finance, leading to at least a doubling of the number of unicorns

Indicator name (KPI): unicorns

National baseline: 4 (2023)

National KPI target (for 2030): 6

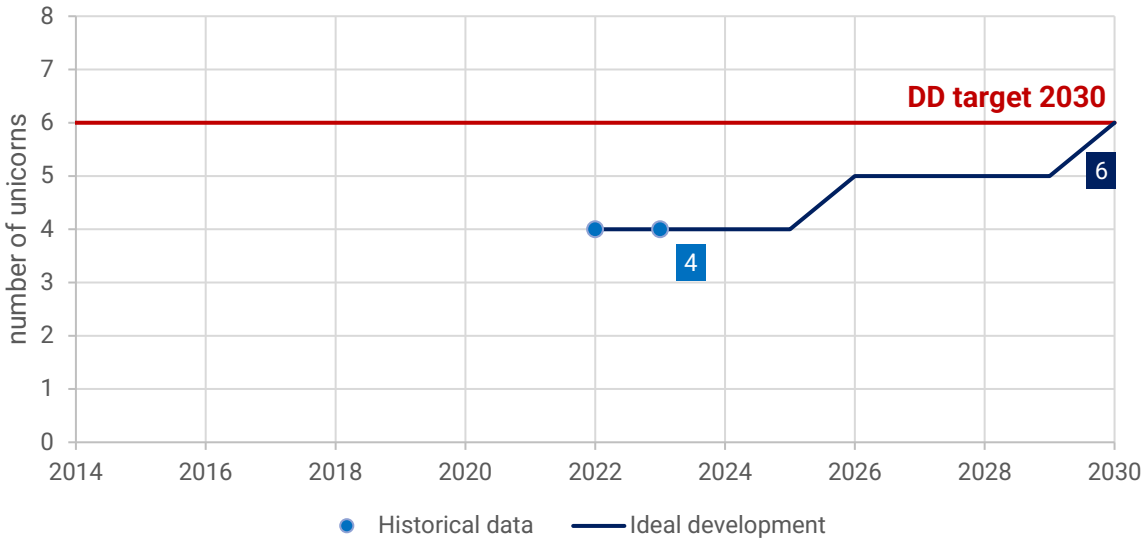
EU baseline: 263 (2023)

EU KPI target (for 2030): 500

Source of data: Dealroom platform

KPI definition: Unicorns, measured as the sum of unicorns referred to in Article 2, point (11)(a), of Decision (EU) 2022/2481 and those referred to in Article 2, point (11)(b), of that Decision.

Chart 13: Unicorns



Reasoning: Czechia has set a target of 6 unicorns as their emergence is very unpredictable and difficult to estimate. In order to achieve this value, Czechia needs to create a predictable, transparent and favourable environment for the emergence of unicorns through programmes such as the Technology Incubation Programmes mentioned in Section 3. On the other hand, it should be stressed that the influence of the State on the emergence of unicorns is rather limited. Conversely, what is key to the emergence of unicorns is that companies offer innovative products, are willing to take risks, talented people have entrepreneurial spirit and skills, and there is demand for the services offered. Furthermore, there is a need for a favourable investment climate and available investor support. The emergence and growth of unicorns is associated with risks and great challenges. A number of programmes and strategies to support emerging businesses, as outlined in Section 3, will serve to create more unicorns in the country.

2.4 Public services digitalisation

2.4.1 Online access to key public services for citizens

Objective: 100% of key public services are available online and, where relevant, it is possible for Union citizens and businesses to communicate online with public authorities

Indicator name (KPI): Online access to key public services for citizens

National baseline: 76.3 (2023)

National KPI target (for 2030): 100

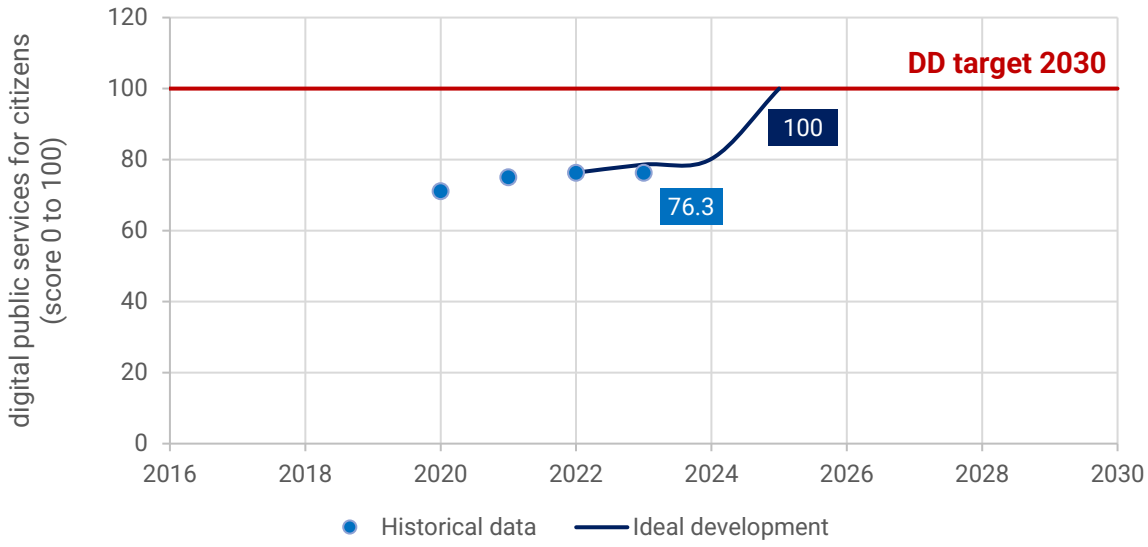
EU baseline: 79.44% (2023)

EU KPI target (for 2030): 100

Source of data: e-Government benchmark

KPI definition: Online provision of key public services for citizens, measured as the share of administrative steps that can be done fully online for major life events. The following life events are considered: moving; transport; starting a small claims procedure; family; career; studying; health.

Chart 14: Online access to key public services for citizens



Reasoning: Several other eGovernment tools are expected to be launched in the coming years, so the increase in values in each year may be higher. The ideal development corresponds to the actual launch of the Act No 12/2020 Sb., on the right to digital service, which envisages the launch of all services included in the Catalogue of Services as digital services on 1 February 2025.

2.4.2 Online access to key public services for businesses

Objective: 100% of key public services are available online and, where relevant, it is possible for Union citizens and businesses to communicate online with public authorities

Indicator name (KPI): Online access to key public services for businesses

National baseline: 84% (2022)

National KPI target (for 2030): 100%

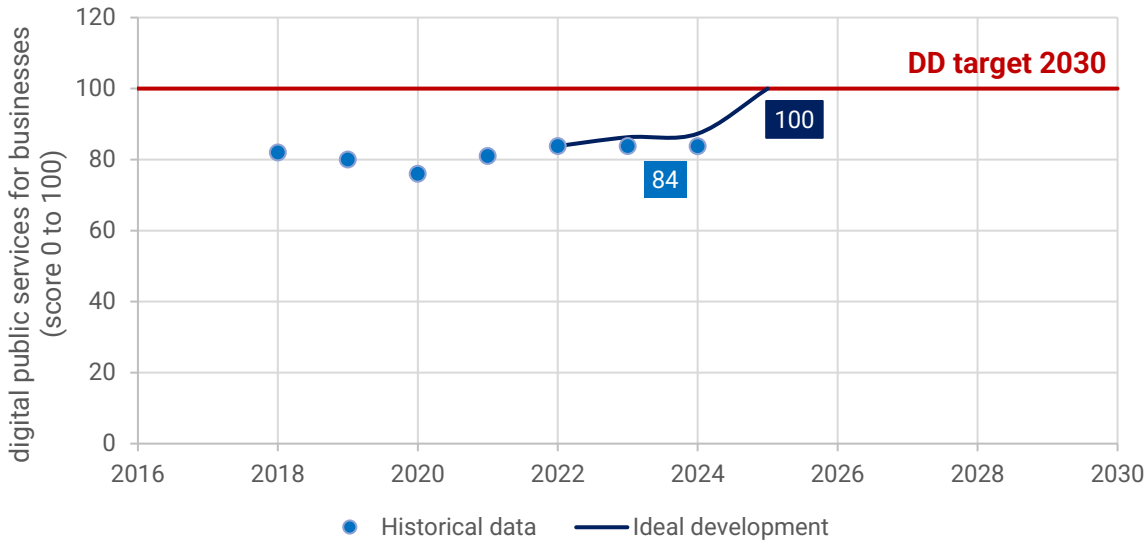
EU baseline: 84% (2022)

EU KPI target (for 2030): 100%

Source of data: e-Government benchmark

KPI definition: Online provision of key public services for businesses, measured as the share of administrative steps needed to start a business and conduct regular business operations, which can be done fully online.

Chart 15: Online access to key public services for businesses



Reasoning: Historical data do not show a clear trend, so it is not possible to accurately estimate ideal developments from these data. However, the same applies here as for the previous indicator on the availability of online services for citizens. The ideal development corresponds to the actual launch of the Act No 12/2020 Sb., on the right to digital service, which envisages the launch of all services included in the Catalogue of Services as digital services on 1 February 2025.

2.4.3 Access to electronic health records

Objective: 100% of Union citizens have access to their electronic health records

Indicator name (KPI): access to electronic health records

National baseline: 51 (2023)

National KPI target (for 2030): 100%

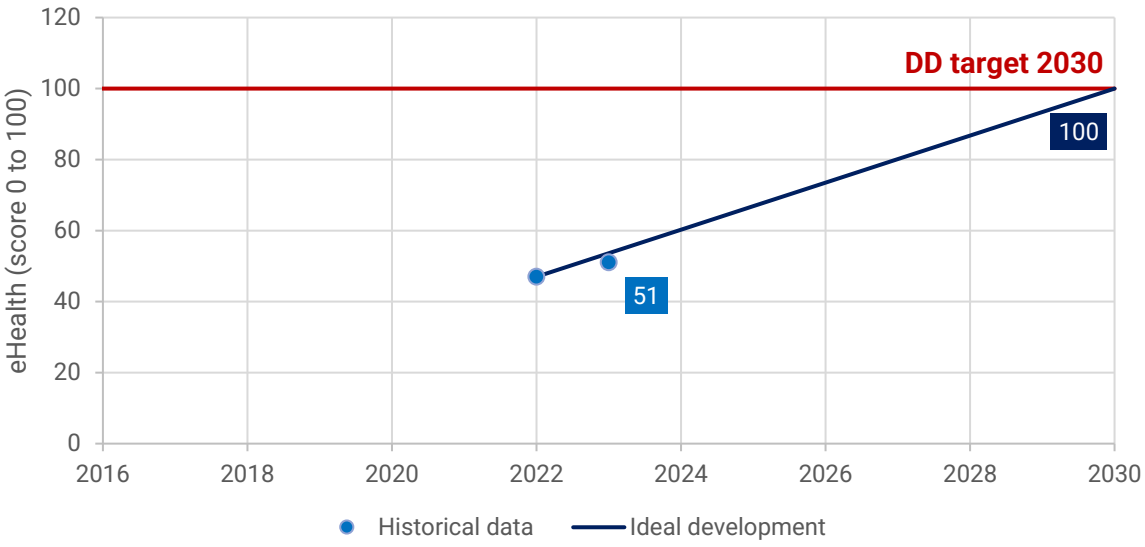
EU baseline: 79% (2023)

EU KPI target (for 2030): 100

Source of data: External study, Empirica GmbH and PredictBy

KPI definition: Access to e-health records, measured as: (i) the nationwide availability of online access services for citizens to their electronic health records data (via a patient portal, or a patient mobile app) with additional measures in place that enable certain categories of people (e.g. guardians for children, people with disabilities, elderly) to also access their data, and (ii) the percentage of individuals that have the ability to obtain or make use of their own minimum set of health-related data currently stored in public and private electronic health-record (EHR) systems.

Chart 16: Access to electronic health records



Reasoning: There is no historical data in Czechia except for 2022; therefore, the trajectory presented is only a linear trend.

2.4.4 Access to eID

Objective: 100% of Union citizens have access to a secure means of electronic identification recognised throughout the Union, allowing them to have full control over transactions involving identity verification and shared personal data

Indicator name (KPI): Access to eID

National baseline: electronic identification system notified

National KPI target (for 2030): 100%

EU baseline: unknown

EU KPI target (for 2030): 100%

Source of data: European Digital Identity Framework

KPI definition: Access to eID measured by two KPIs: (1) as the number of Member States that have notified at least one national eID scheme in accordance with Regulation (EU) No 910/2014 and (2) as the number of Member States that have provided access to secure privacy-enhancing eID via the European Digital Identity Wallet in accordance with the Proposal for a Regulation of the European Parliament and of the Council amending Regulation (EU) No 910/2014 as regards establishing a framework for a European Digital Identity.

Reasoning: Given the setting of the indicator, we do not consider it necessary to present a national trajectory. As far as electronic identification systems are concerned, Czechia has currently notified three such systems that comply with the eIDAS Regulation. Specifically, these are the electronic ID card, the eGovernment Mobile Key and MojeID.

Part 3: Policies, actions and steps to achieve the digital targets

This section describes the individual measures that help to achieve each of the digital targets, following the trajectories presented in Part 2. These measures were selected based on several criteria, such as prioritisation of actions, timing, expected impact or budget. This is not an exhaustive list, as a number of other measures contribute to the Digital Decade's targets. Only the most important measures are presented here.

The measures are divided logically into areas according to the individual targets. Despite the fact that each area as a whole falls under the responsibility of a specific gestor, the situation may differ for individual measures. For this reason, the managing entity is mentioned separately for each measure.

