


Report:

CEE AI Challengers ²⁰²⁵

Analysis of EU strategies and recommendations
for the development of artificial intelligence
in Central and Eastern Europe



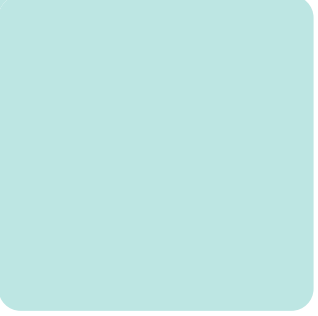
March 2025



(...) European society must encourage the more socially beneficial direction of AI and European leaders will need to invest in the necessary digital infrastructure, design regulations that do not discourage investment or drive away talented AI researchers, and create the kind of financing mechanisms that successful startups need to scale up. Without a robust AI industry of its own, Europe will have little to no influence on the direction of AI globally.

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No technology today is as forward-looking as artificial intelligence. Nor does any raise as many questions as AI. Either in regard to civilizational, economic or business issues. We have become accustomed to electricity, steam, or the Internet, and it will also be the case with artificial intelligence. “Nothing in life is to be feared, it is only to be understood”, said Marie Skłodowska-Curie. And our task, as representatives of business and industry, is to help artificial intelligence to be understood by companies, NGOs, public administration, local governments and the public. So that it can support their development wisely and effectively.

Like any revolution that offers an opportunity for growth, this one also brings challenges and risks. For our digital sector, artificial intelligence means influencing products and services that will reshape our work, education and personal lives. The ongoing revolution requires building the right social attitudes, the competencies needed to use the technology and to ensure security in the broadest sense. To reap the benefits of access to AI, we will need, among other things, cooperation between industry, governments and academia, as well as financial and institutional support for innovative companies and societies.

The following Report, which we have prepared together with experts and commentators within the CEE Digital Coalition, outlines both the challenges ahead of the industry and strategies adopted by European countries, along with the solutions that made these countries take the lead in rankings of innovation potential, while helping others pave their path to get there. We have also prepared recommendations for further action among countries, companies and societies, for the use of artificial intelligence in the digital future. We believe that their implementation will allow everyone to take full advantage of AI’s potential.



Michal Kanownik

President of Digital Poland Association

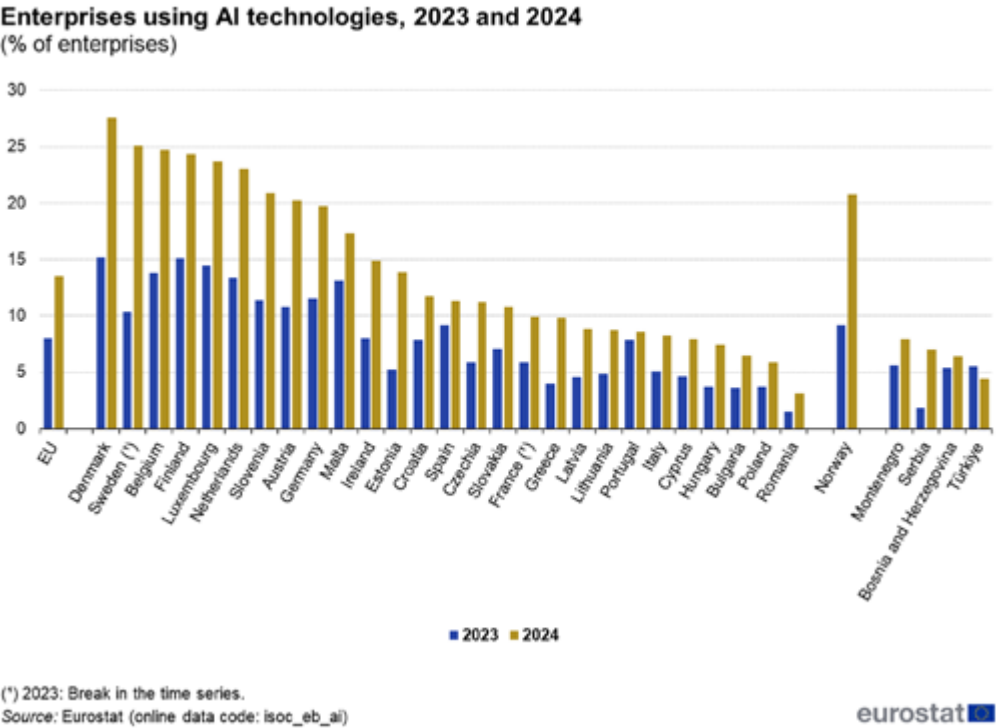


01. INTRODUCTION

The development of artificial intelligence is having an increasing impact on the economies of European Union countries, shaping their competitiveness, productivity and innovative potential. This is evidenced by an analysis of selected economic indicators, such as productivity, investment in research and development or the level of digitization.

According to Eurostat¹, in 2024 11.21% of small, 20.97% of medium-sized and 41.17% of large enterprises adopted AI to some extent. This difference can be explained, for example, by the complexity of implementing artificial intelligence technology in an enterprise, by economies of scale (i.e., enterprises with greater economies of scale may benefit more from AI) or by cost (i.e., investment in AI may be more affordable for large enterprises). A comparison of companies using at least one AI technology in EU countries shows that the share of companies using AI ranged from 3.07% to 27.58%.

The leaders in the adoption of artificial intelligence technology in business are Denmark (27.6%), Sweden (25.1%) and Belgium (24.7%). By comparison, only 5.9% of Polish companies use AI in their operations, which puts Poland below the EU average of 13.5%, ahead of only Romania (3.1%).



Source: Eurostat, Information "Use of artificial intelligence in enterprises".

1 https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Use_of_artificial_intelligence_in_enterprises



As indicated in “The ICT sector in the CEE countries as a regional driver of growth” report² prepared by PwC experts, commissioned by the CEE Digital Coalition, the CEE region shows great potential and can become the digital hub of the entire European Union. Indeed, it turns out that **CEE countries outperform Western Europe in several aspects, including the number of companies operating in the digital sector. CEE has an average of 3.9 ICT companies, compared to 2.1 in Western Europe (per 1,000 residents).** The region also enjoys higher employment share in the ICT industry - 4.8% versus 4.1% for Western Europe. **In addition, the region’s exports of ICT services grew more than sixfold between 2005 and 2021.**

However, CEE businesses and public administrations are still lagging behind Western Europe in terms of digital transformation, and the use of advanced solutions such as cloud computing, big data and HPC (High Performance Computing) is still at a relatively lower level. Moreover, the development of digital competencies among the younger generation has not kept up with the growth rate of the ICT sector, resulting in a shortage of specialists, especially in the fields of robotics and cybersecurity.

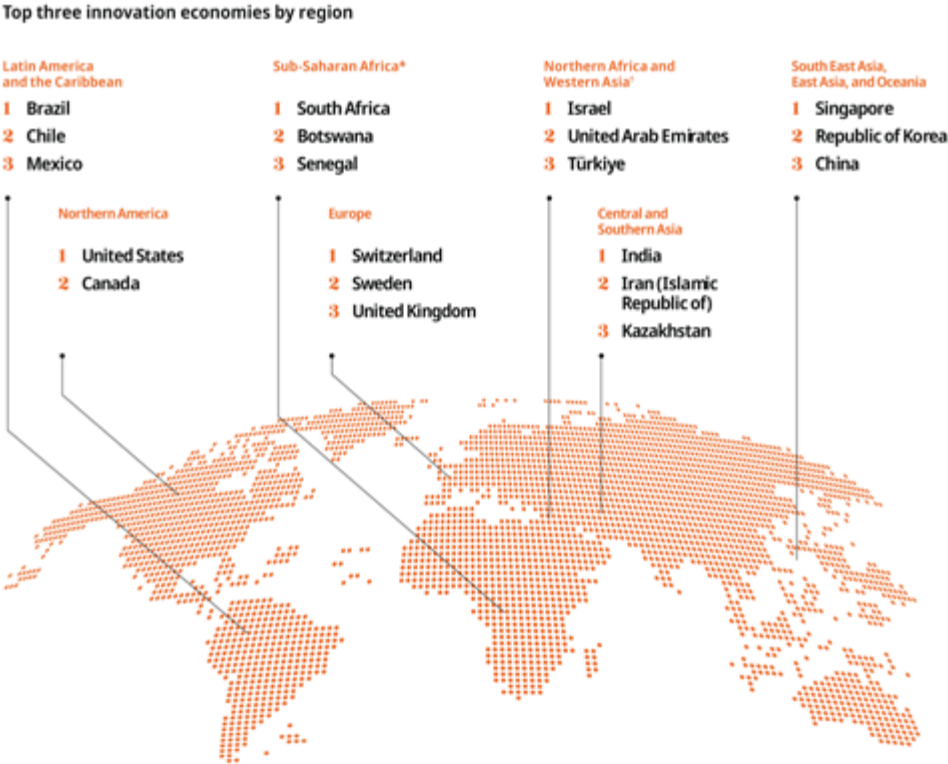
Slovenia spends the highest percentage of GDP on R&D among CEE countries (2.11% of GDP), with the Czech Republic and Estonia also in the lead (over 1.5% of GDP). Poland ranks in the middle of the pack, while Romania lags behind with a very low level of investment in innovation (0.46% of GDP) **In contrast, the global innovation leaders - according to the annual Innovation Index³ - are Switzerland, Sweden, the United States, Singapore and the United Kingdom.** Poland ranked 40th out of 133 countries assessed in the study, improving its position by one place compared to the previous year. Among European countries, **Poland is ranked 25th.** This position has fluctuated over the past few years. **The current advance shows some progress, but there is still a lot of work to be done. To get closer to the top, Poland needs to focus on increasing investment in research and development, improving the regulatory environment and fostering cooperation between the scientific community and the industry.**



2 https://ceedigital.org/assets/pdf/CEE_Digital_Coalition_Report_2024.pdf

3 <https://www.wipo.int/web-publications/global-innovation-index-2024/en/>

Global innovation leaders in 2024



Source: www.wipo.int/ Report “Global Innovation Index 2024 - Unlocking the Promise of Social Entrepreneurship 17th Edition”





EU and AI - activities and plans


In 2019, the then new President of the European Commission - Ursula von der Leyen, presenting a vision for the development of the European Union, among the priorities for 2019-2024, showcased the “A Europe fit for the digital age” strategy, dedicated to taking full advantage of the opportunities and possibilities created by the digital age. Among its many assumptions, it stipulated that digital technologies and solutions should: open up new opportunities for businesses, stimulate the development of trustworthy technologies, support open and democratic societies, enable a dynamic and sustainable economy, and help combat climate change. With this in mind, in February 2020, the European Commission adopted an overarching presentation of the Commission’s ideas and actions for shaping Europe’s digital future.

