



# **Digital Economy and Society Index (DESI) 2021**

**Bulgaria**

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## About the DESI

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*The European Commission has monitored Member States' progress on digital and published annual Digital Economy and Society Index (DESI) reports since 2014. Each year, the reports include country profiles, which help Member States identify areas for priority action, and thematic chapters providing an EU-level analysis in the key digital policy areas.*

*In 2021, the Commission adjusted DESI to reflect the two major policy initiatives that will have an impact on digital transformation in the EU over the coming years: the Recovery and Resilience Facility and the Digital Decade Compass.*

*To align DESI with the four cardinal points and the targets under the Digital Compass, to improve the methodology and take account of the latest technological and policy developments, the Commission made a number of changes to the 2021 edition of the DESI. The indicators are now structured around the four main areas in the Digital Compass, replacing the previous five-dimension structure. 11 of the DESI 2021 indicators measure targets set in the Digital Compass. In future, the DESI will be aligned even more closely with the Digital Compass to ensure that all targets are discussed in the reports.*

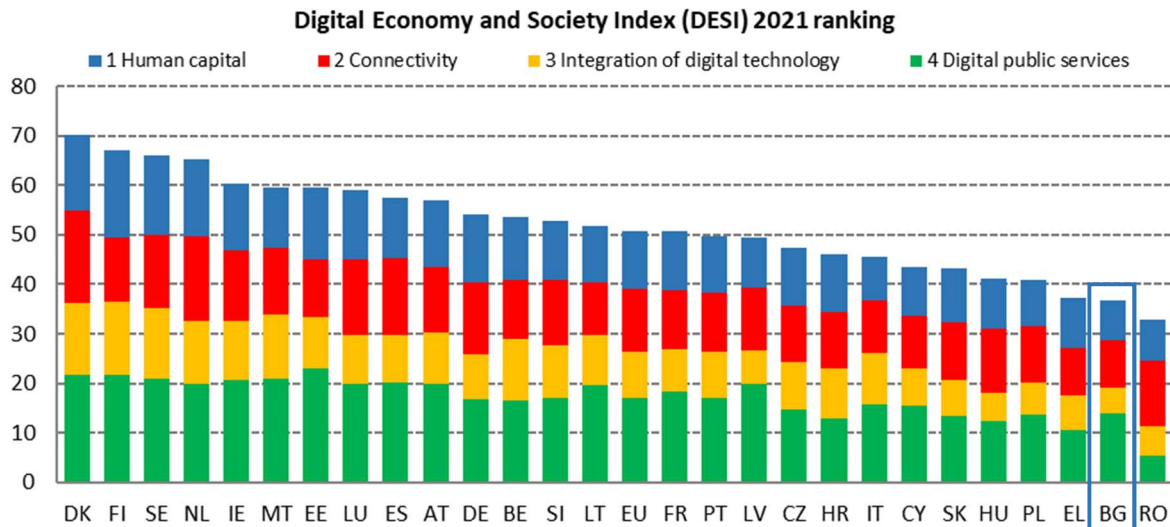
*In addition, DESI now includes an indicator measuring the level of support that adopted ICT technologies provided companies in taking more environmentally-friendly measures (ICT for environmental sustainability) and the take up of gigabit services, plus the percentage of companies offering ICT training and using e-invoicing.*

*The DESI scores and rankings of previous years were re-calculated for all countries to reflect the changes in the choice of indicators and corrections made to the underlying data.*

*For further information, see the DESI website: <https://digital-strategy.ec.europa.eu/en/policies/desi>.*

## Overview

	Bulgaria		EU
	rank	score	score
DESI 2021	26	36.8	50.7



Bulgaria ranks 26th (equal to Greece) out of the 27 EU countries in the European Commission digital economy and society index (DESI) for 2021.