3.1 Digital skills

3.1.1 Digital target 1a) 80% of 16–74 year olds have basic digital skills & 1b) 20 million ICT professionals are employed in the EU

Timeline of measures contributing to the achievement of the objective	2023	2024	2025	2026	2027	2028	2029	2030
Measure 1.1 – Implementing the revised ICT curriculum for primary schools and multi-year grammar schools with emphasis on the development of digital skills and computational thinking in teaching (cross-cutting)								
Measure 1.2 – Drafting a revised Framework Education Programme for Primary Education reflecting the use of AI in teaching								
Measure 1.3 – Preparing a revision/update of the framework education programmes for secondary education								
Measure 1.4 – Developing the Database of Re/Upskilling Courses (MoLSA e-shop) and expanding the offer of programmes for the development of basic and advanced digital skillsthrough this database, including the implementation of an information campaign								
Measure 1.5 – Reforming undergraduate teacher preparation (Phase 1) and developing graduate competency profiles in teacher preparation programmes								
Measure 1.6 – Expanding the range of teacher education programmes (including online) focused on the development of digital skills in the context of the FEPW and linked to the use of diagnostic/auto-evaluation tools								

Measure 1.8 – Creating a repository of certificates and a portal offering micro-credentials in cooperation between higher education institutions and the Czech National Agency for International Education and Research								
Measure 1.9 – Expanding the range of courses in the field of digital skills development for employees								
Measure 1.10 – Expanding the range of study programmes at higher education institutions with a focus on ICT and cybersecurity, e.g. using a combination of full-time and distance learning								
Measure 1.11 – Taking into account the requirements for improving the training of ICT/cybersecurity professionals (with an emphasis on increasing the representation of women in this field) in the framework of the planned innovation of the subject-area system								
Measure 1.12 – Providing digital tools and aids for pupils from socio-economically disadvantaged backgrounds in schools								
Measure 1.13 – National RIS3 Strategy								
Measure 1.14 – Introducing a contribution to the payment for digital training courses (pilot testing of a new active labour market policy)								
Measure 1.15 – Supporting retraining in the development of transferable and specific digital skills, including courses focused on artificial intelligence								

A budget of all measures that can be assigned to the given objective:

- Public investment:
  - Total CZK 11 703 million
  - Of which national sources:
    - CZK 28.1 million from the State budget
    - CZK 11 160 million from the NPO
    - CZK 515 million from the NPO and the State budget

A description of how and to what extent the measures are intended to address Member State-specific challenges:

Although Czechia has a higher share of people with basic digital skills compared to other Member States and the EU average (according to DESI), the aim is to further improve the conditions and support the development of digital skills across society, in the context of the advancing digital transformation, the accelerating development of digital technologies and the prevention of digital exclusion. In terms of improving the competitiveness of Czechia, we consider it crucial to support the training and increase in the number/share of ICT and cybersecurity professionals (including the under-representation of women in these fields).

Czechia has long faced a shortage of skilled labour in these professions, with the labour market experiencing a significant increase in demand in this area.

Regarding the change of the target value in the preparation of ICT professionals: In initial education, activities are currently underway to expand the range of professionally oriented study programmes at higher education institutions (funded by the NPO under component 3.2), including in the area of ICT professionals training (e.g. programmes focused on cybersecurity, etc.). In the area of regional education, an innovation of the system of secondary school fields of study is being prepared, which will subsequently be reflected in the planned revision of the framework education programmes for individual secondary school fields of study. As part of the revised curriculum, the content of the subject of computer science has been changed and the development of students' computational thinking and digital competence across the educational areas has been supported. In the context of further development of digital skills/digital competences of pupils, schools have been financially supported by the NPO between 2020-2024 to equip them with digital learning tools and to prevent the digital divide. As these are relatively significant changes, it is necessary to take into account that the implemented/planned changes will take longer to take effect (ensuring successful implementation of the proposed changes, time delay before there are the first graduates of the offered programmes, etc.).

Some flexibility is provided by reskilling/upskilling tools in the field of adult learning. Funds from the NPO have been used to create the Database of Re/Upskilling courses under the MoLSA, which aims to expand/increase access to the range of programmes, including in the field of information technology and the development of digital tools. At the same time, financial support is provided for people registered with the Labour Office. However, it should also be taken into account that the adult participation in learning in Czechia is not very high (compared to OECD countries, Czechia is among the countries with lower participation)[25]. Moreover, the adult participation in learning has decreased significantly since 2017 compared to the EU average. In an international comparison, Czechia is among the countries with a higher proportion of people who are not in education or do not plan further education at all (84% Czech Republic, 78% EU)[26].

In the area of support for the increase of ICT professionals and in the context of the results achieved in this area, we also plan to focus more on the preparation of targeted measures to reduce drop-outs in tertiary education and to support the development of cooperation between secondary schools and higher education institutions in the field of ICT professionals. In terms of flexibility, we consider the development of activities and measures in the area of development of tools for reskilling/upskilling in the framework of adult learning, expanding the range of programmes in order to increase the professional/qualification profile to be crucial. The use of micro-credentials also has great potential in this context.

Investment gap:

In order to ensure successful implementation and minimise the associated risks, the above targets correspond with the activities implemented/planned at the level of the concerned

[25] OECD. OECD Skills Outlook 2021: Learning for life. Online. 2021. Available here [cit. 2023-10-23].
[26] EUROSTAT. EU labour force survey. *Ec.europa.eu*. Online. 2023. Available here [cit. 2023-10-23].

ministries. The projects are financed either from the budget chapter of the respective managing entity or from the National Recovery Plan (NPO) within the framework of the supported activities. The vast majority of the above targets are to be met by the end of 2025. In response to this, related projects will be added to the next roadmap, in agreement with the relevant coordinators in terms of the expected deadlines for implementation, securing sources of funding and calculating the expected costs.

Measure 1.1 – Implementing the revised ICT curriculum for primary schools and multi-year grammar schools with emphasis on the development of digital skills and computational thinking in teaching (cross-cutting)	
Managing entity:	**Ministry of Education, Youth, and Sports**
Digital objective	**Basic Digital Skills / Advanced Digital Skills**
New measure	**No**
Brief description of the measure	**Content of the measure:** • The aim of the measure is to develop students' computational thinking and digital competences, and the revised curriculum has changed the content of the teaching of the subject of informatics, which includes the following areas: data, information and modelling; algorithmisation and programming; information systems; digital technologies, as well as digital competences across educational areas. **Link to objective:** • Developing the digital literacy and digital competences of educators according to the European DigiCompEd framework to prepare children for the digital future, targeted support to schools in the context of the implementation of the revised educational content. **Indicative timetable:** • The measure will be implemented between 2020 and 2025.
Allocated or planned budget	• CZK 515 million (State budget, NPO)
Expected impact and related timing	• Developing computational thinking and digital competences.

Measure 1.2 – Drafting a revised FEP for primary education reflecting the use of AI in teaching	
Managing entity:	**Ministry of Education, Youth, and Sports**
Digital objective	**Basic Digital Skills / Advanced Digital Skills**
New measure	**No**
Brief description of the measure	**Content of the measure:** • Preparation of a comprehensive revision of the FEP for primary schools with an emphasis on the development of computational thinking and digital competences, with an emphasis on the current topics: integration of AI into teaching, on the basis of which schools will prepare their own educational programmes (school educational programmes – SEPs) and related topics: cyber security and cyber prevention, misinformation and digital wellbeing. **Link to objective:**

	• Developing computational thinking and digital competences, supporting the effective integration of digital technologies into teaching in order to prepare students for a digital future. **Indicative timetable:** • The expected date of implementation is set for the end of 2024.
Allocated or planned budget	• As part of the normal activities of the plan of main tasks (plán hlavních úkolů – PHÚ) (State budget)
Expected impact and related timing:	• Developing computational thinking and digital competences.

Measure 1.3 – Preparing a revision/update of the framework education programme for secondary education	
Managing entity:	**Ministry of Education, Youth, and Sports**
Digital objective	**ICT specialists**
New measure	**Yes**
Brief description of the measure	**Content of the measure:** • Preparation of revised FEPs for secondary schools with an emphasis on the development of computational thinking and digital competences, on the basis of which the schools will create their own educational programmes (SEPs). • Follow-up to the planned innovation of the system of secondary school disciplines. **Link to objective:** • Development of computational thinking and digital competences across subject areas in relation to the already implemented modifications of the RVP for primary education. **Indicative timetable:** • The expected date of implementation is set for the beginning of 2027.
Allocated or planned budget	• CZK 20 million (State budget)
Expected impact and related timing	• Developing computational thinking and digital competences.

Measure 1.4 – Developing the Database of Retraining and Further Education Courses (MoLSA e-shop) and expanding the offer of programmes for the development of basic and advanced digital skills for the public through this database, including the implementation of an information campaign	
Managing entity:	**Ministry of Labour and Social Affairs**
Digital objective	**Basic Digital Skills / Advanced Digital Skills / ICT Specialists**
New measure	**No**
Brief description of the measure	**Content of the measure:** • Modification of the Database of Retraining and Further Education Courses to make it clearer and more user-friendly and expanding its functionalities.

	• Making available and expanding the range of programmes and courses in the field of digital skills development (IT and Industry 4.0). • Implementing an awareness campaign to promote the use of the programmes and courses offered, including targeting not only those who are digitally excluded/at risk of digital exclusion. **Link to objective:** • Promoting participation in digital skills training/Digital Skills Development. **Indicative timetable:** • The expected date of implementation is set by the end of 2025
Allocated or planned budget	• CZK 10 million (NPO) + CZK 8.1 million for awareness campaign (State budget)
Expected impact and related timing:	• Increasing the level of digital skills of the citizens of Czechia and the development of digital skills.

Measure 1.5 – Reforming undergraduate teacher preparation (Phase 1) and developing graduate competency profiles in teacher preparation programmes	
Managing entity:	**Ministry of Education, Youth, and Sports**
Digital objective	**Basic Digital Skills / Advanced Digital Skills**
New measure	**No**
Brief description of the measure	**Content of the measure:** • Modernisation of teacher education programmes in cooperation with higher education institutions, also in the context of the development of digital technologies (including AI) and their effective use in education and teaching. • Preparation of a competency profile for graduates of teacher education programmes providing a framework description of what a graduate should know and be able to do before starting actual work. The competence profile will also focus on digital competences in the context of effective use of digital tools in teaching, creating a safe school climate (wellbeing/digital wellbeing), effective use of digital technologies (including AI) in teaching. **Link to objective:** • Development of digital competences in the context of preparing future teachers, use of digital technologies in teaching, related prevention. **Indicative timetable:** • The competency profile of a graduate in teacher education was officially introduced in 2023. In 2024, the position of mentoring teacher was formally established. The aim of this measure is to improve the quality of practice and to link the education of future teachers and the schools themselves. The system of support for accompanying teachers and teaching practices is now being piloted as part of a trial.

Allocated or planned budget	• As part of the normal activities of the plan of main tasks (plán hlavních úkolů – PHÚ) (State budget)
Expected impact and related timing	• Support for the development of digital competences.

Measure 1.6 – Expanding the range of teacher education programmes (including online) focused on the development of digital skills in the context of the FEPW and linked to the use of diagnostic/auto-evaluation tools	
Managing entity:	**Ministry of Education, Youth, and Sports**
Digital objective	**Basic Digital Skills / Advanced Digital Skills**
New measure	**No**
Brief description of the measure	**Content of the measure:** • Expanding the range of educational programmes focusing on the development of teachers' digital competences according to the European DigCompEdu framework, as part of their continuing professional development. The offer is extended to include courses and methodological support on artificial intelligence and new technologies. • Use of existing self-evaluation tools to better target programme offerings to the actual needs of trainees (Teacher21 Profile, SELFIE for TEACHERS, etc.). **Link to objective:** • Developing digital competences of educators **Indicative timetable:** • The expected date of implementation is set for the end of 2025.
Allocated or planned budget	• Allocated: CZK 10 million (NPO)
Expected impact and related timing	• Developing digital competences.

Measure 1.8 – Creating a repository of certificates and a portal offering microcredentials in cooperation between higher education institutions and the Czech National Agency for International Education and Research	
Managing entity:	**Ministry of Education, Youth, and Sports**
Digital objective	**ICT specialists**
New measure	**No**
Brief description of the measure	**Content of the measure:** • Creation of a common online catalogue of public higher education institutions courses that meet microcertificate requirements. • Establishment of a unified system designed to verify the results of smaller forms of education in the context of increasing the permeability of education at the level of HEIs. **Link to objective:** • Developing digital competences, supporting reskilling/upskilling. **Indicative timetable:** • The expected date of implementation is set for the end of 2025.

Allocated or planned budget	• Allocated: CZK 10 million (NPO)
Expected impact and related timing	• Developing digital competences, reskilling/upskilling.

Measure 1.9 – Expanding the range of courses in the field of digital skills development for employees	
Managing entity:	**Ministry of Labour and Social Affairs**
Digital objective	**Basic Digital Skills / Advanced Digital Skills / ICT specialists**
New measure	**No**
Brief description of the measure	**Content of the measure:** • Support for the development of basic and advanced digital skills (including skills needed for the use of AI tools) of employees of companies in Czechia. **Link to objective:** • Developing digital skills. **Indicative timetable:** • The expected date of implementation is set for the end of 2025.
Allocated or planned budget	• Allocated: CZK 3.14 billion (NPO)
Expected impact and related timing	• Developing digital skills.

Measure 1.10 – Expanding the range of study programmes at higher education institutions with a focus on ICT and cybersecurity, e.g. using a combination of full-time and distance learning	
Managing entity:	**Ministry of Education, Youth, and Sports**
Digital objective	**ICT specialists**
New measure	**No**
Brief description of the measure	**Content of the measure:** • The aim of the reform is to adapt the structure of study programmes to new trends and labour market needs, including in the context of developments in digital technologies. • Expanding the range of career-oriented study programmes and programmes focused on progressive fields. • Related activities (component 3.2 in the NPO) also focus on improving the skills of academic staff in the use of information technology. **Link to objective:** • Digital skills development, reskilling/upskilling, training of ICT specialists and cybersecurity professionals. **Indicative timetable:** • The expected date of implementation is set for 2026.
Allocated or planned budget	• Allocated: CZK 3 billion (NPO)
Expected impact and related timing:	• Digital skills development, reskilling/upskilling, training of ICT and cybersecurity professionals.

Measure 1.11 – Taking into account the requirements for improving the training of ICT/cybersecurity professionals (with an emphasis on increasing the representation of women in this field) in the framework of the planned innovation of the subject-area system	
Managing entity:	**Ministry of Education, Youth, and Sports**
Digital objective	**ICT specialists**
New measure	**No**
Brief description of the measure	**Content of the measure:** • Reflecting the need to strengthen the training of ICT/cybersecurity professionals within the planned innovation of the system of secondary school fields of study, at the level of fields of study, or by targeting schools within their own school education programmes (SEPs). • One of the starting points will be the result of an experimental validation aimed at teaching cybersecurity in the field of Information Technology. • Support for a higher representation of girls in this area is primarily carried out through awareness-raising activities, for example by supporting events that motivate girls to study IT, the implementation of summer camps for girls by various non-profit initiatives, etc. (e.g. https://girlsday.cz/). **Link to objective:** • Education and training of ICT/cybersecurity professionals, promoting greater representation of women in ICT. **Indicative timetable:** • The expected date of implementation is set for the end of 2024.
Allocated or planned budget	• Allocated: as part of the normal activities of the plan of main tasks (State budget)
Expected impact and related timing	• Training of ICT/cybersecurity professionals, increased representation of women in ICT.