On August 1, 2024, the world’s first comprehensive regulation of artificial intelligence, the AI Act, proposed by the Commission in April 2021 and approved by the European Parliament and Council in December 2023, came into effect. It addresses potential threats to the health, safety and fundamental rights of citizens. It sets out a clear set of risk-based rules for developers and adopters of artificial intelligence with regard to its specific applications. The AI Act is part of a broader package of policy measures designed to promote development of trustworthy artificial intelligence, also including an artificial intelligence innovation package, goals of launching artificial intelligence factories and a coordinated artificial intelligence plan. Together, these measures guarantee security, respect for fundamental rights and ensure a human-centric approach to artificial intelligence, while increasing the rate of uptake, investment and innovation in artificial intelligence across the EU.





In February 2025, at the Artificial Intelligence Action Summit in Paris, European Commission President Ursula von der Leyen **announced the launch of the InvestAI initiative, which aims to mobilize €200 billion in investment for artificial intelligence development in the European Union.** The initiative will create a new €20 billion European fund to build AI gigafactories. These state-of-the-art computing centers will enable the open and collaborative development of the most advanced AI models, making Europe one of the key global players in this field.



InvestAI is to establish four AI gigafactories deployed in various EU countries. Their task will be to train the most complex and advanced AI models, requiring enormous computing power. **Each of these factories will be equipped with about 100,000 state-of-the-art AI chips, which is four times the capacity of currently emerging computing centers.** They will be the world's largest public-private partnership for the development of trusted artificial intelligence. Their main focus will be to support open innovation as well as industrial and strategic applications. This is also supposed to grant access to massive computing power to smaller companies and startups, allowing them to compete in the global market.

The European Commission has already announced **the establishment of seven AI factories and is expected to announce plans for five more soon.** The **€10 billion investment, co-funded by the EU and its Member States, is currently the largest public support for AI project in the world and is expected to attract up to 10 times more private investment.**





In addition to the InvestAI fund, the Commission is undertaking a number of activities in various fields to support innovation in the field of artificial intelligence in Europe, through efforts including:

- Financial support from Horizon Europe and the Digital Europe programs dedicated to generative artificial intelligence;
- Accompanying initiatives to strengthen the EU's generative AI talent pool through education, training, acquisition and re-skilling activities;
- Continuing to encourage public and private investment in AI startups and scale-ups, including through venture capital or equity support;
- Accelerating the development and implementation of common European data spaces shared with the artificial intelligence community, for which data is a key resource for training and improving their models;
- The "GenAI4EU" initiative, aiming to support the development of novel use cases and new applications in 14 European industrial ecosystems, as well as in the public sector. Application areas include robotics, health, biotechnology, manufacturing, mobility, climate and virtual worlds.

The Commission will also establish a European Artificial Intelligence Research Council, where Europe can pool resources and explore how it can harness the untapped potential of data to support artificial intelligence and other technologies. By the end of 2025, the Commission is expected to launch the "Apply Artificial Intelligence" initiative to stimulate industrial deployment of artificial intelligence in key sectors.





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Churchill once famously remarked, “However beautiful the strategy, you should occasionally look at the results.” While the EU has led the world in AI strategies and regulations, it has at times overlooked their real-world outcomes—or lack thereof. Today, Europe lags behind the US and China in a technology that is rapidly transforming businesses, science, governments, and—as we see in Ukraine—even the battlefield. AI is already reshaping the competitiveness of companies and nations alike and will play a crucial role in defining the winners of tomorrow.

With uncertainties surrounding the transatlantic alliance and an increasingly competitive China, Europe has no choice but to get AI right. Achieving this will require a fundamentally different approach. Instead of focusing solely on large-scale reforms and ambitious new programs that take years to implement, we should also seize quick wins—targeted changes that can be implemented swiftly and, collectively, make a significant impact on our competitiveness.



Some of these quick wins include revamping the taxation of share options and fast-tracking regulatory approvals to incentivize startups to stay in Europe. The EU should also implement a moratorium on new tech regulations while simplifying existing legislation and introducing the so-called 28th legal regime to create unified rules for European companies. Unlocking European pension funds for investments in the tech ecosystem will be critical in ensuring that ventures can scale and compete globally. Finally, governments must reform outdated procurement rules to open doors for European providers of trustworthy AI.

The Competitiveness Compass, presented by the European Commission in January 2025, is a step in the right direction. CEE countries, with their agility, pro-reform mindset, and strong IT industries, are uniquely positioned to lead the way. By embracing AI-driven innovation, they can not only close the gap with Western Europe but also emerge as key drivers of Europe's tech competitiveness.



02. SELECTED COUNTRIES AND THEIR STRATEGIES

Examples of European (non-EU) and EU Member States ranking high in the Global Innovation Index 2024

SWITZERLAND⁴

Ranking 1st among European countries in the Global Innovation Index 2024.

Switzerland spends 3.3% of its GDP annually on research and development (R&D), exceeding the European average.

Switzerland is the global leader in terms of the number of patent applications per million inhabitants.




Switzerland, while lacking a unified national AI strategy, is actively promoting the development and implementation of AI through a number of initiatives and regulatory frameworks. In December 2019, the Swiss Federal Council adopted the report of the Interministerial Working Group on Artificial Intelligence, which highlighted that the country has a solid foundation to support the development of AI and to address the challenges posed by the technology.

A key element of the Swiss approach to AI is investment in education and the development of digital competencies at all levels. The State Secretariat for Education, Research and Innovation (SERI) promotes the integration of AI issues into curricula to prepare young generations for working with modern technologies. In addition, universities such as ETH Zürich and EPFL Lausanne are playing a key role in AI research, working closely with the private sector.

⁴ <https://www.money.pl/gospodarka/co-laczy-zegarki-i-czekolade-ze-sztuczna-inteligencja-kwantami-i-robotami-7017215415495488a.html>
https://ai-watch.ec.europa.eu/countries/switzerland/switzerland-ai-strategy-report_en



Switzerland, which has topped the Global Innovation Index for 14 consecutive years, has consistently built its position as one of the key centers of AI innovation. The country is home to many startups and technology companies developing artificial intelligence, especially in the financial, pharmaceutical and robotics sectors. Research institutes and technology centers, such as IDSIA's Swiss AI Lab and the AI Center at ETH Zürich, conduct intensive research into AI algorithms and their applications in industry.



SWEDEN⁵

2nd place among European countries in the Global Innovation Index 2024.

Sweden spends 3.4% of its GDP annually on research and development (R&D), exceeding the European average.

Sweden has been consistently developing artificial intelligence for years, with an emphasis on integrating the technology into various sectors of the economy and society. In December 2023, the Swedish government established a special commission on AI, chaired by Carl-Henric Svanberg, CEO of Volvo and former CEO of Ericsson. The commission's goal is to conduct an in-depth analysis of the state of AI in the country, covering educational, legal, security and funding aspects of innovation.

Sweden has also created a comprehensive AI strategy. The strategy has been developed with input from experts in Sweden, Canada, the US and Singapore, and inspired by AI strategies from other EU Member States, Canada, the United States, the UK, Germany and Singapore.

It highlights four key issues:

- **Sustainability and value creation**

AI is expected to support the development of a sustainable society, becoming a tool for addressing climate, public health and education issues.

- **Cross-sector cooperation**

The success of the strategy depends on partnerships between the public sector, the private sector, academia and civil society. AI Sweden, as the national center for AI, is coordinating these efforts.

⁵ <https://skandynawiainfo.pl/rzad-szwecji-powoluje-komisje-ds-sztucznej-inteligencji/>
https://www.linkedin.com/posts/krzysztof-chibowski-a7a935_an-ai-strategy-for-sweden-activity-7283625506522980352-3pTD/
https://www.linkedin.com/posts/krzysztof-chibowski-a7a935_seria-wielka-siódemka-ai-zamknięta-activity-7287626793484767232-pwn_/
<https://strategy.ai.se>
<https://digital-strategy.ec.europa.eu/pl/news/seven-consortia-selected-establish-ai-factories-which-will-boost-ai-innovation-eu>
<https://polskiprzemysl.com.pl/wiadomosci-ze-swiatea/centrum-robotyki-abb/>



- **Leadership and bold decisions**

The strategy emphasizes investment in research, education and international cooperation with leading AI players such as Canada, the US and Singapore.