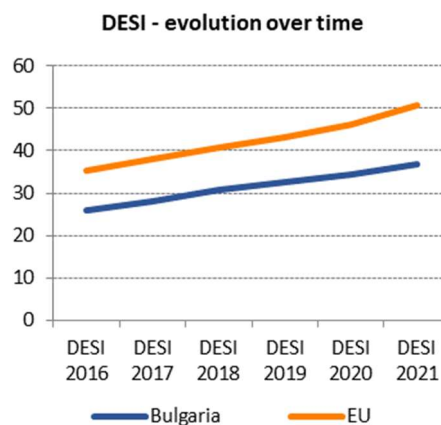
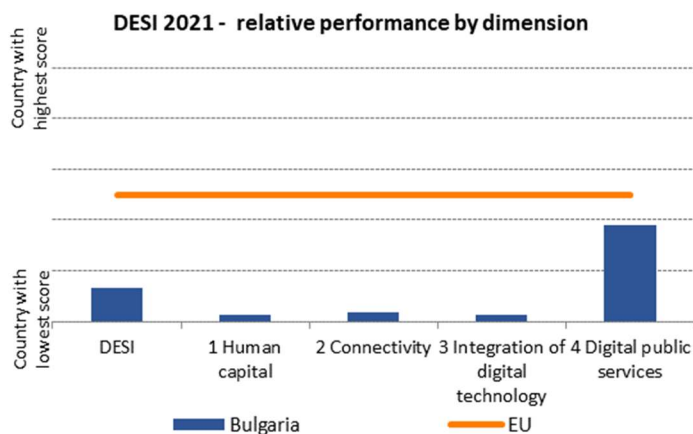
On Human capital, Bulgaria's level is still among the lowest in the EU. People with at least basic digital skills account for 29% of the total Bulgarian population aged 16 to 74, against an EU average of 56%. Enterprises still have difficulties in finding skilled staff to innovate and grow.

As regards Connectivity, Bulgaria scores only 59% in overall broadband take-up of households subscribing (EU average: 77%) and is also lagging behind in the take-up of high-speed fixed broadband of at least 100 Mbps (15%, against an EU average of 34%). On mobile broadband, 4G coverage is high but 5G coverage is at 0% for 2020, compared to the EU average of 14%. Take-up of mobile broadband is still low at 63% (EU average: 71%). The recently completed 5G auction is an important step toward achieving timely 5G deployment, although there is still lack of sufficient spectrum in certain bands. As a result of the auction, there has been considerable catch-up compared to 2020; 5G readiness now stands at 20.55%, compared to the EU average of 39%.

Bulgaria shows a mixed picture on enterprises' Integration of digital technology. The country is investing in research and digital infrastructure, but their impact would increase if more enterprises were encouraged to make use of them. In addition, intensive outreach about how the new infrastructure can help SMEs digitalise and raise their skills level could have a positive impact. Use of artificial intelligence is more widespread than the EU average. On the other hand, most SMEs do not yet engage in e-commerce: 8% of Bulgarian SMEs sell online, 3% of SMEs are selling across borders, and 8% of turnover comes from the online segment (these figures are about half the respective EU averages).

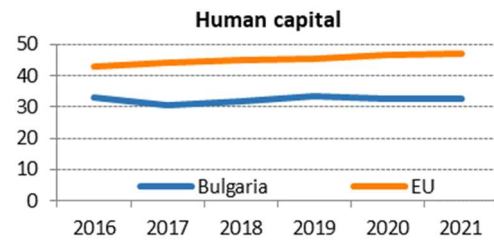
On Digital public administration, the outdated legal framework remains a major obstacle. Users of e-government represent only 36% of internet users (EU average: 64%), and digital public services for citizens score 57 out of 100 (EU average: 75). However, digital public services for enterprises and the use of open data by public administrations are just above the EU average. A national strategy in this

domain and the activity of the national state e-government agency have delivered promising improvements. Several actions have been taken to engage with people to encourage take-up of e-government services (supported by EU funds). Electronic identification and electronic signatures are still facing delays, although there are other means of identification in place. Systems to support e-health solutions were prioritised to support health administration processes and the COVID-19 vaccination campaign.



