



**ИКОНОМИЧЕСКИ  
И СОЦИАЛЕН  
СЪВЕТ**



## **OPINION**

**on the topic of:**

**Digital Bulgaria: policies, measures and challenge**

(developed on own initiative)

**Sofia,  
July 2023**

The Economic and Social Council of the Republic of Bulgaria included in its Activity Plan for 2023 the development of an opinion on the topic: "Digital Bulgaria: policies, measures and challenges". The development of the opinion was assigned to the Commission on Economic Policy /CEP/ and the Commission on Sustainable Development, Agriculture, Environment and Regional Policies /CSDAERP/.

The opinion was prepared on the own initiative of the Economic and Social Council. It is a continuation and development of the opinion on the topic: "Digital transformation in Bulgaria - challenges and opportunities in the context of the digital future of Europe"<sup>1</sup> of the Economic and Social Council from 2020.

The Commissions held two meetings on 12 and 26 June 2023 and adopted the draft opinion.

Atanas Temelkov - member of the ESC from Group I, Veselin Mitov - member of the ESC from Group II were appointed as rapporteurs.

At its plenary session on 20 July 2023, the Economic and Social Council adopted this opinion.

---

<sup>1</sup> <https://esc.bg/wp-content/uploads/2021/01/opinion-esc-3-69-2020-bg-2.pdf>

## Abbreviations used

AI	Artificial Intelligence
AIS	Administrative Information System
AR	Augmented Reality
BAS	Bulgarian Academy of Sciences
BI	Business Intelligence
CMS	Content Management Systems
CRM	Customer/Citizen Relationship Management
DESI	Digital Economy and Society Index. It summarizes indicators of Europe's digital performance and tracks the progress of EU countries
EC	European Commission
EDIC	European Digital Infrastructure Consortium
eID	Electronic identifier
EP	European Parliament
ERP	Enterprise Resource Planning
ESC	Economic and Social Council
ESG	Environmental, Social and Governance. ESG is a framework used to evaluate business practices and an organization's performance on various issues related to sustainability and ethics. ESG also provides a way to measure business risks and opportunities in these areas.
EU	European Union
GDP	Gross Domestic Product
HPC	High Performance Computing
ICT	Information and Communication Technologies

LLL	Life Long Learning
ML	Machine Learning
PISA	Programme for International Student Assessment
SCM	Supply Chain Management
SEGA	State e-Government Agency
SME	Small and Medium Enterprises
Spin-off	or spinoff <sup>2</sup> . A spinoff is a new and separate company that is created when the parent company distributes shares or interests in a new subsidiary or business division of the parent company.
UN	United Nations Organization
VR	Virtual Reality

---

<sup>2</sup> <https://www.merriam-webster.com/dictionary/spin-off>

**The following definitions were used in preparing the opinion:**

**Digital transformation** - a set of activities and processes (policies, strategies, plans, rules, etc.) for the introduction of information and telecommunication technologies in all areas of socio-economic life, collecting, storing, processing, providing, including in open format, data, information and knowledge in order to increase management efficiency and productivity, improve the business environment, as well as working and living conditions.

- In the process of digital transformation, four main elements are clearly distinguished: normative framework (laws, regulations, rules, standards), interaction between participants, resources (financial, human, ICT, etc.) and public relations.
- The role of the state administration is key in terms of determining the priority directions for development related to the digital transformation and the technological means and data created through it, as well as the flexible and timely regulatory regulation of their use by society.
- **Industry 4.0** – refers to the use of the latest and often interconnected digital technologies that enable new and more efficient processes and which in some cases lead to the creation of new goods and services. Industry 4.0 includes a group of rapid digital transformations in the design, production, operation and servicing of production systems and products. The development of Industry 4.0 depends on a number of new and technological developments such as: the application of information and communication technologies (ICT) in the production process; AI; Internet of things; digital systems for monitoring and controlling physical processes and systems; industrial robotics; network communications; collection and processing of large data sets; cloud computing etc.
- **Industry 5.0**<sup>3</sup> - complements the existing "Industry 4.0" approach by specifically placing research and innovation at the service of the transition to a sustainable, human-oriented European industry.