Measure 1.12 – Providing digital tools and aids for pupils from socio-economically disadvantaged backgrounds in schools	
Managing entity:	**Ministry of Education, Youth, and Sports**
Digital objective	**Basic Digital Skills / Advanced Digital Skills**
New measure	**No**
Brief description of the measure	**Content of the measure:** • A breakdown of funding for schools to purchase mobile digital technology (e.g. laptop, chromebook, tablet, smartphone including educational software) for pupils who are disadvantaged by not having this mobile digital technology available to them in regular or distance learning. Activities to support the prevention of digital exclusion with the aim of making mobile digital technologies in education accessible to all disadvantaged/needy pupils (through the "mobile device fund"). **Link to objective:** • Creating appropriate conditions for the use of digital technologies in education and the development of children's digital competences **Indicative timetable:**

	• The expected date of implementation is set for the end of 2024.
Allocated or planned budget	• Allocated: CZK 1.5 billion (NPO)
Expected impact and related timing	• Support for the development of digital competences, preventing digital exclusion

Measure 1.13 – National RIS3 Strategy	
Managing entity:	**Ministry of Industry and Trade**
Digital objective	**Basic Digital Skills / Advanced Digital Skills**
New measure	**No**
Brief description of the measure	**Content of the measure:** • The National RIS3 Strategy focuses in particular on supporting the modernisation (and digitalisation) of the initial education system with an emphasis on the development of key competences of pupils and students relevant for long-term employment on the labour market and in independent entrepreneurship. **Link to objective:** • Supporting the development of digital and entrepreneurial skills. **Indicative timetable:** • The measure will be implemented between 2023–2027.
Allocated or planned budget	• This does not have its own budget. It is a strategy shaping the form of relevant measures financed by the Operational Programme Jan Amos Komenský (EUR 3 million)
Expected impact and related timing:	• Developing digital skills

Measure 1.14 – Introducing a contribution to the payment for digital training courses (pilot testing of a new active labour market policy)	
Managing entity:	**Ministry of Labour and Social Affairs**
Digital objective	**Basic Digital Skills / Advanced Digital Skills / ICT Specialists**
New measure	**Yes**
Brief description of the measure	**Content of the measure:** • Introduction of a contribution towards the cost of digital training courses. • Pilot testing of a new active employment policy tool, implemented through the Database of Retraining and Further Education, with the aim of increasing participation in digital training in the field of IT and Industry 4.0 by increasing the availability of digital training courses and expanding the portfolio of providers. **Link to objective:** • Encouraging participation in digital skills development training. **Indicative timetable:** • The expected date of implementation is set for the end of 2025.
Allocated or planned budget	• Allocated: CZK 2 billion (NPO)

Expected impact and related timing:	• Promoting participation in digital skills training/Digital Skills Development.

Measure 1.15 – Supporting retraining in the development of transferable and specific digital skills, including courses focused on artificial intelligence	
Managing entity:	**Ministry of Labour and Social Affairs**
Digital objective	**Basic Digital Skills / Advanced Digital Skills / ICT Specialists**
New measure	**Yes**
Brief description of the measure	**Content of the measure:** • Promoting the development of digital skills through retraining courses to ensure that citizens are ready to work in a digital environment and to work with artificial intelligence. **Link to objective:** • Promoting participation in digital skills training/Digital Skills Development. **Indicative timetable:** • The expected date of implementation is set by the end of 2025
Allocated or planned budget	• Allocated: CZK 1 billion (NPO)
Expected impact and related timing:	• Promoting participation in digital skills training/Digital Skills Development.

Measure 1.16 – Establishing training centres under the Labour Office of the Czech Republic	
Managing entity:	**Ministry of Labour and Social Affairs**
Digital objective	**Basic Digital Skills / Advanced Digital Skills**
New measure	**Yes**
Brief description of the measure	**Content of the measure:** • The aim of the measure is to prepare and create a network of at least 14 regional training centres within Czechia, whose founder will be the Directorate General of the Labour Office of Czechia (however, the network may be larger, more centres may be created in each region). These centres will be equipped with modern material and technical equipment and will provide training in digital skills development. **Link to objective:** • Promoting participation in digital skills training/Digital Skills Development. **Indicative timetable:** • The expected date of implementation is set by the end of 2025
Allocated or planned budget	• Allocated: CZK 490 million (NPO)
Expected impact and related timing:	• Promoting participation in digital skills training/Digital Skills Development.

3.2 Digital infrastructures

3.2.1 Digital target 2a) Gigabit network coverage and coverage of all populated areas with 5G-comparable high-speed networks

Timeline of measures contributing to the achievement of the objective	2023	2024	2025	2026	2027	2028	2029	2030
Measure 2.1 – Enhancing digital connectivity								
Measure 2.2 – Broadband Competence Office Czech Republic project								
Measure 2.3 – Support for the development of very high capacity networks								
Measure 2.4 – Support for the development of 5G mobile networks								
Measure 2.5 – Non-subsidy support for the development of electronic communications networks								
Measure 2.6 – Research activities related to the development of 5G networks and services								
Measure 2.7 - Fulfilling radio frequency allocation obligations for 5G networks								

A budget of all measures that can be assigned to the given objective:

- Public investment:
  - Total CZK 11,810 million
  - Of which national sources:
    - CZK 3 806 million from the State budget
    - CZK 3 132 million from the NPO
  - Of which from EU sources:
    - 4 871 million OP TAC

A description of how and to what extent the measures are intended to address Member State-specific challenges:

In line with the European Commission's recommendations for Czechia, the proposed measures represent a commitment by Czechia to continue to support investment in digital transformation, using grants from the Recovery and Resilience Facility and other EU funds.

All of these measures will contribute to the development and availability of very high capacity networks and 5G services, and will make a significant contribution to achieving the digital targets. In addition to supporting the construction of infrastructure, the measures are also aimed at removing obstacles and barriers affecting the construction and operation of networks and providing advice and support to regions in their development.

Estimated investment gap and possible measures to achieve national targets:

For Measure 2.1 – Enhancing digital connectivity, private investment is estimated at an average support rate of around 80% of total expenditure, i.e. EUR 83.6 million.

Measure 2.1 – Enhancing digital connectivity	
Managing entity:	**Ministry of Industry and Trade**
Digital objective	**Gigabit**
New measure	**No**

Brief description of the measure	**Content of the measure:**
	• In particular, the following activities will be supported under this measure:
	  ○ Modernisation or expansion of existing infrastructure and establishment of new networks for high-speed Internet access of very high capacity using mainly fibre optic cables – support for connection of white address points to VHCNs.
	  ○ Building backhaul networks where capacity is insufficient (e.g. as part of the construction of smart energy networks, using backhaul to provide optical data connectivity to small municipalities).
	  ○ Support for the construction of transmission points to cover remote areas within larger municipalities, with the aim of providing connectivity across the entire territory of Czechia.
	  ○ Building professional and technical capacity in the territory to facilitate and accelerate the interaction of actors in building very high-capacity networks in the regions – Broadband Competence Office Czech Republic (BCO).
	Link to objective:
	• Within the country, there is a deep digital divide (coverage and usage) between urban and rural areas; therefore, priority investment needs have been identified to improve digital connectivity, in particular to deploy backhaul/backbone networks, broadband infrastructure and to support demand-side measures to promote cable solutions for private homeowners in rural areas.
	Indicative timetable:
	• The programme was launched in July 2022 and a mid-term review of the programme conditions will take place (revised conditions should be available at the end of Q4 2024). The programme is expected to run until at least the end of 2030.

Allocated or planned budget	• EUR 111.93 million from NPO – Subcomponent 1.3.3 (i.e. CZK 2 832 million). • EUR 192 million from OP TAC – Subcomponent 3.1 (i.e. CZK 4 859 million).
Expected impact and related timing	• The main impact is to increase the digital connectivity of citizens and private entities and to improve digital infrastructure.

Measure 2.2 – Broadband Competence Office Czech Republic project	
Managing entity:	**Ministry of Industry and Trade**
Digital objective	**Gigabit**
New measure	**Yes**

Brief description of the measure	**Content of the measure:**
	• The aim of the Broadband Competence Office (BCO) is to support all regions of Czechia in the creation of a single EU digital market with an emphasis on the development of high-speed VHCNs.
	Link to objective:
	• The activities of the office include efforts to increase the efficiency and effectiveness of investments in the development of high-speed networks, providing advice and expert assistance to municipal governments, business entities and socio-economic actors to help achieve the objective of reducing the gap between small municipalities and cities in terms of access to digital services.
	• The aim is to build:
	  ○ professional/expert, technical and mediation capacities in the territory to facilitate and accelerate the interaction of actors in building very high capacity networks in the regions;
	  ○ professional/expert capacities ensuring direct interaction between state and local government in the area of building high-speed networks;
	  ○ training capacity in the field of VHCNs and the new EU GIA Regulation – *(EU) 2024/1309*.
	• The aim is also to increase knowledge about the functioning and building of communication networks as an essential part of the digitalisation of society
	• Awareness raising on 5G networks as a resource for smart services in relation to Measure 2.4.
	Indicative timetable:
	• The office will operate until at least 2029.

Allocated or planned budget	• Expenditure: CZK 90 million for a period of 6 years, paid from OP TAC (of which CZK 78 million from OP TAC is part of the budget of measure 2.1; CZK 12 million from the State budget). A separate OP TAC subsidy call has been created for funding.
Expected impact and related timing	• The activities of the office will contribute to achieving higher coverage by high-speed VHCNs. • The BCO has no enforcement powers, only outreach and consultation capabilities (www.bconetwork.cz).

Measure 2.3 – Support for the development of very high capacity networks	
Managing entity:	**Ministry of Industry and Trade**
Digital objective	**Gigabit**
New measure	**Yes**
Brief description of the measure	**Content of the measure:** • The aim of the measure is to implement and plan calls in the area of network development. Specifically, the calls concern the following areas: high-speed internet, building high-capacity connections, measuring the quality of electronic communications networks, developing digital technical maps, recording the upcoming state of infrastructure, and deploying fixed VHCNs. **Link to objective:** • The individual calls under this measure will help leverage public and European funding to develop the infrastructure

	needed to ensure high quality coverage by very high capacity networks. **Indicative timetable:** • Calls under this measure are planned until 2029.
Allocated or planned budget	• Expenditure: EUR 62.84 million from NPO – Subcomponent 1.3.1 (i.e. CZK 1 590 million).[27]
Expected impact and related timing:	• The measure will directly contribute to achieving higher coverage by high-speed VHCNs.

Measure 2.4 – Support for the development of 5G mobile networks	
Managing entity:	**Ministry of Industry and Trade**
Digital objective	**5G**
New measure	**Yes**
Brief description of the measure	**Content of the measure:** • The aim of the measure is to implement and plan calls in the development of 5G mobile networks. Specifically, it covers the following areas: development of 5G mobile infrastructure in investment-intensive rural locations; coverage of 5G corridors and support for 5G development by building passive infrastructure and base stations for 5G services (MNOs and BTS builders, Railway Administration); demonstration projects for the development of applications for industrial areas using 5G networks, for Smart Cities and Industry 4.0; equipping 350 railway carriages with mobile signal repeaters or pass-through windows. **Link to objective:** • Individual calls under this measure will help leverage public funds to develop the infrastructure needed to cover the territory with 5G mobile networks, as well as to develop relevant services and applications. **Indicative timetable:** • Calls under this measure are planned until 2026.
Allocated or planned budget	• CZK 2 180 million (NPO)
Expected impact and related timing:	• The measure will directly contribute to achieving higher coverage of 5G-comparable networks.

Measure 2.5 – Non-subsidy support for the development of electronic communications networks	
Managing entity:	**Ministry of Industry and Trade**
Digital objective	**Gigabit**
New measure	**Yes**
Brief description of the measure	**Content of the measure:** • Non-subsidy support is based on the implementation of action plans to implement non-subsidy measures to support the planning and construction of electronic communications networks. The aim of these plans is to identify the range of existing obstacles that negatively affect the planning and construction of electronic

[27] Note: The original 2023 document contained an incorrect amount for measure 2.3 and this may lead to a significant change in the total funding.

	communications networks and existing financial barriers affecting the operation of these networks. • A report on the implementation of the Action Plan is submitted annually to the Government. • The "development criteria" set out in the auction of frequencies for 5G networks are key to the development of mobile networks, whereby 90% of the territory of each district and 99% of the population of each district should be covered by 5G networks by 2031. **Link to objective:** • The measure is aimed at facilitating, speeding up and making cheaper the construction of electronic communications networks and thus at meeting the set objective. **Indicative timetable:** • The measure is planned until 2029.
Allocated or planned budget	• No budget. The measure is aimed at facilitating, speeding up and making cheaper the construction of electronic communications networks. For mobile network development criteria, these are commercial investments by mobile network operators.
Expected impact and related timing:	• Facilitating, speeding up and making cheaper the construction of electronic communications networks. • Creation of digital technical maps. • Creation of a database of upcoming infrastructure constructions within digital technical maps. • Creation of technical standardisation information for internal wiring of electronic communications lines. • Other activities related to the implementation and adaptation of the Gigabit Infrastructure Regulation [GIA, (EU) 2024/1309]. • Preparation of technical professions for the field of electronic communications networks.

Measure 2.6 – Research activities related to the development of 5G networks and services	
Managing entity:	**Ministry of Industry and Trade**
Digital objective	**5G**
New measure	**No**
Brief description of the measure	**Content of the measure:** • This measure is aimed at supporting public and private actors active in research, development and innovation related to 5G networks and services. • The projects will focus on the use of 5G applications in industry and services, in particular the use of new technologies in automotive manufacturing processes and other key sectors, taking into account the principles of the circular economy by recovering secondary raw materials. • Support should also be focused on projects supporting the development and deployment of automation, robotics, artificial intelligence and virtual or augmented reality. **Link to objective:** • The measure contributes to supporting industrial research and experimental development of 5G-based mobile communications in enterprises. It is primarily concerned

	with the development of 5G private networks in Czechia in cooperation with research organisations. **Indicative timetable:** • The measure is implemented in the period from the beginning of 2021 to the end of 2025.
Allocated or planned budget	• Allocated: CZK 324 million (NPO)
Expected impact and related timing:	• Around 50 companies, including research organisations, are expected to receive funding to collaborate on industrial research and experimental development in 5G and increase their level of digitalisation by the end of 2025.

