Memorandum

Poland at the forefront of digital transformation in the EU. Priorities for the Polish presidency of the Council of the European Union

- **In view of the great geopolitical uncertainty and the upcoming presidency of the Council of the European Union in 2025, the Polish government faces the important task of building new pillars to strengthen the competitiveness of the European economy.**
- **The European economic model is made up of many factors, but it is the new technology sector that is becoming one of the most important drivers of economic growth. In 2021 alone, the ICT sector accounted for 5.5 per cent of EU GDP.**
- **Unfortunately, our potential remains unrealised in this area. In the list of the world's 20 largest technology companies, there is not a single one headquartered in Europe, and only 11 per cent of global unicorns come from the Old Continent. By not creating our own innovations, we are also becoming increasingly dependent on external suppliers of new technologies.**
- **Additionally, Europe has become a champion of digital regulation in recent years. The EU's regulatory requirements for the technology sector are among the most extensive in the world. Although they affect different areas or categories of players, they occur extremely frequently, leading to an increasing level of complexity in the regulation of the digital market and raising the entry threshold for new players.**
- **Europe still has a chance to achieve a leadership position, but this will only be possible through an appropriate regulatory environment, investment in local technology implementation, support for digital education, closer links between industry and academia in research and development, and an increased role for transatlantic cooperation.**
- **Artificial intelligence, the Internet of Things, the cloud or blockchain often referred to as future technologies have the potential to provide a breakthrough in productivity in Europe. Therefore, the Polish presidency should focus on supporting the competitiveness of the new technology sector and creating an appropriate regulatory environment to unlock the potential of digital innovation.**
- **The Union of Entrepreneurs and Employers has prepared a list of digital priority areas that should set the tone for the upcoming presidency.**

Regulation monitoring

The European Union's regulatory requirements for the technology sector are among the most extensive in the world. Digital Services Act, Data Act, Digital Markets Act, GDPR, AI Act, ePrivacy, Terrorist Content Online regulation, Data Governance Act, NIS2 - the EU adopts thousands of regulations, directives and decisions every year, many of which hinder economic development. In 2023, for example, a total of 2228 legal instruments were adopted or

Union of Entrepreneurs and Employers
ul. Nowy Świat 33
00-029 Warsaw
T: +48 22 826 08 31
E: biuro@zpp.net.pl
www.zpp.net.pl
NIP [*Tax Identification Number*]:
522-295-88-64

amended. In 2022, the figure was 2445, and in 2021 it was 2380[1]. While some of these have had a positive impact on digital sector regulation trends, global leaders in new technologies do not always follow Europe's lead. China and the United States, with their flexible regulatory frameworks, better access to databases and therefore easier access to capital, are developing the artificial intelligence ecosystem, which is the most important technology of the future, faster and more efficiently. There are now three times as many AI creative hubs in the US as there are in Europe, and China leads the world in terms of the number of publications in AI journals, conferences and repositories, publishing around 135,000 AI articles in 2021[2].

Europe, on the other hand, introduced the AI Act and, before that, GDPR, which significantly limits the possibilities of developing artificial intelligence in Europe. AI is heavily dependent on the quality of Big Data analytics, and such analytics requires access to relevant data. This data is in short supply in Europe - according to a report by Polityka Insight, in 2017 only 4 per cent of data available globally was stored within the EU. This number is growing slowly, and the Data Protection Regulation 2016/679 (GDPR) is a factor that limits it significantly. While the GDPR certainly provides extensive protection for the privacy rights of individuals, it undoubtedly reduces Europe's competitiveness when it comes to researching and implementing solutions based on big data processing, such as artificial intelligence[3]. The main criticism of the GDPR stems from the restrictions on access to data, which is crucial for artificial intelligence developers in the EU to train machine learning models. The Regulation introduces stringent requirements for the collection, storage and use of personal data, which complicates the use of such data in the development of advanced technologies without breaching the regulations.