# 1 Human capital

1 Human capital	Bulgaria		EU
	rank	score	score
DESI 2021	27	32.7	47.1



	Bulgaria			EU
	DESI 2019	DESI 2020	DESI 2021	DESI 2021
<b>1a1 At least basic digital skills</b>	<b>29%</b>	<b>29%</b>	<b>29%</b>	<b>56%</b>
% individuals	2017	2019	2019	2019
<b>1a2 Above basic digital skills</b>	<b>11%</b>	<b>11%</b>	<b>11%</b>	<b>31%</b>
% individuals	2017	2019	2019	2019
<b>1a3 At least basic software skills</b>	<b>31%</b>	<b>31%</b>	<b>31%</b>	<b>58%</b>
% individuals	2017	2019	2019	2019
<b>1b1 ICT specialists</b>	<b>3.3%</b>	<b>3.1%</b>	<b>3.3%</b>	<b>4.3%</b>
% individuals in employment aged 15-74	2018	2019	2020	2020
<b>1b2 Female ICT specialists</b>	<b>30%</b>	<b>28%</b>	<b>28%</b>	<b>19%</b>
% ICT specialists	2018	2019	2020	2020
<b>1b3 Enterprises providing ICT training</b>	<b>9%</b>	<b>10%</b>	<b>7%</b>	<b>20%</b>
% enterprises	2018	2019	2020	2020
<b>1b4 ICT graduates</b>	<b>3.7%</b>	<b>3.8%</b>	<b>4.0%</b>	<b>3.9%</b>
% graduates	2017	2018	2019	2019

On Human capital, Bulgaria ranks last in the 27 EU countries and is thus well below the EU average. The overall level of basic digital skills in Bulgaria is the lowest in the EU; people with at least basic digital skills account for 29% of the total Bulgarian population aged 16 to 74, against an EU average of 56%. Only 11% of people have above basic skills, slightly less than a third of the EU average. ICT specialists account for 3.3% of total employment. This marks an increase compared to 2019, bringing it back to the levels of 2018, albeit a small one in proportion to the workforce given the labour market shortages and the faster increase of the EU average (which now stands at 4.3%). In contrast, women account for 28% of all ICT specialists, making Bulgaria a leader for this indicator within the EU.

The strategic measures for digital education are part of the 2021-2030 Strategic framework for the development of education, training and learning. To support the continuity of education during the pandemic, around EUR 7.2 million were earmarked in the 2020 state budget<sup>1</sup> to fund giving laptops to schools for temporary use by any student or teacher who does not possess their own computer to also be used during normal attendance learning, thus helping modernise school equipment. In addition, around EUR 55 million from EU Structural Funds are directed towards the 'Equal Access to School Education in Crisis' initiative to purchase equipment for pedagogical specialists and students to support education during the crisis and conduct training on acquiring practical skills for remote work with electronic access. For preschool and school education in 2021, the National ICT plan intends to purchase innovative hardware and to give priority to schools that have not received equipment for the last 3 years and to schools with ICT profiles. In 2020, the Ministry of Education and Science

<sup>1</sup> According to Council of Ministers' Decree No 283/15.10.2020.

implemented SIAMU, a system that manages users' identities to provide secure access to all educational platforms and services. The ministry also published electronic textbooks on the main general education subjects on its website for students' use.

Following the entry into force of the Pre-School and School Education Act in September 2016, computer programming in primary school has become part of the curricula for 3rd and 4th grades, covering basic algorithms using a language for block programming. In the 5th grade, students learn programming languages such as Scratch or Code. In grades 6 and 7, students move to script text languages such as Python or JavaScript.

Since February 2021, the European Social Fund and national co-funding have been operating an initiative called 'Digital Skills Development'. This started with identifying the digital skills needed by employees, broken down by economic sector. It will then develop, test and validate unified digital skills profiles for key professions, as well as sectoral qualifications frameworks for digital skills development.