Measure 2.7 - Fulfilling radio frequency allocation obligations for 5G networks	
Managing entity:	**Czech Telecommunication Office**
Digital objective	**5G**
New measure	**No**
Brief description of the measure	**Content of the measure:** • This measure is the basis for the development of 5G networks in Czechia. • This is a binding timetable for the coverage of the population/territory of Czechia with 5G networks for holders of radio frequency allocations for the relevant bands. Coverage commitments are based on the terms of the radio frequency auction[28]. **Link to objective:** • It is the basis for achieving the stated objective and an enforceable measure. **Indicative timetable:** • 2024 – 30% of the Czech population (700 MHz band/1 operator). • 2025 – 95% of the cadastral territory of each town with a population above 50 000 (700 MHz and 3400–3800 MHz). • 2025 – 100% of the main corridors and 98% of the secondary corridors of the extent of the rail and road corridor sections falling within the pan-European TEN-T network in the "Core Network" and "Comprehensive Network" categories (700 MHz and 3400–3800 MHz/few exceptions). • 2026 – 70% of the Czech population (700 MHz). • 2026 – 80% of the territory of Czechia (700 MHz/1 operator/no military districts). • 2027 – 100 % of secondary TEN-T corridors in the "Core Network" and "Comprehensive Network" categories (700 MHz and 3400–3800 MHz/few exceptions). • 2028 – 90% of the population of each district of Czechia (700 MHz, 800 MHz, 900 MHz, 1800 MHz, 2100 MHz, 2600 MHz and 3400–3800 MHz). • 2028 – 70% of the territory of each district of Czechia (700 MHz, 800 MHz, 900 MHz, 1800 MHz, 2100 MHz, 2600 MHz and 3400–3800 MHz/no military districts).

[28] CTO. Notification of the Czech Telecommunication Office on the announcement of a selection procedure for the purpose of granting rights to use radio frequencies for the provision of electronic communications networks in the frequency bands 700 MHz and 3400–3600 MHz. *Ctu.cz*. Online. 2020. Available here [cit. 2023-10-23].

	• 02/2031 – 99% of the population of each district of Czechia (700 MHz, 800 MHz, 900 MHz, 1800 MHz, 2100 MHz, 2600 MHz and 3400–3800 MHz). • 02/2031 - 90 % of the territory of each district of Czechia (700 MHz, 800 MHz, 900 MHz, 1800 MHz, 2100 MHz, 2600 MHz and 3400–3800 MHz/no military districts).
Allocated or planned budget:	• No budget. The measure is aimed at accelerating the roll-out of electronic communications networks and relies on commercial investment by mobile network operators.
Expected impact and related timing:	• It is the basis for achieving the stated objective and an enforceable measure.

3.2.2 Digital Objective 2b) High-end semiconductor production in the EU with a value of at least 20% of global production, with an emphasis on sustainability

Timeline of measures contributing to the achievement of the objective	2023	2024	2025	2026	2027	2028	2029	2030
Measure 2.8 – Support to Czech enterprises participating in IPCEI in the field of microelectronics communication technologies								
Measure 2.9 – Preparing the National Semiconductor Strategy								
Measure 2.9a – Implementation and management of the National Semiconductor Strategy								

A budget of all the measures that can be assigned to a given public investment objective:

- Public investment:
  - Total CZK 23,707 million
  - Of which national sources:
    - CZK 250 million (State budget)
    - CZK 23 400 million planned from the State budget
  - Of which from EU sources:
    - CZK 57 million from EU sources

A description of how and to what extent the measures are intended to address Member State-specific challenges:

The measures are aimed at increasing the share of Czech companies in the semiconductor market, promoting research and development and international cooperation and the involvement of companies in the international value chain.

Investment gap:

For Measure 2.8, the planned budget is based on the requirements of IPCEI projects for the research and development phase. The support to IPCEI direct and indirect partners stems from European Commission Decision SA.101141.

Measure 2.8 – Support to Czech enterprises participating in IPCEI in the field of microelectronics communication technologies	
Managing entity:	**Ministry of Industry and Trade**
Digital objective	**Semiconductors**
New measure	**Yes**
Brief description of the measure	**Content of the measure:** • It will support major international innovation projects in, inter alia, processor and chip design for artificial intelligence (AI), chip design for communications (5G, 6G and others) and connectivity, the development and manufacture of these chips in the EU, advanced casing technologies for heterogeneous integration and semiconductor substrates for radio frequency and power devices, which will help restore capacity in areas where the EU is heavily dependent on imports of raw materials and technologies and ensure the competitiveness of EU industry in global markets. • The measure supports small, medium-sized and large enterprises involved in the IPCEI ecosystem by providing a subsidy to finance the eligible costs of projects under notification SA.101141 (2023/N). **Link to objective:** • The measure targets the entire semiconductor ecosystem. Given the importance of the Important Projects of Common European Interest (IPCEI) as a joint multi-country activity that integrates EU value chain stakeholders in strategic sectors, it has many spill-over effects and contributes to European independence in the development, design and application of new technologies, and it is essential to support Czech projects involved in the IPCEI Microelectronics and Communication Technologies. **Indicative timetable:** • The IPCEI ME/CT projects were notified on 8 June 2023. The duration of the projects is 5 years. The research and development part of the projects is funded by the Recovery Plan. Part of one project should be financed by OP TAC. Funding for the first industrial deployment phase is still being sought. The projects are expected to run until the end of 2028.
Allocated or planned budget	• EUR 57 million (EU) • Human resources mobilised – 1
Expected impact and related timing:	• 4 projects (about 20 entities including SMEs) should receive funding by the end of 2028. The projects aim to contribute to the further development of the microelectronics and communication technology value chain by enabling the expansion of advanced technologies and the deployment of 2nd and 3rd generation technologies. The IPCEI ME/CT seeks, among other things, to contribute to maintaining and enhancing the competitiveness of the value chain and to ensure that the microelectronics and communication

	technology ecosystem remains of strategic importance for the Union in the future.

Measure 2.9 – Development of a National Semiconductor Strategy (NSS)	
Managing entity:	**Ministry of Industry and Trade**
Digital objective	**Semiconductors**
New measure	**Yes**
Brief description of the measure	**Content of the measure:** • The strategy will map which types of chips the Czech industry has the greatest potential in and propose measures of support, including investments, to implement. As part of the strategy, Czechia will focus on capacity mapping with the aim of expanding its share in the traditional sector of Czech industry, namely chip design and development. The strategy will help, for example, to adjust the education system, because the development of the sector cannot be achieved without enough qualified workers. **Link to objective:** • The measure is aimed at mapping developments and formulating recommendations for Czechia in the field of semiconductor industry. The recommendations will be based on a SWOT analysis of the Czech market. **Indicative timetable:** • The development of the strategy started in June 2023. The NSS was approved in October 2024.
Allocated or planned budget	• National (not yet planned) • Human resources mobilised – 1
Expected impact and related timing	• More precise targeting of resources for research and development. • Increased collaboration in the semiconductor ecosystem. • Improvement of processes within the framework of inter-ministerial cooperation, e.g. in the field of education.

Measure 2.9a – Implementation and management of the National Semiconductor Strategy	
Managing entity:	**Ministry of Industry and Trade**
Digital objective	**Semiconductors**
New measure	**Yes**
Brief description of the measure	**Content of the measure:** • The NSS proposes 5 strategic objectives that implement the measures proposed in the Chips Act and other specific national measures necessary for the development of this sector in Czechia. The strategic objectives are focused on promoting research and development, exports, education and economic migration of highly skilled people. • Strategic Objective 1: By the end of 2026, implement the measures defined in the European Chips Act (e.g. establishment of a national competence centre for semiconductors. • Strategic Objective 2: By the end of 2029, the share of semiconductor technologies in Czechia's exports will increase by 200% compared to 2022. • Strategic Objective 3: By the end of 2029, at least one virtual institute, at least one national semiconductor research

	centre and at least one sector-specific public competition to support applied research will be established/announced. • Strategic Objective 4: By the end of 2029, there will be at least 9,000 professionals working in the Czech economy in the semiconductor industry. • Strategic Objective 5: By the end of 2029, the production of semiconductor components in Czechia will increase by at least 300% compared to 2022 (in financial terms). **Link to objective:** • The main objective of the strategy is to contribute to the EU's commitment to increase the production of high-end semiconductors in the Union to 20% of the world production value by 2030, and thus to strengthen the semiconductor sector in Czechia. **Indicative timetable:** • The NSS approved by the Government on 10 October 2024 with measures up to 2030.
Allocated or planned budget	• The implementation of the NSS will be carried out with the help of public and private resources. In the case of public resources, these are planned national resources of CZK 23.4 billion, which include CZK 20 billion for investment incentives approved by the Government. The budget allocated so far is only for the TWIST programme – CZK 250 million for semiconductors. • Human resources mobilised – 1
Expected impact and related timing	• More precise targeting of resources for research and development. • Increased collaboration in the semiconductor ecosystem. • Improvement of processes within the framework of inter-ministerial cooperation, e.g. in the field of technical education.

3.2.3 Digital Objective 2d) Access to quantum accelerated computing within the EU by 2025, leadership in quantum capabilities by 2030

Timeline of measures contributing to the achievement of the objective	2023	2024	2025	2026	2027	2028	2029	2030
Measure 2.10 – Acquisition and operation of the quantum computer of the European consortium LUMI-Q								

A budget of all measures that can be assigned to the given objective:

- Public investment
  - Total CZK 364 million
  - Of which national sources:
    - CZK 183 million from the contributions of the LUMI-Q consortium members and from the MEYS budget (CZK 49 million allocated, CZK 24 million planned)
  - Of which from EU sources:

- CZK 182 million (amount already allocated)

A description of how and to what extent the measures are intended to address Member State-specific challenges:

The construction and operation of the quantum computer will contribute to the digital objective 2) Secure, resilient, efficient and sustainable digital infrastructures (digital infrastructure), improving the position of Czechia as a country with cutting-edge technologies and an environment promoting R&D&I.

Investment gap:

The costs were estimated by EuroHPC to build and operate a quantum computer for 4 years.

Measure 2.10 – Acquisition and operation of the quantum computer of the international consortium LUMI-Q	
Managing entity:	**Ministry of Education, Youth, and Sports**
Digital objective	**Quantum**
New measure	**Yes**
Brief description of the measure	**Content of the measure:** • Installation in 2025 at the IT4Innovations National Supercomputing Centre in Ostrava (the first Czech quantum computer). • Integration of the LUMI-Q quantum computer with the supercomputers of the IT4Innovations centre. **Link to objective:** • The new quantum computers, including LUMI-Q, will be integrated with existing supercomputers and selected host entities will operate these systems on behalf of the EuroHPC Joint Undertaking. **Indicative timetable:** • The agreement to acquire and operate the quantum computer was signed with EuroHPC in Q2 2023. Installation of the quantum computer is expected to take place in 2025 and a phased commissioning is planned.
Allocated or planned budget	• EUR 7.5 million [contributions of the LUMI-Q consortium members, of which Czechia contributes EUR 3 million (MEYS budget – CZK 49 million allocated, CZK 24 million planned)] • EUR 7.5 million (EU)
Expected impact and related timing:	• Providing access to quantum computing to lower tens of researchers from Czechia and higher tens (lower hundreds) of researchers from the EU in 2025. • Contribution to the development of European quantum computing resources, quantum computing and its applications.

3.3 Digital transformation of businesses

3.3.1 Digital objective 3a) 75% of EU businesses use one of the following: cloud services, big data, artificial intelligence & 3b) More than 90% of SMEs achieve at least a basic level of digital intensity & 3c) The Union facilitates the growth of innovative and emerging businesses and improves their access to finance, leading to at least a doubling of the number of unicorns

Timeline of measures contributing to the achievement of the objective	2023	2024	2025	2026	2027	2028	2029	2030
Measure 3.1 – Reaping the benefits of digitalisation for citizens, companies, research organisations and public authorities	■	■	■	■	■	■	■	■
Measure 3.2 – Digital Enterprise – Virtual Enterprise – Call I	■	■	■					
Measure 3.2a – Digital Enterprise – Digital Enterprise – Call I (OP TAC)		■	■	■				
Measure 3.2b – Applications – DEEP TECH – Call III (OP TAC)		■	■	■	■	■		
Measure 3.3 – Implementation and administration of the National AI Strategy		■	■	■	■	■	■	■
Measure 3.4 – Establishment of a European testing and experimentation facility	■	■	■	■	■			
Measure 3.5 – Support for investment in innovative projects, development and implementation of Industry 4.0	■	■	■	■	■			
Measure 3.6 – Support for the development of innovative entrepreneurship with an emphasis on digital services and innovation roll-out	■	■	■	■	■			
Measure 3.6a – Acceleration of start-ups		■	■					
Measure 3.7 - National RIS3 Strategy, Strategic Objective D01 – Support digitalisation and use of new technologies in business	■	■	■	■	■			
Measure 3.8 – Development of European Centres for Digital Innovation	■	■	■					

Measure 3.9 – Programme of direct support for the digital transformation of enterprises								
Measure 3.10 – Linking the network of digital innovation centres across regions								

A budget of all measures that can be assigned to the given objective:

- Public investment:
  - Total CZK 20,166 million
  - Of which national sources:
    - CZK 2 518 million from the State budget
    - CZK 2 516 million planned from the State budget
    - CZK 2 288 million from the NPO
  - Of which EU resources:
    - CZK 3 250 million (other ESF)
    - CZK 9 594 million from EU sources

A description of how and to what extent the measures are intended to address Member State-specific challenges:

The measures will contribute to the achievement of the targets through direct support to the digital transformation of enterprises by supporting the purchase and deployment of digital technologies, ICT specialist services, robotics and automation, advisory and testing activities or policy coordination to ensure appropriate targeting of support.

Investment gap:

For Measure 3.1 – Reaping the benefits of digitalisation for citizens, companies, research organisations and public authorities, private investment is estimated to be comparable to public support (of which: grants, financial instruments): a total of CZK 9 106 million (EUR 374 118 000).