Another regulation, already mentioned above, is the AI Act Regulation, which in the Polish translation version has 458 pages. The new multi-page regulation effectively gives officials the unprecedented privilege of determining the direction of this technology before the market and inventors have even demonstrated their capabilities[4]. Although Thierry Breton, EU Commissioner for the Internal Market and Services, insists that not only will the AI Act not delay the development of new technologies in the EU, but it will actually be a starting point for 'European start-ups and researchers to become leaders in the global AI race' the mood among entrepreneurs contradicts this. Companies taking steps to introduce artificial intelligence surveyed by EY Poland indicated that legal barriers ranked as the fifth reason delaying the implementation of AI in their organisation[5]. For entrepreneurs, the AI Act means entirely new requirements and further barriers to overcome before bringing a product or system to market.

Therefore, instead of initiating further regulations, the Polish presidency should focus on creating innovative regulatory methods. It is certainly necessary to limit the introduction of successive regulations which, instead of stimulating innovation, block entrepreneurs from the

[1] https://wei.org.pl/2024/aktualnosci/sstodolak/rosnie-przepasc-miedzy-unia-europejska-a-usa-winne-sa-regulacje/
[2] https://wei.org.pl/2023/aktualnosci/agnes-tycner/ktore-supermocarstwo-zapanuje-nad-sztuczna-inteligencja-chiny-europa-czy-ameryka/
[3] https://zpp.net.pl/wp-content/uploads/2024/04/Raport-ZPP-Bruksela-Focus-on-Europe-Konkurencyjnosc-UEw-perspektywie-globalnej.pdf
[4] Ibid
[5] https://www.ey.com/pl_pl/news/2023/05/rozwoj-si-nie-wplywa-na-plany-pracownicze-polskich-firm

start with the need for constant updates and adjustment to requirements that are repeated in many acts. The more frequent introduction of regulatory sandboxes, which allow experiments to take place in an environment subject to regulatory control and oversight, should be considered.

An equally important task will be to assess the impact of the acts adopted during the last term of the European Commission, whose ambition was to regulate virtually every dimension of the new technology sector. In 2025, we will be able to formulate the first proposals for the implementation of the new Internet Constitution, i.e. the DSA (Digital Service Act) and the DMA (Digital Market Act), and this should be our priority.

Development of cybersecurity

Confidence in new technologies is closely linked to the level of cybersecurity. Since the outbreak of the war in Ukraine, EU countries have become a target for cybercriminals from Russia, and as Deputy Prime Minister and Minister of Digitalisation Krzysztof Gawkowski says 'I don't know if we are in a state of cyber war, but we can say we have a cyber cold war'.[6] Following the failure of the cyber war against Ukraine, Russia is intensifying attacks on its allies, according to a report by French technology company Thales. At the outset of the conflict itself, the majority of incidents were primarily related to Ukraine (50.4 per cent compared to 28.6 per cent in Q3 2022), but over the past six months there has been a sharp increase in conflict-related incidents in European Union countries (9.8 per cent compared to 46.5 per cent of global attacks)[7]. This summer, there were almost as many conflict-related incidents in EU countries as in Ukraine, and by the first quarter of 2023, the overwhelming majority of incidents, 80.9 per cent, had already occurred within the European Union. Public administration, the financial sector, the transport sector, telecommunications and the energy sector are most frequently attacked. Although the conflict has previously been relatively low-impact, the European healthcare sector, governments, industry, IT services and the aviation sector are increasingly being targeted by attacks designed to put pressure on Western societies. According to Microsoft research, in the first six weeks of 2023, Russia initiated cyberattacks in at least 17 European countries and these were mainly targeting government institutions for espionage purposes[8].

As can be seen, a damaging cyber campaign is currently targeting democratic institutions, government entities and critical infrastructure providers across the European Union and beyond. This is a continuing pattern of irresponsible Russian behaviour in cyberspace[9]. As part of Russia's information warfare strategy, pro-Russian hackers not only spread disinformation, but also launch attacks on servers and other elements of the IT infrastructure. Their actions aim to disrupt both public and private institutions.