Bulgaria sometimes faces difficulties in retaining ICT specialists, despite a growing ICT sector. Enterprises in all sectors face challenges in filling ICT vacancies, for instance, in cloud architecture or data management, a trend also observed at EU level. Provisionally, based on data provided by the Bulgarian Software Industry Association, the Bulgarian software industry (which represents 3.8% of Bulgarian GDP) and the ICT sector have grown by about 10% in 2020 in terms of revenue, against the backdrop of around a 4.2% drop in the country's GDP (as per the preliminary data from the National Statistical Office).

The Ministry of Labour and Social Policy organises regular free training courses, including at regional level, for unemployed young people under the age of 29 in digital competences, helping them start their own enterprise or become employed. Digital inclusion is also a part of an ongoing e-government action. In addition, a 2021-2027 human resources development programme will train people in Bulgaria in digital competences, targeting all age groups including the elderly and disadvantaged people.

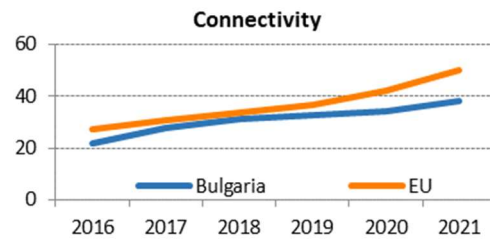
The Digital National Alliance is the Bulgarian national coalition for digital skills and jobs. It adapted its activity to the COVID-19 conditions and organised virtual meetings and online training materials. Its objectives are to break ICT stereotypes, to increase the number of people with digital skills, to involve more women in the technological world and to empower future generations with technological intelligence and curiosity.

In October 2020, during EU Code Week, 663 events took place in Bulgaria. Schools organised events to mark the importance of studying programming and the development of related creative thinking. In addition to developing mobile applications, students took part in workshops on the basics of programming, visual/block programming and activities related to digital competences.

In summary, basic digital skills remain a significant challenge among the Bulgarian population, one that has to be addressed. Enterprises still have difficulties in matching the skills they need to the available competences and skills of the workforce. Increasing the number of Bulgarian ICT specialists and reskilling the labour force are of great importance for Bulgaria to take advantage of the digital transition. Some strategic actions include improving digital skills in the workforce and in the general public as a priority among Bulgaria's digital transformation policies. The European Social Fund+ continues to provide additional support. Targeted and specific policies are needed in the short term to alleviate skills shortages.

## 2 Connectivity

2 Connectivity	Bulgaria		EU
	rank	score	score
<b>DESI 2021</b>	<b>26</b>	<b>38.1</b>	<b>50.2</b>



	Bulgaria			EU
	DESI 2019	DESI 2020	DESI 2021	DESI 2021
<b>2a1 Overall fixed broadband take-up</b> % households	<b>58%</b> 2018	<b>58%</b> 2019	<b>59%</b> 2020	<b>77%</b> 2020
<b>2a2 At least 100 Mbps fixed broadband take-up</b> % households	<b>10%</b> 2018	<b>11%</b> 2019	<b>15%</b> 2020	<b>34%</b> 2020
<b>2a3 At least 1 Gbps take-up</b> % households	<b>NA</b>	<b>0.26%</b> 2019	<b>0.27%</b> 2020	<b>1.3%</b> 2020
<b>2b1 Fast broadband (NGA) coverage</b> % households	<b>75%</b> 2018	<b>77%</b> 2019	<b>79%</b> 2020	<b>87%</b> 2020
<b>2b2 Fixed Very High Capacity Network (VHCN) coverage</b> % households	<b>38%</b> 2018	<b>42%</b> 2019	<b>43%</b> 2020	<b>59%</b> 2020
<b>2c1 4G coverage</b> % populated areas	<b>98.7%</b> 2018	<b>99.5%</b> 2019	<b>&gt;99.9%</b> 2020	<b>99.7%</b> 2020
<b>2c2 5G readiness</b> Assigned spectrum as a % of total harmonised 5G spectrum	<b>0%</b> 2019	<b>0%</b> 2020	<b>25%</b> 2021	<b>51%</b> 2021
<b>2c3 5G coverage</b> % populated areas	<b>NA</b>	<b>NA</b>	<b>0%</b> 2020	<b>14%</b> 2020
<b>2c4 Mobile broadband take-up</b> % individuals	<b>56%</b> 2018	<b>63%</b> 2019	<b>63%</b> 2019	<b>71%</b> 2019
<b>2d1 Broadband price index</b> Score (0-100)	<b>NA</b>	<b>72</b> 2019	<b>78</b> 2020	<b>69</b> 2020

With an overall connectivity score of 38, Bulgaria ranks 26th among EU countries.