Measure 3.1 – Reaping the benefits of digitalisation for citizens, companies, research organisations and public authorities	
Managing entity:	**Ministry of Industry and Trade**
Digital objective	**AI / cloud / data analysis**
New measure	**No**
Brief description of the measure	**Content of the measure:** • In particular, the following activities will be supported under this measure: ○ Rolling out digitalisation in enterprises; supporting projects in areas related to artificial intelligence, process automation, robotics and cybersecurity of online and cyber-physical systems, including support for training and education of employees. An essential part of the supported activities is also the acquisition of new technological devices and equipment, including the necessary infrastructure, interconnection of acquired or existing technologies using the most modern

	communication channels and protocols (autonomous two-way communication). ○ Acquisition of high-performance computing and support for using HPC. ○ Use of modern technologies (e.g. blockchain, virtual reality, etc.) for economic development. ○ Development and acquisition of specialised software (e.g. for computer security, simulation, monitoring, computer vision, for work with big data – Big Data Analytics, for 3D printing, etc.), for example in the field of digitalisation, automation, Industry 4.0 or Construction 4.0, deployment of artificial intelligence. ○ Building and modernising computing and data centres. **Link to objective:** • High priority investment needs are aimed at increasing the competitiveness of SMEs and promoting technology expansion and deployment, in particular to support enterprises to better position themselves in value chains, increase productivity and facilitate participation in industry-led and research-led clusters, improve the R&D capacity of SMEs by supporting the development and deployment of new business models and the adoption of new and emerging technologies, provide support for proof of concept, early stage and development of innovative firms through financial and soft support measures, and support the internationalisation of SMEs to exploit new business opportunities. **Indicative timetable:** • The programme was launched in July 2022 and a mid-term review of the programme conditions will take place (revised conditions should be available at the end of Q4 2024). The programme is expected to run until at least the end of 2030.
Allocated or planned budget	• EUR 260 million (EU; 85% subsidies, 15% financial instruments)
Expected impact and related timing:	• The target groups are virtually all businesses (especially SMEs) and their customers, who are also affected by the digitalisation process. Furthermore, these are research and knowledge dissemination organisations (i.e. entities meeting the definition of a Research Organisation in accordance with the Framework for State Support for Research, Development and Innovation), research infrastructures, centres of high-performance computing or digital clusters. In addition, population using information technology.

Measure 3.2 – Digital Enterprise – Virtual Enterprise – Call I (OP TAC)	
Managing entity:	**Ministry of Industry and Trade**
Digital objective	**Digital intensity of businesses**
New measure	**No**
Brief description of the measure	**Content of the measure:** • The aim of this Call is to support the improvement of the digital level of SMEs operating on Czech and foreign markets by supporting the purchase and implementation of advanced non-production digital technologies that will help the company to ensure a significant shift in digitalisation, for

	example by supporting automation, digitalisation of data and more efficient interconnection and management of corporate processes. It is the digital transformation of businesses through newly acquired or deployed technologies/services that will lead to greater automation, digitalisation or more efficient integration of business processes. **Link to objective** • The measure aims to contribute to the digital transformation of SMEs. **Indicative timetable:** • The measure runs from 2023 to 2025
Allocated or planned budget	• CZK 500 million (included in the budget of Measure 3.1)
Expected impact and related timing:	• Approximately 200 enterprises are expected to be impacted under the call, which will contribute significantly to the digital transformation of enterprises.

Measure 3.2a – Digital Enterprise – Digital Enterprise – Call I (OP TAC)	
Managing entity:	**Ministry of Industry and Trade**
Digital objective	**Digital intensity of businesses**
New measure	**Yes**
Brief description of the measure	**Content of the measure:** • The aim of this Call is to support the improvement of the digital level of SMEs operating on Czech and foreign markets by supporting the purchase and implementation of advanced non-production digital technologies that will help the company to ensure a significant shift in digitalisation, for example by supporting automation, digitalisation of data and more efficient interconnection and management of corporate processes. **Link to objective** • The measure aims to contribute to the digital transformation of SMEs **Indicative timetable:** • The measure runs from 2024 to 2026
Allocated or planned budget	• CZK 1 000 million (included in the budget of Measure 3.1)
Expected impact and related timing:	• Approximately 400 enterprises are expected to be impacted under the call, which will contribute significantly to the digital transformation of enterprises.

Measure 3.2b – Applications – DEEP TECH – Call III (OP TAC)	
Managing entity:	**Ministry of Industry and Trade**
Digital objective	**AI / Data Analysis / Semiconductors / 5G**
New measure	**Yes**
Brief description of the measure	**Content of the measure:** • Harnessing the potential of advanced technologies and advanced digital solutions to transform industrial ecosystems, focusing on current industrial and societal challenges by supporting high-risk and high-potential areas and trends (including AI, quantum, biotechnology, nanotechnology or robotics).

	• Acquisition of new knowledge needed for the development of new products, materials, technologies and services through the implementation of industrial research and experimental development projects. • Businesses can receive support of up to CZK 125 million per project. **Link to objective** • The aim of the measure is to strengthen the performance of enterprises, in particular SMEs, in R&D and innovation and their digital transformation. **Indicative timetable:** • The measure runs from 2024 to 2028.
Allocated or planned budget	• CZK 3,000 million (EU)
Expected impact and related timing:	• Each supported project will result in one of the following outcomes: a pilot plant, validated technology, utility model, industrial design, prototype, functional sample, or digital solution. • The measure will contribute, among other things, to the advancement of artificial intelligence technologies, data analysis, 5G among enterprises and innovation in semiconductor manufacturing in Czechia.

Measure 3.3 – Implementation and administration of the National AI Strategy	
Managing entity:	**Ministry of Industry and Trade**
Digital objective	**AI**
New measure	**No**
Brief description of the measure	**Content of the measure:** • Ensuring coordination, promotion and creation of infrastructure for AI development in Czechia. The NAIS update was approved on July 24, 2024. • The update of the strategy is based on the outputs of the public consultation, expert input, analyses and close cooperation with all relevant institutions and public and private actors representing the Czech AI ecosystem. • Prepared in partnership with the public and private sectors, its goal is to maximise AI's potential for the benefit of the Czech economy and society. • Promoting the development of science, research, innovation, education, skills, ethical and legal aspects in AI, AI in public administration, safety in AI and the involvement of technology in AI-related industry and business. **Link to objective:** • The NAIS was introduced with the aim of contributing to the coordinated development of AI in Czechia, including its application in practice and supporting enterprises, especially SMEs, in reaping its benefits. The updated NAIS is based on data and input from the Technology Centre's analyses, the national public consultation, outputs from the AI Working Group, roundtables with stakeholders and the general public, and consultations with international partners. **Indicative timetable:** • The updated NAIS was approved in 2024 and is to be implemented and managed until 2030.

Allocated or planned budget	• CZK 18 369 million, of which CZK 4 154 million is allocated to new measures (CZK 1 624 million from the State budget, CZK 2 516 million from the NPO, and CZK 14 million from EU sources), while CZK 14 215 million is included in other measures across the plan.
Expected impact and related timing:	• Increase the number of businesses using at least one AI technology

Measure 3.4 – Establishment of a European testing and experimentation facility	
Managing entity:	**Ministry of Industry and Trade**
Digital objective	**AI**
New measure	**No**
Brief description of the measure	**Content of the measure:** • A Testing and Experimentation Facility (AI TEF) in Manufacturing has been established in Czechia. • AI TEFs in Manufacturing are designed for experimenting with and testing state-of-the-art technologies in real-world environments, representing a crucial step in bringing new technologies to market. By focusing on AI, these facilities will complement the innovation chain, where the European AI ecosystem requires substantial support to remain globally competitive. AI Testing and Experimentation Facilities are primarily intended for SMEs, providing them with an opportunity to engage with parallel initiatives on the European AI-on-Demand platform. • . **Link to objective:** • The AI Test and Experimentation Facility for Manufacturing (AI TEF Manufacturing) will help develop AI solutions and support companies in bringing them to market, expanding the portfolio of AI technologies available to other companies to use in their processes. Thus, the AI TEF will support the use of AI in companies. **Indicative timetable:** • The measure will be implemented from the beginning of 2023 to the end of 2027.
Allocated or planned budget	• CZK 95.42 million (CZK 58.89 million NPO, CZK 36.53 million State budget, 50% co-financing, the remaining 50% is requested by AI TEF from the Digital Europe Programme).
Expected impact and related timing:	• Increasing the number of AI-enabled businesses and boosting the digital intensity of businesses.

Measure 3.5 – Support for investment in innovative projects, development and implementation of Industry 4.0	
Managing entity:	**Ministry of Industry and Trade**
Digital objective	**Digital intensity of businesses**
New measure	**No**
Brief description of the measure	**Content of the measure:** • Support for investment in innovative projects, development and implementation of Industry 4.0. **Link to objective:** • The specialist services for the implementation of advanced ICT technologies in SMEs will be supported.

	• It will also support the purchase of cloud computing services for SMEs and investments in digitalisation of processes, including robotic technologies, communication and identification infrastructure and systems capable of analysing big data. **Indicative timetable:** • The measure will be implemented from the beginning of 2023 to the end of 2027.
Allocated or planned budget	• CZK 3,250 million (other ESF)
Expected impact and related timing:	• The Operational Programmes will support 405 projects from SMEs.

Measure 3.6 – Support for the development of innovative entrepreneurship with an emphasis on digital services and innovation roll-out	
Managing entity:	**Ministry of Industry and Trade**
Digital objective	**Unicorns**
New measure	**No**
Brief description of the measure	**Content of the measure:** • Supporting the development of start-ups, digital infrastructure and innovation through the NPO. **Link to objective:** • The measure supports start-ups that focus on innovative technologies, one of which is AI. The aim of the measure is to seek out and assist the creation of projects that are exceptionally innovative, feasible and scalable and to increase the number of unicorns in Czechia. • The measure offers start-ups financial support, incubation services, mentoring, advice, networking and access to infrastructure, markets and customers, which will directly help increase the share of businesses using AI. **Indicative timetable:** • The measure is implemented in the period from the beginning of June 2022 to the end of 2027.
Allocated or planned budget	• CZK 857 million (State budget)
Expected impact and related timing:	• The measure has the overall ambition (not only in terms of AI) to support 250 innovative companies (start-ups) by 2027 and increase their chances of becoming unicorns by providing direct support of up to CZK 4 500 000 for technical development of a product or service (without losing a stake in the company), indirect support worth CZK 500 000 in the form of workshops, seminars, assistance of incubation managers, consultations with business and technology experts for up to 2 years and by connecting them with experts in Czechia and abroad. • Ideally, the project will generate 3 unicorns within two years of completion.

Measure 3.6a – Acceleration of start-ups	
Managing entity:	**CzechInvest**
Digital objective	**Unicorns**
New measure	**Yes**
Brief description of the measure	**Content of the measure:**

	• Support for the development of business and investment strategy of start-ups in foreign markets, innovation of their products and services based on international know-how, their preparation for foreign expansion or transfer of experience from a competitive global environment. **Link to objective:** • The measure supports start-ups that focus on innovative technologies and their application abroad, thereby supporting their competitiveness through the expansion of their client portfolio. **Indicative timetable:** • The measure will be implemented in the period from the beginning of June 2024 to the end of 2025.
Allocated or planned budget	• CZK 215 million (NPO)
Expected impact and related timing:	• It will enable at least 100 Czech start-ups to expand abroad and gain additional markets, partners and investors through the support of foreign accelerators and experts in the field. Support is granted up to CZK 3 million.

Measure 3.7 - National RIS3 Strategy, Strategic Objective D01 – Support digitalisation and use of new technologies in business	
Managing entity:	**Ministry of Industry and Trade**
Digital objective	**AI / cloud / data analysis**
New measure	**No**
Brief description of the measure	**Content of the measure:** • The objective is focused on supporting the development of digitalisation, robotisation and automation, the ability to respond to new technological trends and the implementation of Industry 4.0 principles (use of Digital Innovation Hubs [DIH]). Support for the creation and development of endogenous companies using digitalisation and new technologies (possibly also open data of public administration or data of mobile operators) for the creation of new products and services (e.g. blockchain, data analytics, robotics, automation, etc.). **Link to objective:** • The measure is aimed at supporting companies. **Indicative timetable:** • 2023–2027
Allocated or planned budget	• Measure 3.7 does not have its own budget, it is a strategy shaping the form of Measure 3.1
Expected impact and related timing:	• Increase in the number of ICT-focused firms and their share of the business sector. • Increased use of digital technologies in the business sphere.

Measure 3.8 – Development of European Centres for Digital Innovation	
Managing entity:	**Ministry of Industry and Trade**
Digital objective	**Digital intensity of businesses**
New measure	**No**
Brief description of the measure	**Content of the measure:**

	• The aim of the measure is to support the digital transformation of, in particular, SMEs and State administration, to introduce new technologies, to attract experts in this field and to make industry and services more resilient to possible further crises. Six European Digital Innovation Hubs (EDIH) were established in Czechia. **Link to objective:** • The EDIH network will enable the expansion of new technologies across application domains to SMEs and/or public administrations. Creating a quality EDIH network is a crucial condition for accelerating the digitalisation process of Czechia and Czech companies with a focus on robotics, information network security, AI, IoT and more areas according to client requirements. **Indicative timetable:** • The expected timetable is from 2023 to 2026
Allocated or planned budget	• Allocated: CZK 214 million (NPO, this is 50% co-financing, the remaining 50% is requested by the hubs from the Digital Europe Programme).
Expected impact and related timing:	• The aim is to increase the use of digital technologies in the region.

Measure 3.9 – Programme of direct support for the digital transformation of enterprises	
Managing entity:	**Ministry of Industry and Trade**
Digital objective	**AI / cloud / data analysis**
New measure	**No**
Brief description of the measure	**Content of the measure:** • The aim of the measure is to implement calls for direct support for the digital transformation of enterprises under the National Recovery Plan (NPO), component 1.5 Digital transformation of businesses. **Link to objective:** • The aim is to support the improvement of the digital level of small, medium-sized and large enterprises operating in the Czech and foreign markets by supporting the purchase and implementation of advanced non-production digital technologies that will help the company to achieve a significant shift in digitalisation through, for example, support for automation, digitalisation of data and more efficient interconnection and management of corporate processes, implementation of artificial intelligence processes, more efficient work with big data, etc. Therefore, the project must be in line with the focus of the Specific Objective D0.1 “Promoting digitalisation and use of new technologies in business” of the National RIS3 Strategy. • The aim is to support 377 projects by the end of 2025. **Indicative timetable:** • The expected timetable is from 2022 to 2025
Allocated or planned budget	• Allocated: CZK 1 800 million (NPO)
Expected impact and related timing:	• Increasing the digital level of small, medium-sized and large enterprises operating in the Czech and foreign markets through support for the purchase and implementation of advanced non-production digital technologies that will help to achieve a significant shift in digitalisation in the company

	through, for example, support for automation, digitalisation of data and more efficient interconnection and management of corporate processes, implementation of artificial intelligence processes, more efficient work with big data, etc.