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[6] https://cyberdefence24.pl/cyberbezpieczenstwo/gawkowski-mamy-zimna-wojne-w-cyberprzestrzeni
[7] https://www.thalesgroup.com/pl/hwl-alalm/security/press_release/od-ukrainy-po-cala-europe-cyberkonflikt-osiaga-punkt-zwrotny
[8] https://businessinsider.com.pl/wiadomosci/francuski-koncern-rosja-intensyfikuje-cyberataki-na-sojusznikow-ukrainy-celem-min/yehbqzq
[9] https://www.consilium.europa.eu/pl/press/press-releases/2024/05/03/cyber-statement-by-the-high-representative-on-behalf-of-the-eu-on-continued-malicious-behaviour-in-cyberspace-by-the-russian-federation/

It is encouraging to see that the European Union is making cybersecurity a priority, especially in the context of a globalised digital world. In response to these challenges, the EU has introduced a number of legal requirements to protect personal data and digital infrastructure and prevent cyberattacks. The CER Directive (2022) replaced previous legislation, increasing digital protection obligations for operators and digital service providers and strengthening cooperation between Member States[10]. The NIS2 Directive continues this work by expanding the scope of regulations and introducing stricter safety requirements. It aims to better protect the EU's digital infrastructure and make it more resilient to cyberthreats[11]. The NIS2 Directive applies to medium and large companies and institutions in a wide range of sectors, including energy, transport, banking, financial market infrastructure, health, drinking water, waste water, digital infrastructure, public administration, space and food, as well as the companies in their supply chains.

Subsequent directives, such as the Directive on Attacks against Information Systems and the Civil Protection Directive, focus on combating cybercrime and crisis management in the context of attacks against critical infrastructure. This legislation aims to increase the security of citizens, companies and institutions in the EU.

In the area of cybersecurity, it will be essential to take measures to ensure that any vulnerabilities in the system are eliminated[12]. To this end, the activities of the Polish presidency of the EU Council should be focused on cooperation with industry, which plays a key role in promoting cybersecurity and ensuring secure infrastructure. Representatives of companies developing security systems should be actively involved in the development and implementation of regulations and strategies to combat cyberthreats. Leaders from the EU, governments and industry can work together to strengthen cybersecurity by sharing information, best practices and developing common strategies for secure infrastructure.

Another priority action is to develop international partnerships with democratic countries and in the spirit of transatlantic and NATO cooperation. Particularly on the side of the NATO alliance and the European Union Member States, there is a growing need to further develop capabilities for joint offensive operations in cyberspace. Cybersecurity is a new area of activity for the North Atlantic Alliance to which NATO is attaching increasing importance[13]. The example of the intensification of disinformation campaigns against the West in connection with Russia's attack on Ukraine proves that NATO and the EU should devote even more attention to the issue of hybrid threats, and that the Polish presidency, by introducing new initiatives aimed at expanding cooperation, can effectively strengthen the alliance.

Strengthening the role of the Digital Single Market

According to experts, by 2025, 24.3 per cent of global economic activity will take place in the digital sector and the value of the digital economy will grow to USD 23 trillion[14]. The dynamic

[10] https://ikmj.com/cyberbezpieczenstwo-dyrektywy-ue-i-wymagania-prawne/
[11] https://cyberpolicy.nask.pl/category/obowiazujace/dyrektywa-nis2/
[12] https://cyfrowapolska.org/wp-content/uploads/2019/03/Manifesto_Polish_WEB.pdf
[13] https://www.euractiv.pl/section/bezpieczenstwo-i-obrona/news/stosunki-transatlantyckie-cyberbezpieczenstwo-nato-zagrozenia-cybernetyczne-cyberataki/
[14] https://eur-lex.europa.eu/legal-content/PL/TXT/HTML/?uri=CELEX:52015DC0192

development of new technologies and, consequently, of e-commerce and new business models, has put the unification of the digital dimension of the European economy at the top of the European Union's agenda. As a result, 22 years after the official launch of the single market, the Digital Single Market Strategy for Europe was announced in May 2015[15].

The Digital Single Market Strategy enables better access to online goods and services for consumers and businesses across Europe, by removing barriers to cross-border online activity, creating the right conditions for the development of digital networks and services and maximising the economic growth generated by Europe's digital economy, or at least that was its intention. Looking through a purely economic lens, the potential of the Digital Single Market is certainly not yet fully realised.