---

<sup>3</sup> Industry 5.0 [https://research-and-innovation.ec.europa.eu/research-area/industrial-research-and-innovation/industry-50\\_en](https://research-and-innovation.ec.europa.eu/research-area/industrial-research-and-innovation/industry-50_en)

- **Industry 6.0<sup>4</sup>** - comprehensive, customer-driven, virtualized, robust manufacturing. It is characterized, on the one hand, by a customer focus, highly customized product design and a production batch size of 1 unit, on the other hand, by hyper-connectivity of manufacturers with dynamic supply chains where data flows between domains.
- **Digital Economy and Society Index**, or DESI<sup>5</sup> - means an annual set of analysis and measurement indicators on the basis of which the European Commission monitors the overall digital performance of the Union and Member States across several policy dimensions, including their progress on relation to digital goals.
- **digital intensity<sup>6</sup>** - means the total value determined for a given enterprise based on the number of technologies used by it against a set of indicators for different technologies.
- **key public services<sup>6</sup>** - means basic services provided by public entities to individuals at important events in their lives and to legal entities in their professional life cycle.
- **strong digital skills<sup>6</sup>** - means skills and professional competences that require knowledge and experience necessary to understand, design, develop, manage, test, implement, use and maintain digital technologies, products and services.
- **basic digital skill<sup>6</sup>** - means the ability to perform with digital means at least one activity related to the following areas: information, communication and collaboration, content creation, safety and personal data and problem solving.
- **digital inequality<sup>6</sup>** - the inequality in citizens' access to technologies and information resources. It refers both to the possibilities of access to information and communication technologies, and to basic access and use of the Internet.

---

<sup>4</sup> [https://www.alliedict.fi/wp-content/uploads/2021/08/Industry-X-White-Paper-3.5.2021\\_Final.pdf](https://www.alliedict.fi/wp-content/uploads/2021/08/Industry-X-White-Paper-3.5.2021_Final.pdf)

<sup>5</sup> <https://digital-strategy.ec.europa.eu/en/policies/desi>

<sup>6</sup> Decision (EU) 2022/2481 of the European Parliament and of the Council of 14 December 2022 establishing the Digital Decade Policy Programme 2030 <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32022D2481&qid=1684241796421>

- **small or medium-sized enterprise (SME<sup>7</sup>)** - means:
- **small enterprise:** an enterprise with less than 50 employees and with an annual turnover or balance not exceeding 10 million EUR;
- **medium-sized enterprise:** an enterprise with fewer than 250 employees and an annual turnover not exceeding 50 million EUR or an annual balance sheet not exceeding 43 million EUR.

---

<sup>7</sup> <https://eur-lex.europa.eu/BG/legal-content/summary/micro-small-and-medium-sized-enterprises-definition-and-scope.html>

## 1. CONCLUSIONS AND RECOMMENDATIONS

- 1.1** The ESC considers that the digital transformation and its impact on all social processes in Bulgaria is a matter of strategic importance for the development of the country's economic potential, the improvement of working conditions and the quality of life. The demographic crisis and the quality of education of the population represent a significant risk for a successful digital transformation.
- 1.2** The ESC is convinced that in the new conditions of global competition, the European Union (EU) and Bulgaria have every chance to be a model for a modern, sustainable and rapidly developing society of prosperity and solidarity with a leading role in the world. In this regard, the ESC welcomes the European Commission (EC) for the creation of a political program – "Digital decade"<sup>8</sup> until 2030.
- 1.3** The ESC supports the position that the individual and her/his rights should be at the centre of the digital transformation. To improve an individual's quality of life while protecting her/his rights and privacy and ensuring her/his cyber security. Digital transformation should be a means of improving democracy, good governance, social inclusion and more effective and efficient public services.
- 1.4** The ESC is firm that the management of the digital transformation in Bulgaria must be carried out in coordination of legislative, executive and judicial authorities with the assistance and active participation of employers, trade unions, non-governmental organizations, civil associations and individual citizens. The ESC welcomes the establishment of a Digital Decade Council under the Council of Ministers to perform monitoring and control functions based on measurable indicators. The ESC reports as unsatisfactory the performance of Bulgaria in terms of the indicators in DESI<sup>9</sup> (Bulgaria is in the penultimate place in the ranking for 2022).