Measure 3.10 – Linking the network of digital innovation centres across regions	
Managing entity:	**Ministry of Industry and Trade**
Digital objective	**Digital intensity of businesses**
New measure	**No**
Brief description of the measure	**Content of the measure:** • Sharing clients of the Digital Innovation Centre and disseminating good practice through the Platform for the Digitalisation of the Economy. **Link to objective:** • The Platform for the Digitalisation of the Economy was established as an advisory and coordinating body of the MIT for the implementation of the objectives and investments of component 1.5 Digital Transformation of Businesses of the National Recovery Plan (NPO) in the field of digital transformation. • The Platform's activities are primarily aimed at connecting and coordinating all relevant actors in the national digital ecosystem, thus indirectly contributing to the correct targeting of measures to support the digitalisation of businesses, especially SMEs. **Indicative timetable:** • The programme is implemented from June 2020 to May 2026.
Allocated or planned budget	• No funds allocated
Expected impact and related timing	• A coordinated approach will be ensured in the implementation of NPO measures aimed at the digital transformation of enterprises. • The Platform will promote discussion and information transfer among its members and shape recommendations.

3.4 Public services digitalisation

3.4.1 Digital Objective 4a) 100% of key public services are available online and can be reached online where relevant & 4c) 100% of Union citizens have access to a secure means of electronic identification recognised across the Union

Timeline of measures contributing to the achievement of the objective	2023	2024	2025	2026	2027	2028	2029	2030

Measure 4ac.1 – National RIS3 Strategy Strategic Objective D02 Support digitalisation and use of new technologies in the public sphere								
Measure 4ac.2 – Registry of Territorial Identification, Addresses and Real Estate (RÚIAN) 2020+								
Measure 4ac.3 – National Certification Authority (NCA)								
Measure 4ac.4 – Public Administration Portal 2.0								
Measure 4ac.5 – A platform for sharing and integration of public data								
Measure 4ac.7 – eDoklady (electronic personal documents)								
Measure 4ac.8 – Register of Representations								
Measure 4ac.9 – Transportation portal								
Measure 4ac.10 – National Recovery Plan – Acceleration and digitalisation of building permit proceedings								
Measure 4ac.11 – Entrepreneur portal								
Measure 4ac.12 – Introduction of new and innovative digital services of the CSSA – Further development of the CSSA ePodání (electronic submission service) and connection to digital services at the Citizen Portal								
Measure 4ac.13 – CSSA – Stage I of the Digitalisation of Pension Agencies Programme (EDA)								
Measure 4ac.14 – MoLSA – Client zone I. and II.								
Measure 4ac.15 – Digitalisation of court agendas eTrest, eSpráva and ePR								
Measure 4ac.16 – Integrated Foreigners' Agenda System (ICAS)								
Measure 4ac.17 Information System of Civil Registers – IS eMatrika								
Measure 4ac.18 – Public administration contact centre								
Measure 4ac.19 – Full electronic submission and processing								
Measure 4ac.20 – Central Agenda Information System (CAIS)								
Measure 4ac.21a – DIA Competence Centres								
Measure 4ac.21b – ROPIM project								
Measure 4ac.22 – A platform for the implementation of the EUDIW (European Digital Identity Wallet)								
Measure 4ac.23 – Dataset management system (DSMS)								
Measure 4ac.24 – Election Management Information System (ISSV)								

Budget of all measures that can be attributed to the objective (in aggregate; the regional dimension should be taken into account where possible):

- Public investment:
  - Total CZK 6,751 million
  - Of which national sources:
    - CZK 778 million from the State budget
    - CZK 303 million planned from the State budget

- CZK 2 920 million from the NPO
- CZK 261 million from the State budget and NPO
- CZK 297 million planned from the State budget and NPO
- CZK 780 million from NPOs and excess requests
- CZK 778 million from the State budget and IROP

- Of which EU resources:
  - CZK 3 633 million from IROP

A description of how and to what extent the measures are intended to address Member State-specific challenges:

The measures will contribute to achieving the objectives by directly supporting the digital transformation and digitalisation of public services in all areas of eGovernment services for both citizens and businesses, while also contributing to increasing access to means of electronic identification.

Investment gap

Due to the enormity of the objective, it is not possible to quantify the investment gap accurately at this time.

Measure 4ac.1 – National RIS3 Strategy Strategic Objective D02 – Support digitalisation and use of new technologies in the public sphere	
Managing entity:	**Ministry of Industry and Trade**
Digital objective	**Key online public services**
New measure	**No**
Brief description of the measure	**Content of the measure:** • The aim is to support the development of the digitalisation of public administration and public space in order to increase both the supply of eGovernment services by public institutions and the demand for these services by citizens. Activities that generally increase the demand for innovative solutions and solutions based on digital technologies and artificial intelligence, such as the Smart Cities concept, open data, etc. will be supported. **Link to objective:** • The measure is aimed at supporting public administration. **Indicative timetable:** • 2023–2027
Allocated or planned budget	• Measure 4ac.1 does not have its own budget, it is a strategy shaping the form of relevant measures financed from IROP 21–27 (EUR 496 million).
Expected impact and related timing:	• Increased use of the Internet in relation to public administration by companies, citizens and other entities. • Increase electronic communication and use of electronic services between authorities.

Measure 4ac.2 – Registry of Territorial Identification, Addresses and Real Estate (RÚIAN) 2020+	
Managing entity:	**Czech Office for Surveying, Mapping and Cadastre**
Digital objective	**Key online public services**

New measure	**No**
Brief description of the measure	**Content of the measure:** • The RÚIAN 2020+ project will mainly implement the effects of the digital constitution into RÚIAN, and then develop all other functionalities planned in the completed RÚIAN 2018+ project (i.e. especially the development of special-purpose zoning elements). The aim is also to ensure operation on the central infrastructure. **Link to objective:** • It creates the basic environment for identification in the territory, especially of properties and addresses – it is the single point of truth in this area. **Indicative timetable:** • The programme started in January 2021 and completed in 2023.
Allocated or planned budget	• CZK 110 million (NPO, State budget)
Expected impact and related timing:	• The implementation of the impacts of the digital constitution, the development of the data base (especially the special-purpose territorial elements, technical-economic attributes) and the services of the basic public administration register will expand the set of open data or the eGovernment On-Line Service Bus of the Basic Registers Information System (Informační systém základních registrů) and will support the interoperability of Czechia in spatial data within the EU. The backup infrastructure will be restored.

Measure 4ac.3 – National Certification Authority (NCA)	
Managing entity:	**Digital and Information Agency**
Digital objective	**Access to eID**
New measure	**No**

Brief description of the measure	**Content of the measure:**
	• The project aims to ensure the operation and further development of the National Certification Authority (NCA) in connection with the revision of Regulation eIDAS No 2024/1183 of 11 April 2024. The establishment of the NCA created a system of subordinate certification authorities for issuing:
	  ○ qualified certificates for electronic signatures;
	  ○ qualified electronic time stamps;
	  ○ qualified certificates for electronic seals.
	• With the establishment of the National Certification Authority (NCA), the Administration of Basic Registers (SZR) became a qualified provider and manager of all components of the NCA and its related infrastructure.
	The Administration of State Trust Services took over the NCA system from SZR/DIA and, as of 1 January 2024, has been providing trust services.
	Link to objective:
	• It develops access to eID.
	Indicative timetable:
	• Implementation of the measure started in August 2018 and it is expected to be completed in 2026.

Allocated or planned budget	• The planned budget for the support and development of the NCA in the years 2025–2027 is CZK 297 million excluding VAT. The main source is the State budget, other sources of funding are under consideration (for development).
Expected impact and related timing	• The expected impact is to expand and support access to eID.

Measure 4ac.4 – Public Administration Portal 2.0 (Citizen Portal)	
Managing entity:	**Digital and Information Agency**
Digital objective	**Key online public services**
New measure	**No**
Brief description of the measure	**Content of the measure:** • Aggregate programme for the operation and development of the Citizen Portal and the Public Administration Portal. It includes plans to launch new digital services and publish them in the public administration portal/citizen portal. **Link to objective:** • Making digital services accessible to citizens. **Indicative timetable:** • Implementation of the measure started in August 2017 and it was expected to be completed by the end of 2024. However, the development has been extended into coming years.
Allocated or planned budget	• Allocated: CZK 75 million (NPO; State budget)
Expected impact and related timing	• The expected impact is the online availability of services, including online processing, simplification and orientation in the services provided by the State. It will also support access to eID and facilitate its expansion.

Measure 4ac.5 – A platform for sharing and integration of public data	
Managing entity:	**Digital and Information Agency**
Digital objective	**Key online public services**
New measure	**Yes**
Brief description of the measure	**Content of the measure:** • The aim of building a platform for sharing and integration of public data (PSIVÚ) is to fulfil the need to complete the current reference interface of public administration so that it is able to ensure the sharing of data, not only spatial data. The PSIVÚ will be built with parameters, features and functionalities that will also meet the needs of the built environment modelling platform. **Link to objective:** • It develops a linked data pool on spatial data issues. **Indicative timetable:** • Implementation of the measure started in September 2022 and it is expected to be completed in September 2025.
Allocated or planned budget	• Planned CZK 150 million (SB, IROP 2027+)
Expected impact and related timing	• The measures will facilitate the development of eGovernment services

Measure 4ac.7 – eDoklady, electronic personal documents	
Managing entity:	**Digital and Information Agency**
Digital objective	**Access to eID**
New measure:	**No**
Brief description of the measure:	**Content of the measure:** • eDoklady is a mobile application that the user can install on their mobile phone or other mobile device. It is possible to upload individual identification documents such as national ID cards to the eDoklady app. Other documents issued by the state, such as driving licences, will be added later. **Link to objective:** • It creates a replacement for documents in paper form and allows proof of identity via mobile phone. **Indicative timetable:** • The measure was implemented from the beginning of 2023 to the end of 2024. • Other functionalities will be implemented during 2025, for example the addition of another document or the link to the Register of Representations (Measure 4ac.8).
Allocated or planned budget	• Approximately 50 million has been paid so far (35.5 million including VAT from the State budget and 14.5 million including VAT from the NPO project)
Expected impact and related timing:	• The expected impact of the regulation is to enable citizens to access eID and eGovernment services via a mobile application.

Measure 4ac.8 – Register of Representations	
Managing entity:	**Digital and Information Agency**
Digital objective	**Key online public services**
New measure	**Yes**
Brief description of the measure	**Content of the measure:** • The Register of Representations records the authorisations for representation for access to the electronic services of the public administration of Czechia by a person authorised to act in representation (on behalf and in the name of) the represented person. **Link to objective:** • It enables electronic representation – representing both a citizen and a business entity. **Indicative timetable:** • The implementation of the measures took place in the period from May 2023 to the end of 2024, including a pilot link to the Transport Portal. Subsequent roll out to all public administration agenda portals in 2025–2030.
Allocated or planned budget	• Allocated: CZK 127 million (State budget) • Planned: CZK 180 million (State budget)
Expected impact and related timing:	• The expected impact is an increase in the use of digital eGovernment services by citizens and business entities and their simplification.

Measure 4ac.9 – Transportation portal

Managing entity:	**Ministry of Transport**
Digital objective	**Key online public services**
New measure	**No**
Brief description of the measure	**Content of the measure:** • A comprehensive portal providing digital services for transportation agenda to the general and professional public. • In particular, this will include: applications for documents (driving, pilot, skipper licences); provision of data from driver, vehicle, vessel, etc. registers; information on the driver's penalty points, notification channel, linking with other registers and portals, and more. • The login/identification will be done through the NIA and its dedicated resources. **Link to objective:** • Making digital services accessible to citizens and businesses. **Indicative timetable:** • The measure is implemented in the period from January 2022 to July 2026.
Allocated or planned budget	• Allocated: CZK 60 million (State budget) • CZK 123 million planned (State budget)
Expected impact and related timing:	• The expected impact is to make digital services available to citizens and private entities in conjunction with the use of other eGovernment services and eID.

Measure 4ac.10 – National Recovery Plan – Acceleration and digitalisation of building permit proceedings	
Managing entity:	**Ministry of Regional Development**
Digital objective	**Key online public services**
New measure	**No**
Brief description of the measure	**Content of the measure:** • The aim of the measure is to speed up and digitise the building permit proceedings. Specific steps include the introduction of the recodification of building permit proceedings into practice, the creation of the Agenda Information System, the development and use of the public administration data pool in spatial planning and the full utilisation of the benefits of the digitalisation of building permit proceedings. **Link to objective:** • It creates a fully digital path for building permit proceedings. **Indicative timetable:** • The measure is implemented until 2026.
Allocated or planned budget	• Allocated: CZK 1 750 million (CZK 1 446.3 million NPO, CZK 303.7 million co-financing from the State budget)
Expected impact and related timing:	• The expected impact is the simplification and streamlining of the building permit proceedings through digitalisation.

Measure 4ac.11 – Entrepreneur portal

Managing entity:	**Ministry of Industry and Trade**
Digital objective	**Key online public services**
New measure	**No**
Brief description of the measure	**Content of the measure:** • The aim of the measure is to create a consolidated personalised portal offering e-services for legal persons and at the same time to have a modern digital tool to direct users to its repeated use. **Link to objective:** • A portal concentrating digital services for business entities. **Indicative timetable:** • The measure is implemented from January 2020 to March 2026.
Allocated or planned budget	• Allocated: CZK 55 million (NPO)
Expected impact and related timing:	• The expected impact of the measure is to make electronic services available to legal persons

Measure 4ac.12 – Introduction of new and innovative digital services of the CSSA – Further development of the CSSA ePodání (electronic submission service) and connection to digital services at the Citizen Portal	
Managing entity:	**Czech Social Security Administration**
Digital objective	**Key online public services**
New measure	**No**
Brief description of the measure	**Content of the measure:** • Introduction of new and innovation of existing digital services in the framework of the project Further development of the eSubmission of the CSSA, Full electronic submission. **Link to objective:** • Expanding fully digital social security services. **Indicative timetable:** • The measure is implemented from July 2020 to the end of Q1 2026.
Allocated or planned budget	• Allocated: CZK 60 million (NPO)
Expected impact and related timing:	• The measure expects to expand the use of existing services in electronic form, thus contributing to the streamlining of the process and increasing the use of eGovernment services.

Measure 4ac.13 – CSSA – Stage I of the Digitalisation of Pension Agencies Programme (EDA)	
Managing entity:	**Czech Social Security Administration**
Digital objective	**Key online public services**
New measure	**No**
Brief description of the measure	**Content of the measure:** • Implementation of modern application support for the pension agenda. **Link to objective:** • Comprehensive digitalisation of pension agendas. **Indicative timetable:**

	• The measure is implemented from January 2024 to the end of 2025.
Allocated or planned budget	• CZK 296 million (NPO, excess requests)
Expected impact and related timing:	• The expected impact is to reduce costs and streamline the pensions agenda.