Although we have succeeded in simplification with VAT or the abolition of roaming charges within the EU, the idea of a Digital Single Market is being hit by barriers to cross-border trade, digital over-regulation and a lack of a strong vision for the EU economy. According to the latest data, while nearly 20 per cent of companies in the EU sell services and goods online within their own country, only 8.1 per cent offer them in other EU Member States[16]. The fact that the strategy adopted has not translated to any significant extent into the way businesses operate, and in particular their digitalisation, is also evidenced by an analysis of the data provided by Eurostat. In 2015, 16.2 per cent of companies in the European Union were accepting online orders, rising to 19.7 per cent in 2022. In the seven-year period separating the figures quoted, we have experienced rapid growth in the e-commerce sector and the COVID-19 pandemic, which has resulted in an even more intense increase in the share of online shopping in consumers' shopping baskets. In light of these developments, an increase of just 3.5 percentage points is disappointing.

Moreover, due to the specificity and dynamics of the EU legislative process, as well as the Commission's growing ambitions, the regulatory landscape for the digital economy in the EU is becoming increasingly unclear, as we wrote above. As a result, companies are finding it increasingly difficult to navigate the legal reality. The problem is particularly relevant for smaller entities without professional assistance.

There is a lot of work ahead, but the overall contribution of the Digital Single Market to the EU economy is undeniable and measurable. It is estimated to generate almost EUR 177 billion in additional growth each year[17]. Therefore, when setting the direction of digital policy, the Polish presidency should focus on conducting initiatives that integrate the digital economies of EU Member States. In a dynamic world where technology is an integral part of our lives, the Digital Single Market is the basis for the future of the European economy. One of the main barriers to its development remains the inconsistent implementation of common rules. As we take over the presidency of the Council of the EU, we should aim to improve the functioning of the European Semester - which is part of the EU's economic governance framework - and introduce an assessment of how Member States are achieving their single market objectives, which will certainly serve to harmonise the implementation of EU legislation.

[15] https://eur-lex.europa.eu/legal-content/PL/TXT/HTML/?uri=CELEX:52015DC0192
[16] https://zpp.net.pl/wp-content/uploads/2023/12/Raport-JCR-PL.pdf
[17] https://www.europarl.europa.eu/factsheets/en/sheet/43/the-ubiquitous-digital-single-market

Small and medium-sized entrepreneurs, who, despite having such a significant impact on the economic development of Europe and Poland, bear the relatively highest costs of export activity, must also be at the centre of discussions on the vision of the Digital Single Market. An active policy to support their international expansion should therefore not only be an ambition of our government, but also a Polish contribution to the debate on the challenges that the European institutions should face in the near future.

Research and development cooperation

The digital economy is the knowledge economy. According to the concept of a knowledge-based economy (GOW), one of the most important factors determining the pace and level of economic development of a region is the innovation, transfer and use of knowledge[18]. The ability to create it and transform it into new technologies and innovative products and services provides a competitive advantage for entrepreneurs. To make this possible, the activities of research and development institutions, which are the centre of innovation, are extremely important.

From the outset, the European Union's research and technological development (RTD) policy has played an important role in European legislation. In the 1980s, with the introduction of the European Framework Programme for Research, the scope was further expanded. In 2014, the majority of EU research funding was grouped under Horizon 2020, which ran from 2014 to 2020 and aimed at ensuring the EU's global competitiveness. Its successor, 'Horizon Europe', which is the European Union's current research and innovation programme, was launched in 2021 and will run until 2027[19].

The Polish presidency should focus on shaping a more ambitious EU research and development policy and aim to significantly increase overall research spending in Member States in order to maintain and strengthen the Union's international competitiveness. To this end, cooperation should be intensified with non-EU partners, and in particular with the United States, which has for years defended its status as the leading development-spending country. Analysts from the Polish Economic Institute presented the results of a report prepared by the European Union in Tygodnik Gospodarczy No. 6/2023, which examined the 2,500 companies with the largest research and development expenditure in the world in 2021. Of the 2,500 companies, as many as 822 are from the USA, 678 from China, 361 from the European Union and 233 from Japan. The remaining 406 companies come from 22 countries around the world. The number of EU companies in the list decreased by as many as 41 compared to 2020. At the same time, the number of US companies increased by 43 and Chinese companies by as many as 81. Not a single company from Poland was included in the list[20].