---

<sup>8</sup> Decision (EU) 2022/2481 of the European Parliament and of the Council of 14 December 2022 establishing the Digital Decade Policy Programme 2030 <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32022D2481&qid=1684241796421>

<sup>9</sup> <https://digital-strategy.ec.europa.eu/en/policies/desi>



- 1.5** The ESC found that Decision 2022/2481 of the European Parliament and the Council of December 14, 2022 fully coincides with the goals set in the Digital Transformation of Bulgaria for the period 2020 - 2030 and at the same time expresses concern about the pace of implementation, especially in the area of digital infrastructure and cyber security.
- 1.6** The ESC believes that successful digital transformation in the public sector requires radical changes in work and business processes, with processes based on working with hrd-copy documents being transformed into processes working with electronic documents in an electronic environment. A radical change in the way of thinking and presentation of work processes (complete re-engineering) is needed, taking into account the digitisation of the environment in which we live.
- 1.7** The ESC insists on the real implementation of the principle of one-time collection of data, its storage in a machine-readable open format and its repeated use, included in the e-Government Act, Regulation (EU) 2022/868 on the European data management framework (i.e. the so-called Data Management Act) and Regulation (EU) 2023/138 on the determination of a list of specific high-value data sets and the terms and conditions for their publication and reuse and in the Administrative Procedure Code both in the state administration and in the public sector as a whole. This presupposes the optimization and simplification of business processes and the improvement and acceleration of services for citizens and businesses.
- 1.8** The ESC is convinced that for the successful digital transformation of the state and municipal administration, it is necessary to further develop and improve the developed architecture of electronic government. It is necessary to continue the development and maintenance of the information and communication infrastructure of the state administration by a single system operator with clearly defined functions, a transparent work protocol while preserving state property and ensuring effective control throughout the budget cycle and guaranteed quality of implementation and maintenance.
- 1.9** The ESC understands that the digitization of the economy and society can lead to differences and deepening inequality between individuals, households, businesses and geographical areas, as well as between different countries (digital inequality).

The ESC supports policies and measures to ensure access of all individuals and companies to digital technologies and services.

- 1.10** According to the ESC, Bulgaria is significantly lagging behind in strategic planning and implementation in the field of digitalization of the economy. Digital transformation requires significant and targeted investment from both the private and public sectors.
- 1.11** The ESC emphasizes the importance of digital skills and competences to increase the adaptability of human capital to the changing demands of workplaces and the labour market. A decisive role is played by the educational infrastructure, which must provide conditions and opportunities for their acquisition. The ESC recommends that the Bulgarian government focuses more efforts on measures to stimulate digital competence and digital culture from early childhood and throughout working life.
- 1.12** In relation to the shortage of qualified specialists needed for the digital transformation process, the ESC is deeply concerned about the levels of emigration of young people and recommends immediate measures to create economic incentives for young people to stay in Bulgaria, ensure high-quality education for them and their children, enough places in kindergartens for all children, health care corresponding to world standards and guarantees to protect their economic activity.
- 1.13** The ESC insists on stimulating the process of "Lifelong Learning" (LLL).
- 1.14** Higher education should reflect global trends that support digital transformation, including personalized learning through a free choice of "path through the course", project-based learning and more independent work and student activity, data interpretation - from facts to knowledge. The role of teachers should receive recognition and material stimulation for the preparation and retraining of the workforce in accordance with the requirements for digital transformation of the economy and society.