Measure 4ac.14 – MoLSA – Client zone I. and II.	
Managing entity:	**Ministry of Labour and Social Affairs.**
Digital objective	**Key online public services**
New measure	**No**
Brief description of the measure	**Content of the measure:** • Full digitalisation of the application for the lump sum child contribution in accordance with Act No 196/2022 Sb. • Implementation of the digitalisation of housing allowance, parental allowance, child benefit and related HW and SW support. **Link to objective:** • It expands the scope of digital services in the field of social security and client handling. **Indicative timetable:** • The measure is implemented from 2022 to 2026.
Allocated or planned budget	• CZK 383 million (NPO)
Expected impact and related timing	• Simplifying access and availability of application and increasing the use of eGovernment tools.

Measure 4ac.15 – Digitalisation of court agendas eTrest, eSpráva and ePR	
Managing entity:	**Ministry of Justice**
Digital objective	**Key online public services**
New measure	**No**
Brief description of the measure	**Content of the measure:** • The aim of the measure is to digitise criminal court proceedings through the creation, commissioning and complete deployment of the eTrest information system, digitalisation of the administrative court agenda through the creation, commissioning and complete deployment of the eSpráva information system (module), and modernisation of the electronic payment order agenda through the creation, commissioning and complete deployment of the ePR information system. • The project is focused on the creation of 3 new central information systems, which will enable complete digitalisation of documents (with justified exceptions), files and processes in the court system in the criminal agenda, administrative agenda and electronic payment order agenda. **Link to objective:** • Digitalisation of judicial proceedings. **Indicative timetable:** • The measure is implemented from 2023 to the end of 2027
Allocated or planned budget	• CZK 628 million (IROP 2021–2027, State budget)

Expected impact and related timing:	• Streamlining and digitalisation of judicial proceedings.

Measure 4ac.16 – Integrated Foreigners' Agenda System (ICAS)	
Managing entity:	**Ministry of the Interior**
Digital objective	**Key online public services**
New measure	**Yes**
Brief description of the measure	**Content of the measure:** • The aim of the project is the acquisition of a new Integrated Foreigners' Agenda System (ICAS) for the complete administration of the foreigners' residence agenda, the introduction of digital processes and the introduction of completely new digital services for the clients of the public administration in this section. **Link to objective:** • Digitalisation of long-term stay processes for foreigners. **Indicative timetable:** • The measure is implemented from 2023 to 2026.
Allocated or planned budget	• Allocated: CZK 358 million (of which CZK 300 million NPO, CZK 58 million State budget)
Expected impact and related timing	• Simplification of the process of administration of the foreigners' residency agenda, streamlining of the State administration through the development of eGovernment.

Measure 4ac.17 Information System of Civil Registers – IS eMatrika	
Managing entity:	**Ministry of the Interior**
Digital objective	**Key online public services**
New measure	**Yes**
Brief description of the measure	**Content of the measure:** • The aim of the measure is to digitise the civil registry agenda through the central IS eMatrika. **Link to objective:** • Digitalisation of civil registers. **Indicative timetable:** • The measure is implemented from 2023 to 2027.
Allocated or planned budget	• Allocated: CZK 363 million (IROP 2021–2027)
Expected impact and related timing:	• Making State administration more efficient and cost-effective, improving the interconnection of digital systems and supporting the development of eGovernment, bringing registry services closer to clients, introduction of digital registry documents.

Measure 4ac.18 – Public administration contact centre	
Managing entity:	**Digital and Information Agency**
Digital objective	**Key online public services**
New measure	**Yes**
Brief description of the measure	**Content of the measure:** • The aim of the measure is to create a Public Administration Contact Centre connecting all communication channels between the public and the authority, including the voice channel.

	Link to objective: • Introduction of a new communication channel between the State administration and the client (citizen, business entity). **Indicative timetable:** • The measure is implemented from 2023 to 2026.
Allocated or planned budget:	• Allocated: CZK 484 million (excess requests, NPO)
Expected impact and related timing:	• Expanding and increasing the use of eGovernment services by citizens and businesses.

Measure 4ac19 – Full electronic submission and processing	
Managing entity:	**Ministry of the Environment**
Digital objective	**Key online public services**
New measure	**No**

Brief description of the measure	**Content of the measure:**
	• Delivery and implementation of software solutions and services for service-oriented architecture (SOA) containing the following:
	  ○ A single tool for creating electronic smart forms and setting up their workflow
	  ○ Unified tool for visualisation, presentation and notification of submission statuses via different communication channels
	  ○ Implementation of the departmental service bus
	  ○ Document Management System (DMS) for the controlled management of internal document circulation and their trusted and controlled storage
	Link to objective:
	• Full digitalisation of processes relating to the environmental agenda.
	Indicative timetable:
	• The measure is implemented from 2022 to 2026.

Allocated or planned budget	• Allocated: CZK 76 million (NPO, State budget)
Expected impact and related timing:	• Streamlining State administration processes, facilitating access to eGovernment services.

Measure 4ac.20 – Central Agenda Information System (CAIS)	
Managing entity:	**Czech Environmental Inspectorate**
Digital objective	**Key online public services**
New measure	**No**
Brief description of the measure	**Content of the measure:** • Provision of application support for electronic implementation of agendas in order to reduce the administrative burden on participants in supported processes, reducing the error rate in the performance of State administration, and handling legislative obligations arising from the characteristics of the Czech Environmental Inspectorate. **Link to objective:** • Electronic identification of officials accessing agenda-related information systems and central services. **Indicative timetable:** • The measure is implemented from 2021 to 2024.

Allocated or planned budget	• Allocated: CZK 52 million (State budget)
Expected impact and related timing:	• Reducing the administrative burden, speeding up and streamlining access to eGovernment.

Measure 4ac.21a – DIA Competence Centres	
Managing entity:	**Digital and Information Agency**
Digital objective	**Key online public services**
New measure	**Yes**
Brief description of the measure	**Content of the measure:** • Within the Digital and Information Agency, there are Competence Centres, which concentrate experts in selected areas of digitalisation and support ministries in all phases of their digital transformation, including the development of methodologies and standards. **Link to objective:** • Improving digital services **Indicative timetable:** • The measure is implemented from 2022 to 2025.
Allocated or planned budget	• CZK 125 million allocated from the NPO for 2022–2025.
Expected impact and related timing:	• Expert support to ministries in digitising services. • Design and creation of digital services based on user research.

Measure 4ac.21b – ROPIM project	
Managing entity:	**Digital and Information Agency**
Digital objective	**Key online public services**
New measure	**Yes**
Brief description of the measure	**Content of the measure:** The ROPIM project – Reform for the Optimisation, Implementation, and Methodological Management of Digital Services, including capacity planning and communication to public administration clients. It encompasses three interconnected areas: • Technological, represented by information systems and their modules. As part of this, the Information System for the Long-Term Government ICT Management will be developed. • Methodological, focusing on the provision and improvement of methodologies through the PDCA cycle. • Consultative, which will support the implementation of processes and guidelines by relevant central authorities and, based on their experience gained during implementation, will provide feedback for further improvements. At the same time, this area will promote the adoption of methodologies within individual organisations, primarily through knowledge acquisition, mentoring, and the transfer of best practices from consultants. Upon completion of the implementation

	phase, it is expected that these practices will be fully adopted by all project clients. **Link to objective:** • Acceleration of digitalisation of public administration in Czechia **Indicative timetable:** • The measure is implemented from 2023 to 2026.
Allocated or planned budget	Total CZK 489 million incl. VAT, of which CZK 472 million excluding VAT from NPO.
Expected impact and related timing:	• The ROPIM reform will primarily enable the sharing of information on digitalisation projects, the creation and publication of central methodologies, and the implementation of best practices aimed at increasing adoption and trust among clients (citizens and institutions). It will also focus on enhancing employee competencies and the state's procurement capabilities, data-driven decision-making to improve IT expenditure efficiency, modern talent management, and user education, including the definition of such educational programmes.

Measure 4ac.22 – A platform for the implementation of the EUDIW (European Digital Identity Wallet)	
Managing entity:	**Digital and Information Agency (DIA)**
Digital objective	**Access to eID**
New measure:	**Yes**
Brief description of the measure:	**Content of the measure:** • The main objective of the platform for the implementation of the EUDIW (European Digital Identity Wallet) is to create an adequate environment and conditions to ensure that Czechia is capable of meeting its obligations arising from the revision of the eIDAS Regulation [Regulation (EU) 2024/1183 of the European Parliament and the Council of 11 April 2024, amending Regulation (EU) No 910/2014 concerning the establishment of the European framework for digital identity]. This revision primarily introduces a requirement for Member States to ensure the provision of at least one European Digital Identity Wallet by the end of 2026. The final deadline by which Member States will be obligated to provide at least one such wallet depends on the adoption of implementing acts that will further define the functionality and ecosystem surrounding European digital wallets. • On the State level, it will be necessary to adjust and strengthen existing information systems or develop new systems to ensure that the state is prepared to support processes related to the uptake of European digital wallets. • As part of the platform, the development of a reference implementation of the European Digital Identity Wallet is anticipated, in accordance with the reference implementation of EUDIW being developed at the EU level. A crucial component of the project will also be the creation

	of analytical and supporting documents prior to the actual implementation. **Link to objective:** • It creates the preconditions for EUDIW to be provided in Czechia in the future. **Indicative timetable:** • The measure will be implemented in 2025–2026.
Allocated or planned budget	• Currently without budget
Expected impact and related timing:	• The expected impact is to create conditions for the selected EUDIW provider to start providing EUDIW in Czechia in accordance with the revised eIDAS Regulation.

Measure 4ac.23 – Dataset management system (DSMS)	
Managing entity:	**Ministry of the Environment**
Digital objective	**Key online public services**
New measure	**Yes**
Brief description of the measure	**Content of the measure:** • An information system for monitoring sustainable development indicators, including a data warehouse and simplified data import and management. The system will ensure the reception, storage and publication of sustainable development indicators in the newly created IT system. Existing data will be migrated to the DSMS. The indicator sets of the 2030 Agenda, Czechia 2030 and the Quality of Life will be updated. Updated visualisations of sustainable development indicators will be published on the sdg-data.cz website. The indicators will be made available to managing agencies and provided as open data. **Link to objective:** • Interlinked data pool **Indicative timetable:** • The measure is implemented from 2023 to 2026.
Allocated or planned budget	• Allocated: CZK 49.6 million (46.7 NPO, 2.9 State budget)
Expected impact and related timing:	• The process of cooperation with data providers will be adjusted to increase the automation of processing and improve the quality of the entire system through a newly established workflow.

Measure 4ac.24 – Election Management Information System (ISSV)	
Managing entity:	**Ministry of the Interior**
Digital objective	**Key online public services**
New measure	**Yes**
Brief description of the measure	**Content of the measure:** • The objective of the measure is the digitalisation of election management, achieved through the implementation of the Election Management Information System (ISSV). This system will serve as a unified information framework for administrative activities related to election processes. Link to objective: • Digitalisation of election administration. **Indicative timetable:**

	• The measure is implemented from 2023 to 12/2026.
Allocated or planned budget	• CZK 410 325 750.70 (66.01% of the above amount from IROP, 33.99% from the State budget)
Expected impact and related timing:	• Streamlining State administration of elections and supporting the development of eGovernment.

3.4.2 Objective 4b) 100% of citizens have access to their electronic health records

Timeline of measures contributing to the achievement of the objective	2023	2024	2025	2026	2027	2028	2029	2030
Measure 4b.1 – Digitalisation of public services – programme reforms								
Measure 4b.2 – Support for the development of digital transformation in health care – interoperability I Standardisation environment								
Measure 4b.3 – Portal solution for electronic health care								
Measure 4b.4 – Development of departmental infrastructure of electronic health care in Czechia								

A budget of all measures that can be assigned to the given objective:

- Public investment:
  - Total CZK 560 million
  - Of which national sources:
    - CZK 560 million from the NPO

A description of how and to what extent the measures are intended to address Member State-specific challenges:

The measures will contribute to the achievement of the objectives through direct support to the digitalisation of public services, specifically in the area of health records and their accessibility for citizens.

Investment gap

Due to the enormity of the objective, it is not possible to quantify the investment gap accurately at this time.

Measure 4b.1 – Digitalisation of public services – programme reforms	
Managing entity:	**Ministry of Health**
Digital objective	**Access to electronic health records**
New measure	**Yes**
Brief description of the measure	**Content of the measure:** • The aim of the measure is to develop digitalisation in the health sector, introduce innovative procedures and technologies, and provide human and financial resources for central management and coordination of the programme.

	Link to objective: • The measure is aimed at supporting sustainable digital transformation; digitally-enabled transformation of health and social care; the development of an ecosystem of interoperable digital infrastructures; and users. **Indicative timetable:** • The programmes are expected to run until the end of 2025.
Allocated or planned budget	• Public services identified as suitable for digitalisation are part of the Catalogue of Intents (i.e. planned projects) of the Digital Czech Republic Programme. These are then preferably financed from appropriate funds – mainly from the State budget, the Integrated Regional Operational Programme 2021–2027 and the National Recovery Plan. • Other services are funded by EU programmes or supported by the EC.
Expected impact and related timing:	• Contributing to the creation of the European Health Data Space, enabling access to electronic health records.

Measure 4b.2 – Support for the development of digital transformation in health care – interoperability I Standardisation environment	
Managing entity:	**Ministry of Health**
Digital objective	**Access to electronic health records**
New measure	**No**
Brief description of the measure	**Content of the measure:** • The aim of the measure is to ensure the exchange of information on health status and to provide citizens with access to electronic health records in accordance with the national strategy for the digitalisation of health care and the objectives of the EC. **Link to objective:** • Creating the conditions for interoperability and information sharing within the health sector. **Indicative timetable:** • The measure is implemented from 2021 to 2025.
Allocated or planned budget	• Allocated: CZK 215 million (NPO) project value including VAT
Expected impact and related timing:	• Improving access to health care, digitising State administration, streamlining processes.

Measure 4b.3 – Portal solution for electronic health care	
Managing entity:	**Ministry of Health**
Digital objective	**Access to electronic health records**
New measure	**No**
Brief description of the measure	**Content of the measure:** • The project will enable the creation of a central entry point using the National Environmental Labelling Programme (Národní program environmentálního značení – NPEZ) platform for active access of citizens to verified and guaranteed information resources and services related to health and health care in Czechia. Access to the NPEZ will be secured by an authentication and authorisation layer. **Link to objective:**

	• Portal solution enabling access to health data both for the citizen, as a client of health services, and for their providers on the basis of authorisation. **Indicative timetable:** • The measure is implemented from 2021 to 2025.
Allocated or planned budget	• Allocated: CZK 60,5 million (NPO) project value including VAT
Expected impact and related timing	• Streamlining access to health records, developing eGovernment services, supporting the use of eID by citizens.