There is no doubt that those countries that invest the most in research and development activities are winning the technological power race. In this context, the approach of the European Union and individual Member States to funding, supporting and promoting R&D

[18] https://www.parp.gov.pl/attachments/article/84023/27%20marca%20info%20prasowe%20B+R.pdf
[19] https://www.europarl.europa.eu/factsheets/pl/sheet/66/polityka-w-zakresie-badan-naukowych-i-rozwoju-technologicznego
[20] https://pie.net.pl/wp-content/uploads/2023/02/Tygodnik-PIE_6-2023.pdf

activities plays a decisive role in shaping the future of the Old Continent[21]. It is not only about enterprise restructuring, research, development and innovation, but above all about supporting small and medium-sized enterprises, which are the foundation of the European economy. If we want to join this technological race, we have to bet on a close integration of the activities carried out under the European funds and strengthen cooperation with business. Therefore, during the presidency of the EU Council, we should intensively support all initiatives concerning R&D cooperation in EU countries.

Supporting the development of digital competences

Digital transformation processes are leading to profound changes in the operating model of businesses, the economy and society[22]. In the new model, one of the determinants of the competitiveness of economies becomes the level of digital competence of the population, the workforce and the number of skilled ICT professionals.

Strengthening the digital skills of the EU's current and future workforce is key to the long-term competitiveness of the European technology sector. Investment in education and training programmes in STEM (Science, Technology, Engineering, Mathematics) and computer science, with an emphasis on supporting underrepresented minorities and women, is essential[23]. It is equally important that the EU's immigration policy enables businesses to access the global talent pool to meet the growing demand for highly skilled digital professionals in the single market. EU immigration policy should support companies to recruit professionals from outside Europe so that our market can compete effectively with other global innovation centres. Small and medium-sized enterprises (SMEs) play a special role in the context of global competition. Digitalisation offers them the opportunity to increase efficiency and expand their markets, but it also comes with risks, such as cyberattacks and the need to constantly adapt to new technologies. Strengthening the digital skills of SME employees is a key factor in being able to compete successfully in the global marketplace.

Strengthening digital skills is an investment in the future of the European technology sector. The Polish presidency should promote investment in education programmes, openness to global talents and support for SMEs, which will allow Europe to maintain and increase its competitiveness in the age of digital transformation. Particular emphasis should be placed on achieving the objectives of the policy programme ‘Path to the Digital Decade' by 2030. The document sets out the directions for the development of the digital transformation of the European Union. It focuses on four main areas: digital skills, digital infrastructure, digitalisation of businesses and digitalisation of public services. Within the skills area, the ambitious targets have been set of increasing the number of ICT professionals to more than 20 million, a better gender balance in the profession and a minimum of 80 per cent of the EU population achieving basic digital skills.

[21] https://www.ey.com/pl_pl/tax/badania-i-rozwoj-b-r-na-czym-polega-dzialalnosc-badawczo-rozwojowa
[22] https://delab.uw.edu.pl/wp-content/uploads/2020/04/Katarzyna-%C5%9Aledziewska-Renata-W%C5%82och-Gospodarka-cyfrowa.pdf
[23] https://www.itic.org/news-events/news-releases/iti-publishes-new-competitiveness-playbook-for-next-eu-mandate

To strengthen digital capabilities, Member States can engage in large-scale international projects, pooling resources and increasing cooperation. The Commission, for its part, has pledged to help define and develop such projects. The prepared programme also establishes an annual cycle of cooperation in pursuit of common goals. The mechanism for cooperation with the Commission and Member States includes, among other things, a joint monitoring system based on the Digital Economy and Society Index (DESI), an annual report assessing the progress of individual countries as well as recommendations and strategic action plans of EU Member States for the digital decade. Poland will take over the presidency of the EU Council five years before the set deadline for achieving the above goals, so it is worth verifying whether the adopted mechanisms effectively support the development of digital competences of EU citizens and introduce additional measures to support the Digital Decade programme.

Union of Entrepreneurs and Employers

ul. Nowy Świat 33
00-029 Warsaw

T: +48 22 826 08 31
E: biuro@zpp.net.pl

www.zpp.net.pl
NIP [*Tax Identification Number*]:
522-295-88-64