- **Measuring progress**

Sweden is introducing a systematic framework for monitoring progress to measure results and adapt the strategy to changing conditions.

International relationships and strong leaders from both the private and public sectors are playing a key role in driving this effort. This document is intended to serve as a guide for politicians, business leaders, policymakers and officials, helping them navigate Sweden and individual organizations through one of the most transformative periods in history.

As part of European initiatives to support the development of artificial intelligence, Sweden has been chosen as one of the locations for so-called “AI Factories.” In December 2024, the Joint Undertaking for European Large-Scale Computing (EuroHPC) announced the establishment of seven such centers in Europe, one of which, dubbed “MIMER”, will be built at Linköping University. These state-of-the-art centers will serve as research and technology hubs for training advanced AI models and developing innovative solutions in the field.

In addition, Sweden’s ABB has announced a plan to invest \$280 million in a new robotics campus in Västerås in 2023. The 65,000-square-meter state-of-the-art facility will integrate automated manufacturing, R&D and training centers, focusing on next-generation AI-based technologies. The initiative aims to strengthen Sweden’s position as a leader in robotics and automation.



UNITED KINGDOM⁶

5th place among European countries in the Global Innovation Index 2024.


The UK spends 2.9% of its GDP annually on research and development (R&D), exceeding the European average.

In 2021, the British government unveiled the National AI Strategy, setting out a ten-year plan to develop artificial intelligence in the public and private sectors. The goal is to make the UK the world's leading center for AI research and deployment. The strategy focuses on long-term investment, fostering innovation and creating an appropriate regulatory framework.

In January 2025, Prime Minister Keir Starmer announced the AI Opportunities Action Plan initiative, under which private technology companies pledged to invest £14 billion to develop AI infrastructure in the UK. The plan calls for the creation of 13,250 new jobs and the establishment of "AI growth zones" such as the one in Culham, Oxfordshire. The investments are aimed at accelerating the construction of state-of-the-art data centers and research and development facilities.





Another element of the 10-year National AI Strategy is the establishment of uniform technical standards for AI. To this end, an AI Standards Hub has been established, led by the Alan Turing Institute in collaboration with the British Standards Institution and the National Physical Laboratory. The goal is to create an enabling environment for AI development through regulatory changes, development of an AI ecosystem, and development of practical tools for businesses so that the technology contributes to innovation, investment, and protection of society.

⁶ <https://www.fintech.gov.pl/component/content/article/wielka-brytania-okresla-model-regulacji-dla-sztucznej-inteligencji>
<https://itreseller.pl/wielka-brytania-przedstawia-plan-o-wartosci-14-mln-funtow-na-rzecz-ai/>
<https://fintech.gov.pl/en/component/content/article/wielka-brytania-opracuje-jednolite-standardy-ai?Itemid=101>
https://www.linkedin.com/posts/krzysztof-chibowski-a7a935_ai-management-essentials-activity-7260565558830489600-Bher/
<https://www.gov.uk/government/consultations/ai-management-essentials-tool>
<https://www.gov.uk/government/consultations/ai-management-essentials-tool/guidance-for-using-the-ai-management-essentials-tool>



Another UK tool supporting AI is AIME - AI Management Essentials. This is an initiative by the UK's Department for Science, Innovation and Technology (DSIT) to help organizations responsibly manage artificial intelligence systems. AIME is designed to help companies assess and implement AI management practices

AIME's main goal is not to directly evaluate AI-based products or services, but to focus on the internal processes of organizations that enable the responsible creation and use of these products. AIME is mainly aimed at small and medium-sized enterprises and startups that may face difficulties in navigating the rapidly changing landscape of AI standards and governance frameworks.



THE NETHERLANDS⁷

8th place among EU countries in the Global Innovation Index 2024.

The Netherlands spends 2.3% of its GDP annually on research and development (R&D).

In January 2024, the government published a document titled “Rijksbrede visie op generatieve AI” (Government-wide vision of generative AI), providing a description of the development and future of artificial intelligence in the country. The document highlights the potential of generative AI as a promising technology, while drawing attention to the challenges of protecting human well-being, sustainable development, justice and security.

To realize and stimulate Dutch AI activities, the Dutch AI Coalition (Nederlandse AI Coalitie - NL AIC) was established in October 2019. This is a public-private partnership set up to accelerate the development and application of responsible artificial intelligence in the Netherlands. The coalition brings together more than 486 organizations, including companies, research institutions, social organizations and government bodies. Its main goal is to combine the knowledge and experience of different sectors so that AI contributes to the prosperity and well-being of society as a whole.

NL AIC organizes events such as the Nederlandse AI Congres, which connects experts, entrepreneurs and policy makers to discuss the latest trends and challenges in AI. The last edition of the congress was held on April 24, 2024 in Amersfoort.

⁷ <https://www.rijksoverheid.nl/documenten/rapporten/2024/01/01/overheidsbrede-visie-generatieve-ai>
<https://nlaic.com/en/>
<https://nlaic.com/nl-aic-congres-2024/https://www.aihub-oost.nl/en>



Another Dutch project is the AI Hub Oost-Nederland, a regional initiative with a goal of supporting the development and implementation of artificial intelligence in the eastern part of the Netherlands. The Hub focuses on sectors such as agriculture, energy, industry, healthcare and education, offering advice to startups, SMEs and large companies, looking to implement AI in their operations. The Hub provides access to a network of experts, support programs and funding opportunities for AI-related projects.



GERMANY⁸

9th place among EU countries in the Global Innovation Index 2024.

Germany spends 3.1% of its GDP annually on research and development (R&D). It is the EU Member State with the highest rate of investment in AI.

Germany is consistently developing its AI strategy, aiming to consolidate its position as a leader in this field both in Europe and globally. A key document in this regard is the National AI Strategy, adopted in November 2018 and updated in December 2020.

The strategy is based on three main pillars:

- **Strengthening AI research and development** - the goal is to make Germany and Europe a leading center for artificial intelligence research to ensure the country's economic competitiveness.
- **Responsible implementation of AI** - the focus is on the development and application of AI in a responsible manner for the benefit of society.
- **Integrating AI into society** - the strategy addresses ethical, legal, cultural and institutional aspects through social dialogue and appropriate policy actions.

Germany's federal government has pledged to increase planned spending of €3 billion to promote artificial intelligence by an additional €2 billion, bringing the total to €5 billion by 2025.

Germany has also established a network of six AI competence centers, which form a nationwide network for cooperation between research units. The centers receive a combined funding of €50 million a year and focus

⁸ https://ai-watch.ec.europa.eu/countries/germany/germany-ai-strategy-report_en
www.bmbf.de/EN/Research/EmergingTechnologies/ArtificialIntelligence/artificialintelligence_node.html
https://www.linkedin.com/posts/krzysztof-chibowski-a7a935_hammerhai-ai-supercomputing-activity-7285808204121260034-wXmR?utm_source=share&utm_medium=member_desktop



on various aspects of research and AI applications, including industry, medicine, agriculture, and analysis of the ethical and social implications of AI.

The HammerHAI consortium - led by the High-Performance Computing Center (HLRS) of the University of Stuttgart - is creating an advanced AI Factory supported by the EuroHPC Joint Undertaking, as well as German ministries and state governments.

The project, with a budget of around €85 million, will feature state-of-the-art supercomputing infrastructure optimized for AI applications and comprehensive services - from training and consulting to a fully secured computing environment. Leading German HPC institutions Leibniz Supercomputing Center, Gesellschaft für wissenschaftliche Datenverarbeitung Göttingen, Karlsruhe Institute of Technology and SICOS BW have joined the consortium. The result will be a place where researchers, startups, SMEs and industrial companies from across Europe can develop and deploy AI solutions in a safe, efficient and expert-supported manner.

The project will support the German government and public entities through:

1. Providing a secure infrastructure in Europe - HammerHAI will operate in Germany, which enables the processing of sensitive public sector data.
2. Development of AI competencies in administration - courses and training in artificial intelligence are planned.
3. Support for research and development projects (e.g., environmental, health or sociological research), and in conducting advanced analyses (e.g., phenomena modeling, big data processing).
4. The ability to implement innovations at the regional and federal levels in the area of e-services (e.g., intelligent systems for managing roads, energy infrastructure or social communication).
5. Establishing a single place to integrate various initiatives - The project collaborates with German and European AI support programs (including KI Service Zentren and EuroCC).

DENMARK⁹

10th place among EU countries in the Global Innovation Index 2024.

Denmark spends 2.9% of its GDP annually on research and development (R&D).

Denmark's National AI Strategy, released in March 2019, sets goals and visions for AI development in Denmark. The strategy focuses on four main areas:

- Developing a common, ethical and human-centered basis for AI;
- Prioritizing and support AI research;
- Encouraging Danish businesses to develop and use AI;
- Ensuring that the public sector uses AI to provide top-notch services to citizens and the public.

Denmark promotes itself as a high-quality AI ecosystem with a well-developed R&D infrastructure and access to a skilled workforce. The country offers companies the opportunity to easily access cutting-edge technologies as well as business and research partners. The Danish government and public institutions offer various forms of support for AI companies, from R&D funding to tax reliefs. The goal is to attract international investment in AI-related technologies. The country is betting on the development of AI, offering companies access to advanced tools as well as to big data, which is a key part of the technology's development.