Measure 4b.4 – Development of departmental infrastructure of electronic health care in Czechia	
Managing entity:	**Institute of Health Information and Statistics of Czechia**
Digital objective	**Access to electronic health records**
New measure	**No**
Brief description of the measure	**Content of the measure:** • The aim of the measure is to improve the performance, data storage capacity and cybersecurity of the existing technical infrastructure. • The scope of the measure includes the acquisition of technical operating resources, network and security components and software – operating systems, databases, extension of SIEM tools and other specialised applications. **Link to objective:** • Creating the conditions for interoperability and information sharing within the health sector. **Indicative timetable:** • The measure is implemented from 2022 to 2025.
Allocated or planned budget	• Allocated: CZK 285 million (NPO)
Expected impact and related timing:	• Improving security and access to health records and developing eGovernment services.

Part 4: Main policies, measures and actions contributing to the general objectives

	General objectives	Examples of areas where Member States can contribute
Investment incentives	See the objectives set out in Article 3(1)(e).	Support for projects with higher added value in accordance with Act No 72/2000 Sb., on investment incentives, as amended, focusing on projects of technology centres, strategic service centres and production of strategic products.
Collaborative research	See the objectives set out in Article 3(1)(d), (e), (f).	Support for research and development projects in enterprises, including collaborative (joint) research, carried out in cooperation with research organisations, according to the priorities of the National RIS3 Strategy, e.g. through a new subsidy programme for R&D support focused on Industry 4.0 and related key technologies or through the TWIST programme strengthening knowledge transfer, research, development and innovation in strategic technologies in order to increase the international competitiveness of Czechia.
Cybersecurity	See the objectives set out in Article 3(1)(k).	Providing trust and cybersecurity for the public administration of Czechia and comprehensive improvement of cybersecurity through the implementation of the tasks from the Action Plan to the National Cybersecurity Strategy of Czechia for the period 2021 to 2025. Preparations for a new National Cyber Security Strategy have now begun.
Online access to public services	See the objectives set out in Article 3(1)(a), (b), (c), (d), (g), (i), (j).	In connection with the implementation of the Act No 12/2020 Sb., on the right to digital service, the DIA has established a working group for the Act whose primary objective is to support the implementation of the Act by removing obstacles and creating an environment suitable for best practice. In order to improve the digitalisation of government services, a coordinated group has also been established at the level of the DIA, the Government Office and external consultants to contribute to the digitalisation of selected services that can be considered as examples of good practice.
Online access to public services	See the objectives set out in Article 3(1)(a), (b), (c), (d), (g), (i), (j).	The DIA has been operating since March 2023 and in accordance with the amendment of the relevant legislation, it is gradually taking over competences in the area of administration and development of basic registers, methodological support for public administration in the use of the cloud, development of shared eGovernment services, eID and other key projects. The DIA plays the role of coordinator for the use of shared eGovernment services and support for the interoperability of digital services of the State. It ensures the

		implementation of European regulations in the field of public administration data, eID, accessibility and cross-border interoperability. As a central authority of the State administration, it has statutory powers that enable it to effectively manage the digitalisation of the State and specific digitalisation and IT projects. The DIA is also developing new digital projects such as eDoklady, a unified and secure domain gov.cz, the Register of Representations and others.
Representation of women	See the objectives set out in Article 3(1)(b).	Setting up collaborative work within the Digital Learning Committee and the Digital Skills Framework on the topics of increased representation of women in IT and digital skills development.
Green and digital transformation	See the objectives set out in Article 3(1)(h) and (j).	Completion of the update of the Strategic Framework Czech Republic 2030, which also translates the global goals of the 2030 Agenda (SDGs) into the Czech environment. Its fulfilment will improve the quality of life in all regions and steer Czechia towards development that is socially, economically and environmentally sustainable. Within the framework of its update, the topic of the so-called dual transition, i.e. the link between green and digital transition, is also addressed, both in the overall orientation and directly in one of the specific objectives of the strategic framework.

Part 5: Cooperation at EU level

5.1 Multi-country projects

5.1.1 Overview (1)a. – Multi-country projects listed in the list of areas of activity in relation to multi-country projects in the Annex to the Decision to which the Member State has committed or intends to commit in the future

A network of local digital twins with progress towards the CitiVerse platform – European Digital Infrastructure Consortium (EDIC)	• The proposed project relates to one of the four general targets of the Digital Decade, namely the digitalisation of public services. Furthermore, it relates to one specific objective, namely the dissemination of digital solutions in areas of public interest and in the private sector and contributing to a sustainable digital transformation of society. • The budget is not yet known and it is subject to further discussion between the Member States involved and the EC. • The implementation mechanism of the project is not yet known and it is subject to further discussion between the Member States involved and the EC. • The EDIC will have an impact on increasing the efficiency of data use, ensuring interoperability between digital twins across MS (through the promotion of commonly accepted standards), promoting the sustainability and use of immersive technologies, and sharing the costs and benefits of promoting digital twins at European level. Last but not least, supporting the roll-out of digital twins will benefit cities in terms of positive impact on spatial planning, risk prediction, operation of public services, citizen participation, etc. • It will also support the industrial ecosystem for digital twins, in particular in the area of SMEs markets and EU industry. It will also carry out targeted training activities on digital solutions for smart cities. • Czechia is a founding member. • **Participating entities:** BE, CZ, HR, EE, ES, FR, LU, LV, PT, SI, SK
Alliance for Language Technology – European Digital Infrastructure Consortium (EDIC)	• This project aims to prepare data on European languages for AI training and develop “large language models” for different regions of Europe, including other than official languages. Through this initiative, ALT-EDIC seeks to enhance European digital competitiveness while preserving linguistic diversity and cultural heritage. • By strengthening European businesses through language technologies and AI-driven data, this EDIC will contribute to the fulfilment of Measure 3.7. • Czechia has been a member since 27 May 2024. • **Participating entities:** BG, CZ, DK, ES, FR, GR, HR, HU, IE, IT, LV, LT, LU, NL, PL, SI (countries considering participation: AT, BE, EE, MT, PT, RO, SK).
Genome EDIC	• This project aims to enable secure access to genomic data for the purposes of scientific research, personalised healthcare,

	and health policy development. Its outcome will be the establishment of a suitable technical infrastructure across the EU, ensuring secure and standardised access to genomic data within a governance framework that complies with GDPR and the upcoming European Health Data Space (EHDS) Regulation. This aligns with the digital goal of electronic health record access (Section 4c) and the broader objectives of creating secure, sustainable, and accessible data infrastructure. • The European Digital Infrastructure Consortium (EDIC) for Genomic Data Infrastructure (GDI) plays a central role in facilitating the integration of genomics into healthcare and establishing the European genomic data infrastructure. EDIC GDI is designed as a sustainable tool for implementing the 1+ Million Genomes initiative through the European Genomic Data Infrastructure. • **Participating entities:** BE, BG, HR, CY, DK, EE, FR, DE, EL, IT, LT, LU, NL, PT, RO, ES, SE (Czech Republic is considering participation).
Genome of Europe	• This is a large-scale project involving 29 countries, co-financed under the Digital Europe Programme, scheduled to launch in 2024. It aims to contribute to the objectives of the 1+ Million Genomes initiative. The project will connect European countries to build a high-quality European network of national genomic reference cohorts, representing the European population. • All participating countries will establish national genomic reference datasets through whole-genome sequencing, based on their own domestic populations, including both healthy and diseased individuals, in accordance with the "1+MG-ready" guidelines. These national collections will be interlinked via the 1+MG genomic data infrastructure, creating a world-class European reference data resource: Genome of Europe. This database will include at least 100 000 citizens' data, supporting medical research and innovation, individualised healthcare approaches, and disease prevention measures. • Budget: EUR 45 million (EUR 20 million from EU resources, EUR 25 million from national resources) • **Participating entities:** AT, BE, BG, CY, CZ, DE, DK, EE, EL, ES, FI, FR, HR, HU, IE, IT, LT, LU, LV, MT, NL, NO, PL, PT, RO, RS, SE, SI, TR
IPCEI Microelectronics and Communication Technologies	• It will support major innovation projects in, inter alia, processor and chip design for AI, chip design for communications (5G, 6G and others) and connectivity, the development and manufacture of these chips in the EU, advanced casing technologies for heterogeneous integration and semiconductor substrates for radio frequency and power devices, which will help restore capacity in areas where the EU is heavily dependent on imports of raw materials and technologies and ensure the competitiveness of EU industry in global markets. • Budget: EUR 57 million in R&D funding. • IPCEIs are strategic projects where a company can receive financial support provided that the subject meets the criteria set out in point 3 of the European Commission Communication (C/2021/8481).

	• The applicant undertakes to disseminate the knowledge gained through the support not only among partners but also within the EU. The interconnectedness of IPCEI participants leads to the ability of participants to advance digital transformation and the use of the latest technologies. • **Participating entities:** AT, FI, FR, DE, GR, IR, IT, MT, NL, PL, RO, SK, ES

5.2 Facilitating factors at EU level

Creation of a working group on AI in education

The Technology Agency of the Czech Republic has recommended the creation of an EU working group on AI in education. This would enable the monitoring of AI developments in educational processes across Member States, or activate joint working and consultation mechanisms in the EU Council. AI largely puts all Member States on a similar starting line. Sharing experiences would enable Czechia and other countries to overcome some of the deficits in the integration of digital technologies into pedagogical and non-pedagogical activities in schools.

The topic of AI with an overlap into education is currently addressed primarily within the activities of the Committee on Artificial Intelligence and the Committee on Digital Economy and Society under the Government Council for Information Society. At the level of the Digital Education Committee, discussions are underway to establish working groups focusing on specific topics in the field of digital education. One of the topics is AI and the use of available tools in the field of education.

Part 6: Stakeholder feedback

The original document was created on the basis of input and consultations with the Government's Digital Czech Republic concept and with members of the Committee for Czechia in Digital Europe (CDE), who were updated on the progress of its preparation through CDE Committee meetings and ongoing written comments. Members of the CDE Committee include, in addition to representatives of individual ministries, the National Cyber and Information Security Agency (NÚKIB), the Czech Telecommunication Office (CTO) and representatives of economic and social partners (the Confederation of Industry and Transport of the Czech Republic, the Czech Chamber of Commerce, the Czech-Moravian Confederation of Trade Unions and the Union of Towns and Municipalities of the Czech Republic). The Digital Agenda for Europe Unit has taken all the comments received into account as far as possible. The same process was followed to produce the current, revised version of the document.

The original document was presented for comments and remarks to the plenary and board of the Government Council for Information Society (GCIS), which is composed of representatives of selected ministries (MoI, MIT, MoRD, MoF, a deputy member of the Government in charge of the Legislative Council of the Government, a representative of NÚKIB, a representative of the Government Office of the Czech Republic, the DIA and a representative of the Government Office responsible for the European Digital Agenda, as well as a representative of the industrial sector and academia and civil society). These include, inter alia, representatives of the Czech Statistical Office, the Czech Office for Surveying, Mapping and Cadastre, the Office for the Protection of Competition, the Administration of State Material Reserves, the National Security Authority, the Czech Telecommunication Office, the Office for the Protection of Personal Data, the Association of Regions of the Czech Republic, the Association of Towns and Municipalities of the Czech Republic and the Association of Local Authorities of the Czech Republic, a representative of the Security Information Service, the Office for Foreign Relations and Information and the Military Intelligence Service, a representative of the Czech Chamber of Commerce and the Confederation of Industry of the Czech Republic, a representative of the trade unions represented in the Council of Economic and Social Agreement, representatives of academia and civil society.

The revision of the document was reported to the GCIS at its 11th meeting on 5 September 2024, where the main changes were discussed. The GCIS Plenary Session was also informed about the preparation at its 7th meeting on 24 June 2024.

The Committee for the EU was also informed of the progress of the original document (on the working level). The original document was unanimously approved by the members of the Committee for Czechia in Digital Europe and was endorsed by the GCIS before its final form was submitted to the European Commission in two language versions, Czech and English. At the same time, on 15 November 2023, Deputy Prime Minister for Digitalisation Ivan Bartoš submitted the original document to the Government of the Czech Republic, which took note of it. This revision, like the original document, has been approved by the Committee for Czechia in Digital Europe and the GCIS, and the European Union Working Level Committee has also been informed about the preparation.

Part 7: Overall impact and conclusion

The most important long-term strategy of Czechia in the area of meeting the targets and objectives of the Digital Decade 2030 is the Government's Digital Czech Republic concept, which includes most of the measures that contribute to the fulfilment of these targets and objectives and which are included in this document.

The Path to Europe's Digital Decade: The Strategic Plan for the Digitalisation of Czechia by 2030 is the umbrella document of the Czech digital strategy and covers a wide range of areas falling under the four Digital Decade targets. Part 1 mentions important Government initiatives and long-term strategies that are crucial for the digital transformation of Czechia. Part 2 sets national targets for each of the digital targets. Parts 3 and 4 then summarises the main measures that will facilitate the achievement of these targets and objectives.

Specifically in the area of digital skills, it is important for Czechia to increase the number of ICT specialists, which is the purpose of a number of measures mentioned in Part 3.1.1. Support for increasing the representation of women in ICT is also an important initiative related to the achievement of the general objectives.

Czechia scores well in the digital infrastructure indicators, especially in the area of connectivity. Expanding coverage of 5G and VHCN technologies is a long-term goal of the Digital Decade and several measures in Part 3.1.2 contribute to it. Czechia's contribution to the EU objective on quantum computing, specifically Measure 2.8 – Acquisition and operation of the quantum computer of the European consortium LUMI-Q, is also worth mentioning.

A number of measures are also directed at the digital transformation of businesses, where Czechia is counting on significant investments aimed at such digital transformation; these measures are mostly financed by the NPO. Two policies under the general objectives on investment incentives and collaborative research are also targeted at this area.

The last equally important area is the section on the digitalisation of public services. Especially in terms of online access to public services, Czechia maintains a level that more or less corresponds to the European level. Czechia has the lowest levels of access to health records, but several measures are already underway in this area that will contribute significantly to meeting the 2030 targets. In terms of access to electronic identification, Czechia has already notified three electronic identification systems in accordance with the eIDAS Regulation, thus largely contributing to the progress towards this digital objective. The establishment of the Digital and Information Agency was a major step in this regard in the past year.

Czechia will now continue to work diligentlyto meet the interim targets and objectives of the Digital Decade and maximise its potential in the field of digitalisation in line with this strategic document.

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