- 1.15** The ESC is concerned about the decline in the quality of school education, the drop-out of children from school<sup>10</sup> and the high proportion of functional illiteracy<sup>11</sup> among those completing various levels of school education. This creates social inequality and marginalizes large sections of society that rely on social benefits instead of a decent reward for hard work. It has been proven<sup>12,13,14</sup> that higher education leads to higher incomes. The ESC calls for immediate measures to cover all children from 4 to 16 years (100%) in the school education system, penalties for parents who do not send children to school, and to ensure an equal level of education (according to internationally accepted criteria) in the entire school network.
- 1.16** The ESC believes that for a successful digital transformation, it is necessary to stimulate teachers and students who achieve high levels of knowledge regardless of the educational institution in which they study.
- 1.17** The ESC is worried about the relatively low level<sup>15</sup> of development of Bulgarian science and research and development activity (number of scientific publications, number of patents, utility models). The ESC recommends that investments in science, research and development be increased with focus depending on the results achieved.
- 1.18** The ESC recommends facilitating and stimulating the transfer of knowledge, skills and technologies from educational institutions, BAS, research and development centres to companies and production enterprises, creation of joint companies between higher education institutions/BAS and the business.
- 1.19** The ESC understands that in the process of digital transformation jobs will disappear and in their place many new ones will arise related to the introduction of new technologies. The ESC encourages the qualification and retraining of workers and employees in order to obtain the necessary knowledge and skills to occupy jobs revealed in the process of digital transformation, with significantly higher pay. The

---

<sup>10</sup> <https://data.worldbank.org/indicator/SE.PRM.UNER.MA?locations=BG&view=chart>

<sup>11</sup> <https://www.oecd.org/pisa/data/>

<sup>12</sup> THE CAUSAL EFFECT OF EDUCATION ON EARNINGS, [https://davidcard.berkeley.edu/papers/causal\\_educ\\_earnings.pdf](https://davidcard.berkeley.edu/papers/causal_educ_earnings.pdf)

<sup>13</sup> Strong link between education and earnings, <https://blogs.worldbank.org/education/strong-link-between-education-and-earnings>

<sup>14</sup> [https://en.wikipedia.org/wiki/Educational\\_attainment\\_in\\_the\\_United\\_States#cite\\_note-Educational\\_attainment\\_and\\_median\\_household\\_income-26](https://en.wikipedia.org/wiki/Educational_attainment_in_the_United_States#cite_note-Educational_attainment_and_median_household_income-26)

<sup>15</sup> <https://www.scimagojr.com/countryrank.php>

ESC supports policies and measures to stimulate higher schools, scientific organizations and economic entities to create innovative spin-off companies.

- 1.20** The ESC is disturbed by our lagging behind in the digitization for Bulgarian SMEs<sup>16</sup>. The ESC supports and insists on adequate new policies and measures to support small and medium-sized enterprises (SMEs) for digital and technological transformation. In the conditions of rapid technological changes and contested competition, SMEs do not have sufficient human, financial and technical capacity to remain competitive.
- 1.21** The ESC is concerned by the continuous increase in cyber threats at European, national, regional, sectoral and company level and calls for investment in real cyber security measures and above all in the preparation and training of the human factor. There is an urgent need to develop a new cybersecurity strategy and transpose Directive (EU) 2022/2555 of the European Parliament and of the Council on measures for a high common level of cybersecurity in the Union. Establishing a national cybersecurity infrastructure should be taken as an immediate task by the Ministry of e-Governance. It is imperative to introduce actual control over the implementation of the requirements of the Law on Cyber Security and the Ordinance on Minimum Requirements for Network Information Security. The fight against disinformation should have a corresponding regulatory framework.
- 1.22** The ESC recommends to stimulate the use of the advantages of artificial intelligence, taking into account the possibility of intensification in all spheres of socio-economic life, paying attention to the benefits, risks, threats and the lack of specific regulation at the moment.
- 1.23** The ESC encourages the inclusion of Bulgaria in consortia for European digital infrastructure (EDICs) according to Art. 14 of Decision 2022/2481 of the European Parliament and the Council of Europe<sup>17</sup> by creating incentives and real support in building the necessary infrastructure.

---

<sup>16</sup> <https://ec.europa.eu/eurostat/web/products-eurostat-news/-/ddn-20220826-1>

<sup>17</sup> Decision (EU) 2022/2481 of the European Parliament and of the Council of 14 December 2022 establishing the Digital Decade Policy Programme 2030 <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32022D2481&qid=1684241796421>

/signed/

**Zornitsa Roussinova**

PRESIDENT OF THE ECONOMIC AND SOCIAL COUNCIL