⁹ https://ai-watch.ec.europa.eu/countries/denmark/denmark-ai-strategy-report_en
<https://en.digst.dk/strategy/the-danish-national-strategy-for-artificial-intelligence>
<https://investindk.com/ai-in-denmark>
<https://www.aicentre.dk>



The Pioneer Center for AI is a research center initiated by the Danish Ministry of Higher Education and Science. It was established in close cooperation and with co-financing from the Ministry, universities and private foundations. Its goal is to conduct groundbreaking research on human-centered AI. The facility focuses on developing ethical and responsible technologies that have a positive impact on society and promote scientific and economic development.

One of the center's main tasks is to conduct interdisciplinary research on AI, including both technical and ethical aspects. Researchers are working on AI algorithms and systems that are more transparent, understandable and safe to use. Research also includes the development of methods to make AI more fault-tolerant and its ability to collaborate with humans in various fields, such as medicine, climate and education.

The Pioneer Center for AI also offers support for innovative projects and startups developing AI technologies. The center acts as a hub for cooperation between researchers, businesses and public institutions, facilitating knowledge exchange and testing new solutions in practice.



FRANCE¹⁰

12th place among EU countries in the Global Innovation Index 2024.

France spends 2.2% of its GDP annually on research and development (R&D).¹¹

France has been intensively developing its artificial intelligence strategy for several years, aiming to consolidate its position as an international leader in this field. The first phase of the national AI strategy (SNIA) was launched in 2018, with a budget of around €1.5 billion. Its main goal was to strengthen research capacity by creating a network of interdisciplinary AI institutes, supporting doctoral programs and investing in computing infrastructure for public research. This phase also included the “Confiance.ai” program, focusing on developing secure and reliable software tools for critical sectors such as energy, defense and autonomous transportation.

The second phase of the strategy, covering years 2021-2025, focuses on increasing the number of AI professionals and accelerating research and development for the economy and public services. Promoting the ethical use of AI, while respecting fundamental rights, is also its important element. In 2023, the “IA-cluster” initiative was announced, with the goal of transforming 5 to 10 universities and colleges into the world’s leading AI centers, with a budget of €500 million. In addition, a €25 million “IA Booster France 2030” program was launched to help small and medium-sized enterprises adopt AI solutions.

¹⁰ https://fr.wikipedia.org/wiki/Strat%C3%A9gie_nationale_pour_l%27intelligence_artificielle
<https://www.inria.fr/en/french-national-artificial-intelligence-research-program>
<https://www.reuters.com/technology/artificial-intelligence/details-110-billion-euros-investment-pledges-frances-ai-summit-2025-02-10/>

¹¹ [https://www.europarl.europa.eu/RegData/etudes/ATAG/2024/760392/EPRS_ATA\(2024\)760392_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/ATAG/2024/760392/EPRS_ATA(2024)760392_EN.pdf)



In February 2025, at the AI Summit in Paris, President Emmanuel Macron announced investment commitments of €109 billion to further develop the AI sector in France. Key investors included the Canadian company Brookfield, which pledged €20 billion, and the United Arab Emirates with a potential contribution of up to €50 billion. Amazon plans to invest more than €1.2 billion in cloud infrastructure, while Digital Realty will commit €6 billion to data centers in Paris and Marseille. In addition, Nvidia-backed startup Mistral AI intends to launch Europe's largest supercomputer and increase cooperation with French companies.



SPAIN¹²

28th place among EU countries in the Global Innovation Index 2024.



Spain spends 1.4% of its GDP annually on research and development (R&D).

The document that defines the Spanish approach to AI is the National Strategy for Artificial Intelligence (Estrategia Nacional de Inteligencia Artificial, ENIA), announced in 2020. The strategy aims to create a policy framework to support the development and implementation of AI in the economy and society, and takes a multidisciplinary approach, addressing economic, social, environmental and public management and corporate governance challenges. It encompasses perspectives from multiple sectors and disciplines, seeking to align national regulations with the European Union's AI policy.

As part of ENIA, Spain is focusing on developing human capital through education, training and attracting talent from home and abroad as well as strengthening research to make Spain a leader in the field of AI. The Spanish government has earmarked public investment of €600 million for 2021-2023 to support the development of AI technologies, education and the implementation of innovations in various sectors of the economy.

Promotion of the Spanish language in artificial intelligence systems is also an important part of the strategy, which is supposed to allow AI technology to be better integrated with local social and economic needs. January 2025 featured the unveiling of Alia, an artificial intelligence model developed

¹² https://ai-watch.ec.europa.eu/countries/spain/spain-ai-strategy-report_en
<https://elpais.com/tecnologia/2025-01-20/el-gobierno-lanza-alia-el-modelo-espanol-de-ia.html>
<https://alia.gob.es/eng/>
https://www.linkedin.com/posts/krzysztof-chibowski-a7a935_zgodnie-z-obietnicą-oto-kolejna-fabryka-ai-activity-7274925295185391616-06sJ/
<https://elpais.com/tecnologia/2024-12-10/el-gobierno-y-la-generalitat-impulsan-la-primera-fabrica-de-inteligencia-artificial-en-barcelona.html>



in Spanish and regional languages such as Catalan, Galician, Valencian and Basque. Alia is a public and open-source tool aimed at improving the quality of AI models trained mainly in English, which will increase their effectiveness in a Spanish-speaking environment. The government has allocated €10 million for the development of Alia.

In December 2024, it was announced that Spain will host one of seven European Artificial Intelligence Factories (AI Factories). The initiative, led by the Barcelona Supercomputing Center (BSC), aims to democratize access to computing infrastructure and foster AI innovation and development for both large enterprises, small and medium-sized companies and startups. The project, approved by the European Commission and scheduled for implementation in 2025, has received more than €174 million in investment, from the Spanish government, the Generalitat de Catalunya and the European Union.



GREECE¹³

45th place among EU countries in the Global Innovation Index 2024.

Greece allocates 1.5% of GDP annually to research and development.

The High-Level Advisory Committee on Artificial Intelligence was established in November 2023 in Greece, coordinated by the Special Secretariat of Foresight. Its mission was to formulate a national policy for exploiting the potential of AI. To this end, a document called “A Blueprint for Greece’s AI Transformation” was created.

The document analyzes the current state of AI technology in the country, the key challenges, and proposes measures to accelerate the implementation of AI in various sectors of the economy and government. The plan emphasizes the development of innovative technologies, digital transformation and building an AI ecosystem based on cooperation between the public, private and academic sectors. One of the main goals is to create an infrastructure to support AI research and development, as well as to increase the level of investment in the field. Greece plans to promote talent development by offering specialized education and training programs to prepare the workforce for the future challenges of automation and digitization.

One of Greece’s most ambitious projects is the “Pharos AI Factory” aiming to create one of Europe’s key innovation hubs. Scheduled to start in March 2025, the project is part of the EuroHPC Joint Undertaking and has a budget of €30 million, co-financed in equal parts by the European Union and the Greek government. Pharos AI Factory will focus on providing advanced computing resources to researchers, companies and public institutions, using

¹³ <https://foresight.gov.gr/en/studies/A-Blueprint-for-Greece-s-AI-Transformation/>
https://www.linkedin.com/posts/krzysztof-chibowski-a7a935_grecja-fabryka-ai-pharos-nowy-a-raczej-activity-7278195855134740480-3i2w/



the DAEDALUS supercomputer. The Greek organization GRNET, operating under the supervision of the Ministry of Digital Governance, is responsible for the project. The National Research Center “Demokritos”, the National Technical University of Athens (NTUA), the Athena Research Center and GrowthFund are also involved. Pharos AI Factory will focus on several key areas, such as the application of AI in healthcare, culture, language and sustainable development, with an emphasis on compliance with European regulations.

Greece also has its local language model, Meltemi, developed by the Institute for Language and Speech Processing (ILSP) under the Athena Research & Innovation Center. The name refers to the strong summer winds blowing over the Aegean Sea, symbolizing strength and dynamism, and the language itself is based on the architecture of Mistral-7B and has been trained on high-quality Greek texts, making it excellent at understanding and generating content in New Greek. This is not only a breakthrough for the Greek language, but also proves that open models can compete with commercial solutions, offering greater control and flexibility. This opens the door to the development of local technologies and applications in education, medicine or culture.¹⁴



14 https://www.linkedin.com/posts/krzysztof-chibowski-a7a935_ostatnio-dosta%C5%82em-ciekawe-pytanie-od-agnieszka-activity-7281263024366112768-UHn6/?utm_source=share&utm_medium=member_desktop&rcm=ACoAAAjRr4BaAcFhDrf2NqYQISRLdWvIWTD_2g

CEE REGION


BULGARIA¹⁵

38th place among EU countries in the Global Innovation Index 2024.

Bulgaria spends 0.8% of GDP annually on research and development.

Bulgaria adopted its National Artificial Intelligence Strategy in December 2020, developed by researchers from the Bulgarian Academy of Sciences and experts from the Ministry of Transport, Information Technology and Communications. The strategy, titled “Concept for the Development of Artificial Intelligence in Bulgaria until 2030” sets goals for the coming decade, focusing on areas such as infrastructure, data availability, research and innovation, education and building public trust. Its areas of focus include developing a solid AI knowledge and skills base, strengthening research capacity, fostering innovation, building reliable infrastructure, securing sustainable funding, and creating a regulatory framework aligned with international ethical standards.



¹⁵ https://ai-watch.ec.europa.eu/countries/bulgaria/bulgaria-ai-strategy-report_en
https://www.linkedin.com/posts/krzysztof-chibowski-a7a935_artificial-intelligence-in-bulgaria-until-activity-7268901225755025409-vm0Y/
<https://www.mtc.government.bg/sites/default/files/conceptforthedevelopmentofaiinbulgariauntil2030.pdf>
<https://www.trade.gov.pl/aktualnosci/sztuczna-inteligencja-w-unii-europejskiej-liderzy-i-outsiderzy>



In the field of education, Bulgaria's Ministry of Education and Science is taking steps to integrate AI tools into the teaching process, increase student participation in STEM subjects (STEM, short for: Science, Technology, Engineering, Mathematics) and expanding undergraduate and graduate programs to include AI-related courses. There are also plans to increase the number of doctoral students in the field of artificial intelligence, as well as to improve teachers' competence in digital technology and AI. In addition, the strategy emphasizes vocational training, retraining, offering short-term courses and internships in programming and data analysis.

To support research and innovation, Bulgaria has updated its National Research Strategy 2017-2030 and the National Science Infrastructure Roadmap. The AI strategy emphasizes the need for investment in infrastructure, including high-performance computing, secure data collection and processing, 5G connectivity and modern software, with the aim of laying a solid foundation for the development and deployment of AI technologies.

Despite these initiatives, Bulgaria lags behind other European Union countries in terms of implementing artificial intelligence in companies. According to Eurostat's 2025 data, only 6.5% of Bulgarian companies with at least 10 employees are using AI solutions, placing the country among the least developed in the EU in this regard.



CROATIA¹⁶

43rd place among EU countries in the Global Innovation Index 2024.

Croatia spends 1.4% of GDP annually on research and development.

The direction of AI development in Croatia is set by, among others, two documents: “National Development Strategy of the Republic of Croatia until 2030” and “Strategy for Smart Specialization until 2029”. The former highlights the role of AI in reshaping of the economy, as a key driver of digital and economic transformation, with the potential to both increase productivity and replace traditional jobs. Technologies such as the Internet of Things (IoT), big data analytics, virtual reality, robotics and machine learning are highlighted as priorities for economic development. The document emphasizes the need to increase the level of digital maturity of Croatian companies so that they can realize the full potential of AI and announces planned support for new digital industries based on AI and data, investment in the development of super-computing, cyber security and artificial intelligence as priority technologies for Croatia’s future. In the context of AI implementation, the strategy takes into account the need for regulations to protect citizens’ privacy and rights. It emphasizes the importance of avoiding technological monopolies and the dangers of concentrating AI resources in the hands of a few corporations.

The second strategic document highlights the importance of AI in sectors such as FinTech, EdTech, LegalTech and creative industries. The document also points to the existence of the Centrum za umjetnu inteligenciju i kibernetičku sigurnost (AIRI) at the University of Rijeka and the Regional centra izvrsnosti za robotske tehnologije (CRTA) at the University of Zagreb, indicating a drive to develop AI in research and education.

¹⁶ https://ai-watch.ec.europa.eu/countries/croatia/croatia-ai-strategy-report_en
<https://vlada.gov.hr/vijesti/novi-krug-izdanja-trezorskih-zapisa-ciljanog-iznosa-800-milijuna-eura/43822?lang=pl>



As part of national initiatives, Croatia has invested heavily in the development of the technology sector. In February 2025, a €35 million agreement was signed with Infobip, Croatia's first "unicorn" for projects of common European interest. In addition, the Minister of Regional Development and European Funds, Šime Erlić, announced a €38.5 million investment in the construction of a Gaming Industry Center in Novska. This project includes the construction of a dormitory, a university department, and sports and energy infrastructure, with the aim of transforming the Sisak-Moslavina region from a traditional heavy industry hot-spot to a modern technology hub.

In February 2025, Prime Minister Andrej Plenković attended the AI Action Summit in Paris, where a global approach to AI development and regulation was discussed. The summit emphasized the need to support AI-powered technologies and establish an appropriate legal framework to ensure human control over AI development.



LITHUANIA¹⁷


35th place among EU countries in the Global Innovation Index 2024.

Lithuania allocates 1% of GDP annually to research and development.

Lithuania was one of the first EU countries to adopt an AI strategy as early as 2019 and is aiming to become a key AI hub in Central and Eastern Europe. In March 2019, the Ministry of Economy and Innovation published the “Lithuanian Artificial Intelligence Strategy: a vision for the future” document developed by a working group of representatives from the private sector, academia and government institutions. Among other things, the strategy aims to improve AI skills and education for all citizens, strengthen the country’s AI research and innovation ecosystem, and increase the implementation and use of AI in all sectors of the economy, both private and public.

In terms of education, Lithuania is focusing on the development of AI competencies at all levels of education, starting at its early stages. Reforms of the primary and secondary education system are being recommended that would introduce AI fundamentals as a learning objective and increase the number of courses that develop technical skills. In addition, it is planned to modernize the teaching of STEM subjects and support teachers to improve the quality of AI education. At the higher education level, AI-related master’s and doctoral programs are expected to be introduced. As of mid-2020, an “Elements of AI” course, aimed at all citizens, is available in Lithuanian in cooperation with Kaunas University of Technology and the AI Boost initiative at the Agency for Science, Innovation and Technology.

¹⁷ https://ai-watch.ec.europa.eu/countries/lithuania/lithuania-ai-strategy-report_en
https://www.linkedin.com/posts/krzysztof-chibowski-a7a935_lithuanian-artificial-intelligence-strategy-activity-7292453174047600641-ya75/



Lithuania is implementing a so-called AI sandbox, a test environment for startups to allow them to experiment before full regulatory implementation. The government has already allocated €15 million to support AI startups and €110 million to digitize the public sector, where AI will play a key role. Successful Lithuanian AI companies include Spike (\$3.5 million for IoT data analysis in the health sector), Unmanned Defense Systems (€3.2 million for defense AI) and CAST AI (\$55 million investment in the cloud).

Lithuania also engages its global diaspora of AI experts, which supports knowledge transfer and attracts international investment. It also has advanced infrastructure, including the “HPC Saulėtekis” supercomputer used in scientific research. Following Sweden’s strategy, Lithuania is not limiting itself to theoretical plans - AI realistically supports modernization of the public sector, construction of innovation-friendly regulations, industrial development and education of digital talent.



OPINIONS



Johannes KOCH


Managing Director Central Europe,
Hewlett Packard Enterprise

Shortly after the bursting of the Internet bubble at the turn of the millennium, the editor-in-chief of Harvard Business Review, Nicholas G. Carr, turned head-on against the prevailing axiom that IT is the new key to competitive advantage. IT is becoming a commodity, he argued, hence no single company will be able to set itself apart from the competition with it. “IT Doesn’t Matter” was the headline of his widely discussed article.

Today, generative AI is another technology that everyone trusts to disrupt the rules of competition. And, again, there is every reason to ask the question: Does AI matter?

We often hear that you can achieve productivity advantages with AI. But the more mature commercial AI solutions become, and the more best practices are adopted, the less increased productivity will be a competitive advantage.

At the same time, there are many indications that we are heading for a similar market concentration for generative AI as for cloud computing. There is a natural gravity towards AI services offered by the US cloud giants.



How can we prevent history from repeating itself? The answer is often: With digital sovereignty – understood as a combination of AI from European providers, open-source software, and compliance with European regulations.

Does it solve the problem? It defends “European values,” and you gain control – but it doesn’t create competitive advantages. These only arise when you do similar things better than the competition, or when you do them differently to create a unique value proposition for customers. That is where AI starts to matter.

Many companies lack adequate expertise to execute a superior and unique AI strategy, so they have to buy the necessary services from outside – this is unproblematic as long as they keep dependencies on individual suppliers within limits.

Such independence is not achieved by choosing European instead of American or Chinese suppliers – but by ensuring that each supplier is interchangeable without excessive switching costs. An open, hybrid architecture is the best prerequisite for ensuring interchangeability.

The biggest obstacles to this development are not a lack of capital or technical expertise, but a lack of leadership and imagination. Companies must start treating data and AI as means of production in the same way as raw materials, machines and vehicle fleets. Then, there is also a good chance that not a monoculture of standardized AI services will emerge, but a diverse ecosystem.

SLOVAKIA¹⁸

46th place among EU countries in the Global Innovation Index 2024.

Slovakia allocates 1% of GDP annually to research and development.

The Slovak Republic has taken significant strides to support the research and adoption of artificial intelligence (AI), recognizing its transformative potential for the economy, public administration, and society. The government's efforts are guided by comprehensive strategies, particularly the Action Plan for the Digital Transformation of Slovakia 2023 - 2026. This plan consists of planned governmental actions with regards to the support of the business environment, encouraging business-academia cooperation, taking uptake of AI applications in healthcare, implementing AI-based solutions into public e-gov services as well as boosting education on AI at all levels.

The Slovak government has also introduced several funding mechanisms to support projects with a focus on research, development and deployment of AI solutions. Artificial Intelligence is a key horizontal priority in the national Smart Specialization Strategy, a national strategy on funding research and innovation. Among other initiatives, the government has co-funded european digital innovation hubs that provide consulting, training and testing for Slovak small and medium sized companies with a focus on key technologies, in particular AI.

¹⁸ <https://digital-skills-jobs.europa.eu/en/actions/national-initiatives/national-strategies/slovakia-2030-digital-transformation-strategy>

<https://mirri.gov.sk/wp-content/uploads/2019/10/SDT-English-Version-FINAL.pdf>



Slovakia has been also investing into the infrastructure of high performance computing (HPC). Through its National Recovery and Resilience Fund, it has supported construction of a national supercomputing centre that should be operational by 2026. Also, there are private investments underway that will even increase Slovak capacity in computing power. National supercomputing centre will serve academic as well as private entities and will enable AI-based research and applications.

Slovak representatives also play a very active role on the international stage. Slovakia is currently co-chair of the Global Partnership on AI (GPAI), a leading international initiative with the aim of crafting recommendations on AI policies. Next GPAI summit will take place in Bratislava, Slovakia in November 2025.





Michal CIZ

Program Director,
SAPIE – Slovak Alliance for Innovation Economy



AI is rapidly transforming industries and economies worldwide, with its growth trajectory pointing to profound impacts on productivity, innovation, and GDP. It will undoubtedly become a new engine of economic growth. The global AI market is projected to grow by 38% in 2025, reaching a value of almost 245 billion \$, driven by advancements in generative AI, multimodal models, and enterprise solutions. CEE region has unique capabilities to position itself at the forefront of Europe's ambition to become a relevant global actor in the AI industry and strengthen the union's tech sovereignty in this area. CEE countries have a strong educational tradition in mathematics, computer science, engineering and thus boasts a critical mass of engineers and STEM graduates. This talent pool has already produced many experts in AI fields that have been able to work at the key positions in the leading global tech companies. Also, CEE has indeed cost-effectiveness advantage compared to Western Europe or North America, that allows startups to innovate at a fraction of the cost while maintaining high technical standards.

Apart from these solid conditions for the growth of the AI industry within the CEE, there are significant challenges that might hinder the potential for further development. CEE, like the whole of Europe, lacks not only appropriate capital but also talent given the fact of massive brain drain from countries like Slovakia.



Furthermore, the EU's regulatory tech framework has become unstainably robust and poses a key challenge for innovators across the continent. There is currently a clear disbalance between addressing potential risks to democracy and people's rights and implementing actions to foster innovation and economic growth. This approach is unsustainable if European leaders want to strengthen competitiveness and secure economic growth. As proposed in recently announced Competitiveness compass, Commission must execute actions that will lead to simplification of general rules and administrative procedures. Cutting excess red tape is definitely not enough. Recent huge wave of adopted tech EU directives has created a regulatory environment that is very fragile and often lacks clarity. The EU is still far from making the idea of single market a reality, given the fact that implementation rules and requirements are not unified among EU Member States. Moreover, different national regulatory bodies are acting independently without proper coordination. On the national level, there is also a lack of plans on how to implement new regulations as well as proper awareness raising campaigns targeted on entities concerned, mostly SMEs and startups.

To improve the overall legislative process on the EU level, a detailed impact assessment must be required. Legislative proposals must assess possible impact on European businesses and their competitiveness. It also requires consultations with business representatives starting from the initial phase of the process.

To secure a better regulatory environment, CEE businesses must be well represented within the EU's legislative processes. Organizations like CEE Digital Coalition need to increase their presence in Brussels, monitor the EU-level decision making more closely and thus positively co-shape the EU's agenda. Regulations are a major obstacle in building a strong and competitive AI industry and therefore active involvement in EU-level policymaking processes is a must.

ROMANIA¹⁹

48th place among EU countries in the Global Innovation Index 2024.

Romania allocates 0.5% of GDP annually to research and development.

The Romanian National Strategy for Artificial Intelligence 2024-2027 (SN-IA) is a document that aims to develop artificial intelligence in Romania, addressing educational, regulatory and innovation needs in the national context and European Union guidelines. The strategy aims to promote AI education and competence, develop technological infrastructure, support research and innovation, technology transfer and broad implementation of AI in various areas of society.

The strategy was developed through extensive public consultation and cross-sector cooperation, involving academia, public administration and the private sector. Key activities include the creation of innovation centers, fostering international cooperation, developing digital competencies and funding AI-related projects. The document highlights Romania's potential to use AI in sectors such as health, transportation, education and public administration, which could become areas of vital technological development. The construction of advanced technological infrastructure and support for AI research and innovation are also important elements of the country's strategy. In addition, the strategy provides for the creation of an appropriate legal framework to ensure the responsible and safe use of AI.

¹⁹ <https://www.mcid.gov.ro/programe-nationale/strategia-nationala-in-domeniul-inteligentei-artificiale-2024-2027/>
<https://www.adr.gov.ro/wp-content/uploads/2024/03/Strategie-Inteligenta-Artificiala-22012024-1.pdf>
<https://digitalpoland.org/assets/publications/przeglad-strategii-rozwoju-sztucznej-inteligencji-na-swiecie/przeglad-strategii-rozwoju-ai-digitalpoland-report.pdf>
https://www.linkedin.com/posts/krzysztof-chibowski-a7a935_strategia-na-c8%9Bional-c4%83-inteligen-c8%9Bei-artificiale-activity-7269131567791243264-NQtu?utm_source=share&utm_medium=member_desktop



As a member of the European Union, Romania is participating in initiatives aimed at developing artificial intelligence in the region. In May 2018, it joined an initiative of 24 EU countries aimed at cooperation among Member States in the field of AI. As a result, Romania has pledged to cooperate with other EU countries in the field of artificial intelligence, which includes joint research projects, knowledge exchange and harmonization of AI regulations. These activities are aimed at creating a coherent and conducive environment for AI development across the European Union.

Spain's BSC AI Factory is a joint initiative between Spain, Portugal, Turkey and Romania, with the Romanian side represented by the National Institute for Research and Development of Informatics in Bucharest (ICI București).





Corina VASILE

Executive Director, ANIS Romania



AI investments are no longer an option, but a strategic necessity

In the fast-evolving AI landscape, CEE countries must strategically position themselves. Romania adopted a National AI Strategy last year, but progress remains limited. To fully harness AI's potential, it is crucial to move from intent to action through a clear implementation framework, adequate funding, and strong public-private-academic collaboration.

Evidence indicates that CEE countries must accelerate their efforts to bridge the gap with the rest of Europe and make a significant leap to capitalize on the opportunities presented by AI. The key question remains: What strategic actions can be taken to achieve this transformation?



1. Embrace a European AI Innovation Model. CEE countries must actively engage in shaping the future of AI in Europe by aligning with EU initiatives such as the AI Act and InvestAI. This will facilitate regulatory harmonization across the region and enable access to dedicated AI funding, ensuring a competitive and future-proof AI ecosystem.

2. Develop a Skilled AI Workforce. Strategic investments are essential to develop a highly skilled AI workforce by integrating AI into university curricula, implementing talent attraction and retention programs, and supporting upskilling and reskilling initiatives. Fostering AI R&D hubs in collaboration with universities and companies will further drive continuous learning and technology transfer.

3. Accelerate AI-Driven Digital Transformation. Broad AI adoption is key to boosting competitiveness and innovation. Moreover, rapid deployment in public administration will enhance efficiency and ensure seamless access to quality digital services.

Regional collaboration is key to ensure regulatory harmonization and foster synergy between the public and private sectors. Strengthening these partnerships will drive the widespread adoption of AI, enhancing innovation and competitiveness across the region.



SLOVENIA²⁰

34th place among EU countries in the Global Innovation Index 2024

Slovenia spends 2.1% of its GDP annually on research and development (R&D)

Slovenia is a world leader in the responsible use of artificial intelligence (AI) and in 2021 became one of the first European countries to adopt a national AI strategy

Slovenia has adopted a National Program to Support the Development and Use of Artificial Intelligence until 2025, which aims to promote the development and implementation of AI in various sectors of the economy and public administration. The main goal is to create a dynamic ecosystem that will enable effective cooperation between the public and private sectors, as well as universities and research institutes. The plan emphasizes the importance of international cooperation to give Slovenian stakeholders visibility and recognition on the international stage. The Program was built based on consultations among relevant ministries, national experts, industrial representatives through the ICT Association of Slovenia (ZIT) of the Chamber of Commerce and Industry of Slovenia (CCIS) and initiative AI4Slovenia (AI4SI). These extensive consultations also features researchers and practitioners in the field of AI through the Slovenian Artificial Intelligence Society (SLAIS), stakeholders of the Strategic Research and Innovation Partnerships on ICT (Cluster SRIP GoDigital) and Factories of the future (Cluster SRIP FoF) as well as NGOs. In March 2021, the International Research Center on Artificial Intelligence (IRCAI) was inaugurated in the capital, Ljubljana, under the auspices of UNESCO. IRCAI's goal is to coordinate research and support AI projects aimed at achieving the UN Sustainable Development Goals. The center serves as

²⁰ https://www.gov.si/assets/ministrstva/MDP/National_Programme_for_AI_2025.pdf
<https://ircai.org/>

<https://www.unesco.org/en/articles/global-forum-ethics-artificial-intelligence-2024>

https://www.linkedin.com/posts/krzysztof-chibowski-a7a935_naai-in-the-republic-of-slovenia-by-2025-activity-7269957726682693633-Mn0Y?utm_source=share&utm_medium=member_desktop



a coordination point, funding source and implementation gas pedal for initiatives using AI in the context of global social and environmental challenges.

In February 2024, Slovenia, in cooperation with UNESCO, organized the second Global Forum on the Ethics of Artificial Intelligence. The event focused on shaping a global framework for AI governance, promoting an approach based on ethical values and human rights. The forum brought together experts, policymakers and representatives from various sectors to discuss the challenges and opportunities of AI development.

In November 2024, the ICT Association of Slovenia (ZIT) within the Chamber of Commerce and Industry of Slovenia (CCIS) hosted the seventh edition of GoDigital 2024 titled The Artificial Intelligence Revolution. The event brought together 400 representatives from industry, the ICT sector, and policymakers. The President of the Republic of Slovenia, Nataša Pirc Musar addressed the audience, while leading experts shared their insights on how organizations can harness AI-driven opportunities and prepare for an AI-powered future. A highlight of the event was the GoDigital Award, recognizing the best digital project of the year. The award was presented to a groundbreaking initiative leveraging AI and computer vision to enhance manufacturing processes.





Andreja LAMPE



Director of projects ICT Association of Slovenia,
Vice president of AI4Slovenia



As someone deeply involved in Slovenia's digital transformation, I am pleased to see our country making strong progress in artificial intelligence (AI). With a clear strategic vision, we are investing in infrastructure, policy frameworks, and industry collaboration to accelerate AI adoption and development.

One key milestone is Slovenia's success in securing a high-performance supercomputer and AI factory through the EuroHPC initiative. This €150 million project, co-financed by the EU, will serve as a hub for AI research and applications, benefiting science and business. By providing access to advanced computing power, it will boost innovation, create jobs, and strengthen Slovenia's position as a digital leader.

Additionally, the Ministry of Digital Transformation with key stakeholders plans to establish a Competence Center for AI in 2025. This center will support businesses in overcoming technological challenges, facilitate AI adoption, and drive innovation. By offering training and workshops, it will enhance AI talent development, particularly benefiting SMEs by increasing talent pool, productivity and competitiveness.



Artificial intelligence is also recognized as a key area in Slovenia's Smart Specialization Strategy (S3), reinforcing our country's strengths in this field with the help of SRIP GoDigital cluster. The Data Science and AI Section (AIDAS) within the ICT Association of Slovenia at CCIS plays a crucial role in connecting AI providers and fostering industry collaboration.

To help businesses implement AI, AI4Slovenia has released the second edition of its AI Adoption Guide, providing SMEs with practical steps for AI uptake. Furthermore, the Ministry of Digital Transformation has announced funding opportunities for AI research and innovation projects, encouraging new applications of AI across industries to boost AI based innovations.

These initiatives lay the foundation for a strong AI ecosystem in Slovenia, fostering innovation and competitiveness. With continued investment in AI infrastructure, talent, and collaboration, Slovenia is on track to becoming a key player in the European AI landscape.

CZECH REPUBLIC²¹

30th place among EU countries in the Global Innovation Index 2024.

Czech Republic allocates 2% of GDP annually to research and development.

The Czech Republic has adopted the National Artificial Intelligence Strategy (NAIS), which aims to strengthen the country's economic growth and competitiveness by developing a responsible and trustworthy AI ecosystem. The strategy is an integral part of the Czech Republic's Innovation Strategy 2019-2030 and the Digital Czech Republic program.

NAIS focuses on the digitization of businesses, with a particular focus on small and medium-sized enterprises, aiming to ensure equal opportunities and benefits of AI for society as a whole. As part of this strategy, the Ministry of Industry and Trade has announced regular action plans and grant programs to support the AI ecosystem. Minister Jozef Síkela stressed that the goal is to make the Czech Republic both a user and developer of advanced AI technologies, benefiting society as a whole.

An important element of the Czech AI strategy is the development of the ICT sector, supported by the goals set out in the Czech Republic's Innovation Strategy 2019-2030. Brno, the country's second largest city, is considered a national center for the AI industry. In addition, the Czech Republic is home to several prestigious research centers, such as the Center for Artificial Intelligence.

²¹ https://mpo.gov.cz/assets/cz/rozcestnik/pro-media/tiskove-zpravy/2019/6/NAIS_eng_korektura_06-19_web.pdf
<https://www.czechtradeoffices.com/gb-ni/news/the-czech-republic-has-introduced-a-new-artificial-intelligence-%28ai%29-strategy>
<https://www.paih.gov.pl/wp-content/uploads/2024/04/Czechy-rynek-ICT.pdf>
https://www.linkedin.com/posts/krzysztof-chibowski-a7a935_the-path-to-europes-digital-decade-cesko-activity-7281248066521776128-8z95/



The Czech Republic also stands out due to its devotion to the sustainable development of AI, using it in sectors such as renewable energy, precision agriculture and water management. At the same time, the country is actively collaborating internationally, engaging in OECD initiatives, UNESCO and EU projects such as the European AI Alliance.

In the public administration sector, AI supports document management and data analysis, and the Czech tax office uses algorithms to analyze tax returns. Overall, the Czech Republic's strategy demonstrates that AI development can be carried out responsibly, combining innovation with respect for social values.





Michal ČERMÁK


AAVIT – Association For Applied Research in IT,
Czech Republic



For many years, the main economic mantra of the CEE region has been the attempt to economically catch up with Western European countries, which were not affected by the communist dictatorship. Despite the significant progress we've made in these efforts, convergence with Western Europe is not as fast as we had hoped.

It is now clear that AI will be a disruptive technology that will play a crucial role in determining the future wealth of regions. Even Western Europe is not currently in a position to be a global leader. Unfortunately, in recent times, several concerning developments have emerged, indicating that the "Iron Curtain" is still standing even in the field of advanced digital technologies. None of the seven gigafactories planned under The European High-Performance Computing Joint Undertaking will be located in CEE countries. In addition, with growing concern, we are watching how US administrations divided EU member states into two groups based on export of cutting-edge microchips, with all CEE countries being in the group that will not be provided with unlimited access.

Creating an innovative AI hub in the CEE region under the current circumstances will not be easy. However, this does not mean we should completely resign. Coordination and collaboration are absolutely crucial in these efforts, because as individual states, we lack the capacity to assert ourselves on the global stage.



Strengthening our economies does not only involve the development of AI but also its implementation at the level of businesses and the public sector. It is unfortunate that, although CEE countries are not lagging behind Western Europe in terms of digital skills, a lower number of companies in CEE are implementing AI compared to Western Europe. This situation will only result in the widening of the gap between our economies.

I firmly believe that this initiative is a good step to improve this situation and a credible attempt to maximize the AI potential of our region.

POLAND²²

40th place among EU countries in the Global Innovation Index 2024

Poland spends 1.5% of GDP on research and development annually

The Polish government adopted the “Policy for the Development of Artificial Intelligence in Poland from 2020” on December 28, 2020. The document describes the actions necessary for wider AI implementation, as well as short term (until 2023), medium term (until 2027) and long term (after 2027) goals, all aiming to serve the development of Polish society, Polish economy and Polish science in the field of artificial intelligence. The purpose of the AI Policy is to support society, companies, scientific community and public administration in taking advantage of the opportunities associated with the development of AI, while ensuring the protection of human dignity and the conditions for fair competition in a global perspective.

Among other things, the document provides for the establishment of such bodies as:

- AI Policy Task Force (operating under the Committee of the Council of Ministers for Digitization, in charge of coordinating the activities of public institutions in implementing the AI Policy);
- AI Observatory for the Labor Market (dedicated to monitoring and studying the impact of AI on the labor market);
- AI Legislative Team (established to address legal and ethical challenges supporting the implementation of the AI Policy).

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As part of the strategy update, on December 16, 2024, the Ministry of Digitization published the "Policy for the Development of Artificial Intelligence in Poland 2025-2030" document developed by the Working Group on AI (GRAI). It outlines a vision for AI development in Poland, which is based on four pillars: human capital, innovation, investment and implementation. It assumes that Poland has the opportunity to become a key player in the global market, increasing the competitiveness of its economy, thanks to innovations based on data and technology. It also covers an estimate that the Polish GDP could grow by 8% thanks to the use of AI.

In turn, in February 2025, the Ministry of Digitization published a modified draft law on artificial intelligence systems, implementing the EU's Artificial Intelligence Act (AI Act). After public consultations, the ministry decided to introduce a number of changes that are important especially for businesses and institutions that use or offer AI systems on the market.

In support of the implementation of the AI strategy in Poland, Google and Microsoft have established a strategic partnership concerning, among other issues, the implementation of solutions based on artificial intelligence in Polish institutions and enterprises.

It is noteworthy that 2024 saw the premiere of version two of the Polish language model, Bielik, which is the fruit of a collaboration between the open science foundation SpeakLeash and the Academic Computer Center "Cyfronet" of AGH University. The Bielik project was born of the belief that Poland needs its own tools in the field of artificial intelligence. Unlike its foreign counterparts, Bielik operates on the basis of Polish linguistic reality, which makes it more adapted to local needs and specifics.

OPINIONS



Marta POSLAD

Director, Government Affairs & Public Policy,
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AI at the Forefront

We are at an inflection point for technology and growth. European competitiveness stands at a watershed—defined both by a strong ambition to become the “AI continent” and by an increasingly complex regulatory landscape.

As Google, we have stressed the need for a pro-innovation agenda to realize AI’s potential to revolutionize science, defend against sophisticated cyber-threats, and deliver generational progress that benefits people and society.

Last year, Google and Implement Consulting estimated that widespread adoption of AI tools could boost the EU’s GDP by up to €1.4 trillion. In Central and Eastern Europe, the economic opportunity is clearly there as well: Generative AI could boost CEE’s annual GDP by EUR 90-100 billion, amounting to +5% GDP in around ten years if widespread adoption is achieved.

But as Mario Draghi noted in his 2024 Report on the Future of European Competitiveness, we have work to do in order to achieve those kinds of results. Capturing the full potential of generative AI, however, depends on a number of drivers of AI adoption – from a robust operating environment to the availability of skilled AI practitioners.



It's not too late for Central and Eastern Europe to become a leader here: We have a well-educated workforce, a single market that could help new innovation scale rapidly to everyone, and in many cases, leaders who are ready to get into the game. Technology races are often won not by the first to invent, but by the best to deploy. So it's time to get serious about seizing the opportunity ahead.

To compete, CEE should avoid a patchwork of laws and evaluate the likely economic impacts of proposed tech regulations, ensuring that they foster rather than stifle innovation. The region needs to accelerate deployment of best-in-class technologies across key industries and promote investment in cutting-edge innovations in the most promising areas of the AI value chain. More investment should be channeled into compute infrastructure, digital networks, and digital skills — the foundations of a thriving digital economy. Last but not least, CEE needs to increase security and foster resilience through advancing secure infrastructure, investing in skills and fostering digital trade.

Fostering AI development and up-take needs to be front and center of CEE digital policymaking.



03. CONCLUSIONS AND RECOMMENDATIONS

Central and Eastern Europe faces the challenge of keeping up with the pace of AI development in the US, China or Western Europe. Instead of trying to compete directly, countries in the region should create a coherent AI strategy, leveraging their unique strengths and collaborating regionally, while also forming a strong common stance in EU level debates around simplification of the European regulatory landscape.



1. Joint AI strategy for the CEE region

Currently, each country in the region is developing AI individually, resulting in a dispersion of resources and a lack of synergy. Regional coordination is needed to enable more effective implementation of AI.

Recommendations for CEE:

- Establishment of the CEE AI Alliance - a joint initiative of CEE countries, based on the model of the Nordic AI Alliance.
- Developing a regional AI strategy, taking into account the strengths of each country.
- Harmonizing AI regulations to facilitate cross-border cooperation and business scaling.
- Joint appeal to European Commission on the need to simplify the AI Act and its enforcement regime under the Omnibus package to avoid further fragmentation within the Single Market.

Example:

Scandinavian countries have a common AI policy, making them more competitive in Europe.







2. Building one of the four European AI superclusters in the CEE region

AI computing requires enormous computing power. Countries in the region should create a joint HPC center instead of developing several smaller, less efficient supercomputers.

Recommendations for CEE:

- Creation of a regional AI supercluster under the INVESTAI program (e.g., in Poland, the Czech Republic or Hungary).
 - Linking the region's existing supercomputing centers into a unified computing network for AI.
 - Implementation of the CEE AI Data Hub, enabling the sharing of datasets for AI research.
 - Integration with EuroHPC's European infrastructure so that the CEE region has access to the latest AI technology.
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3. AI in industry and business - practical implementations

Companies in CEE are still not implementing AI on a large scale. The reason is a lack of competence and access to capital.

Recommendations for CEE:

- AI Voucher Program - a regional grant program for companies implementing AI.
- AI centers in key industries e.g.: industry 4.0 (Czech Republic, Poland), fintech (Estonia), medicine (Hungary), logistics (Slovakia).
- Tax incentives for AI companies, similar to those in Ireland.

Example:

Estonia has implemented AI in public administration, which has improved the efficiency of government offices.

4. AI education and talent development

The CEE region produces many IT specialists, but a significant share of them emigrate to the West.

Recommendations for CEE:

- CEE AI Academy - a joint education and training program for AI talent.
- Re-skilling programs for employees in traditional sectors.
- Visa and startup facilitation for AI talent from outside the EU.
- Joint AI research centers at the CEE level for better knowledge sharing.

Example:

The UK has a Global Talent Visa, attracting AI experts.





5. AI in public administration - digital transformation of states

CEE countries are still struggling with heavy bureaucracy. AI can improve administrative efficiency and increase the quality of public services.

Recommendations for CEE:

- Automation and simplification of official processes - AI in application processing, company registration, tax systems.
- Intelligent chatbots in public offices and institutions.
- Open public data for AI, enabling the development of new digital services.

Example:

Estonia has automated its administrative system with AI, reducing bureaucracy to a minimum.

6. AI in cyber security - protecting the CEE region

CEE is exposed to growing cyber threats, especially in the context of information warfare and hacking attacks from Russia and China.

Recommendations for CEE:

- CEE AI Cyber Security Hub - a threat analysis center for countries in the region.
- AI to protect critical infrastructure (power grids, banks, government systems).
- Cooperation with NATO and the EU on AI for cyber security.

Case in point:

Israel is developing AI in cyber security, which gives it a strategic advantage.





7. AI funding as key to ecosystem growth



Without access to capital, AI startups cannot grow.

Recommendations for CEE:

- AI Fund for the CEE region - a regional investment fund to support AI startups.
- Leverage partnerships with global AI companies (Google, Microsoft, NVIDIA) to develop CEE specific tools and solutions.
- Tax breaks for AI investors along the lines of Ireland and France.

Example:

France has earmarked €1.5 billion for AI development, which has attracted investment in deep-tech.

8. Regulatory framework adaptation in CEE


The region needs to actively participate in shaping EU's AI regulatory landscape while ensuring innovation-friendly implementation.

Recommendations for CEE:

- Establishment of regional AI regulatory coordination office to support unified implementation.
- Development of simplified compliance guidelines for regional AI companies.
- Creation of regulatory sandboxes for AI innovation testing.
- Implementation of streamlined processes for AI compliance assessment.

Example:

The withdrawal of the AI Liability Directive shows EU's commitment to reducing regulatory overlap while maintaining standards.





9. Data accessibility framework for AI development

CEE countries need coordinated approach to data access and sharing to compete in AI development.

Recommendations for CEE:

- Creation of regional data sharing infrastructure compliant with EU regulations.
- Implementation of standardized Text-and-Data-Mining protocols.
- Development of regional public data pools for AI training.
- Establishment of clear guidelines for copyright compliance in AI development.

Example:

The EU Copyright Directive's Text-and-Data-Mining exemption provides framework for balanced AI development.

10. Standards and international cooperation

CEE needs unified approach to international AI standards to enable regional companies to scale globally.

Recommendations for CEE:

- Creation of CEE Standards Coordination Office for AI.
- Joint participation in international AI standards development (ISO, NIST).
- Development of regional AI certification framework.
- Implementation of harmonized testing protocols for AI systems.

Example:

International collaboration through bodies like ISO and NIST provides framework for standards development.



SUMMARY

AI's strategy for CEE - consistent growth instead of a race for leadership

The Central and Eastern European (CEE) region faces a huge opportunity for development in the field of artificial intelligence. However, instead of trying to become a global AI leader - which is unrealistic compared to the US, China or Western Europe - it should focus on consistently implementing a common AI development strategy tailored to local needs and opportunities, while capturing the momentum created by the Polish Presidency of the EU Council to develop a strong, common voice in the European regulatory simplification debate.

A joint CEE strategy for AI will allow more efficient use of resources, avoid fragmentation of activities and attract investment.

- A joint CEE strategy for AI will allow more efficient use of resources, avoid fragmentation of activities, attract investment and allow for integration of advocacy efforts on EU level.
- Building an AI supercluster in the region will enable the development of modern infrastructure and accelerate the adoption of artificial intelligence in industry, government and the private sector.
- AI as an engine for economic growth - the region can use AI to support key sectors such as Industry 4.0, FinTech, medicine and cybersecurity, which will translate into growth for local economies.
- Coordinated regulatory approach - the region needs unified implementation of AI regulations and standards to foster innovation while ensuring compliance.

- Regional data framework - establishing common data sharing infrastructure and protocols to fuel AI development across CEE.
- Standards alignment - joint participation in international AI standards development to enable regional companies to scale globally.
- Consistent implementation of the plan - success does not depend on trying to compete with global giants, but on systematic development, building AI competence and integrating the region.
- Common AI education program for CEE - countries in the region should create a common and unified system for training AI specialists at selected universities.

CEE doesn't have to be a world leader in AI, but it can become a strong and influential player on the European technological map - provided it relies on cooperation, consistency and smart investments instead of a chaotic race. Successful implementation of this strategy will allow CEE to build a technological edge, develop local economies and attract global investment - step by step, but effectively.

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CEE Digital Coalition is an informal gathering of digital and advanced technologies industry organisations from Central Eastern Europe, bringing the region together on its digital path. Members of the coalition work together to boost the digital transformation of the region's economy and informational society. They strive to promote close business and policy-making cooperation between the countries of CEE in the field of digital. Associated organisations declare their will to support governments, as well as European decision makers and businesses in developing an environment for rapid and safe digital development in Europe, aligned with the best interest of their region. The cooperation was initiated by the Digital Poland Association.

Calling the coalition together was a response to the dynamic progress of digital technologies development and their uptake by the economy, society and state around the world as well as the fact that it does not take place at the same rate throughout Europe. Realising that CEE's countries are often on a similar stage of the digital path, Coalition was established based on the belief that Central Eastern European nations are not only culturally, historically and socially close to one another, but also have a common, unique digital identity, which can only be expressed if they work together.

20 organisations from 13 countries have been engaged in CEE Digital Coalition's various activities since then.

See more: www.ceedigital.org



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