In 2020, Bulgaria saw a small increase in fixed broadband network deployment, with fast broadband coverage (NGA) improving from 77% in 2019 to 79% and very high capacity network (VHCN) coverage rising from 42% in 2019 to 43%. The country has still a significant gap to overcome to reach the EU average. VHCN coverage shows limited growth over time, and has increased at an average of 2.5 pp., from 38% in 2018 and 42% in 2019. In rural areas, fixed VHCN coverage is only at 1% (EU average: 28%). Moreover, Bulgaria ranks very low in overall broadband take-up, with only 59% (up 1 pp. since 2019) of households subscribing (EU average: 77%). It is also lagging behind in take-up of high-speed fixed broadband of at least 100 Mbps (15%; EU average: 34%), with very limited, but increasing, progress year on year: 11% in 2019 and 15% in 2020 (EU average: 34%). Take-up of ultra-fast broadband (1Gbps) is still insignificant.

The mobile broadband indicators lag behind the EU average. 4G coverage is high, at more than 99.9%. 5G readiness is at [25]% compared to the EU average of [51]% after authorisations were granted in May 2021. However, coverage is at 0% for 2020, compared to the EU average of 14%. Take-up of mobile broadband is still low at 63% (EU average: 71%). Low fixed and mobile take-up seems not

correlated to high prices, as Bulgaria actually ranks relatively high (5th) in the Broadband Price index, with prices significantly lower than the EU average.

In August 2020, Bulgaria updated its broadband plan<sup>2</sup>, aligning it with the targets set by the EU. Among the prioritised areas are: (i) improving access to high-speed internet in less populated regions by establishing favourable conditions for the roll-out of fibre connections; (ii) securing connectivity to all public institutions, i.e. national and local administrative organisations, schools, hospitals and universities; and (iii) bridging the digital divide.

In December 2020, the country's authorities approved measures encouraging co-investment and co-usage between private operators and public bodies. The investment needed to reach the Gigabit Connectivity targets is estimated at approximately EUR 500 million. In 2019, 196 investments totalling EUR 31 million were made, accounting for 14.3% of total investments. In 2020, 175 investments were planned, totalling EUR 31.8 million.

Bulgaria plans to use financing under the Recovery and Resilience Facility for major connectivity works. The main objective is to build symmetric gigabit backbone/backhaul networks throughout the country, with a focus on underserved parts of the country, and creating conditions for connecting with networks at European level. The main road networks (TEN-T) are planned to be covered by secure 5G connectivity to ensure high-speed broadband coverage providing speeds of up to 1 Gbps for the main roads. For the time being, no public or private organisations have applied for or received financing from the European Investment Bank or the European Fund for Strategic Investments.

The Bulgarian broadband plan aims among other things to develop high-speed mobile internet everywhere in the country, specifically referring to 5G as an enabling technology to reach the targets. 5G mobile broadband coverage is now available in major cities, and continues to expand. Overall, Bulgaria has assigned [25]% of the EU harmonised 5G pioneer spectrum, compared to the EU average of [52.7]%.

The successful deployment of 5G in Bulgaria depends on the timely availability and assignment of the 5G pioneer bands. The recently launched and completed<sup>3</sup> (April 6 2021) 5G spectrum auction that assigned 75% (EU27 71%) of the 3.4–3.8 GHz band is an important step for 5G roll-out in Bulgaria. The auction raised approx. EUR 6.7 million (BGN 13.4 million) and awarded three bidders with rights of use in the auctioned frequency band (3.6 GHz) at 100 MHz each. The 700 MHz and 26 GHz bands have not yet been assigned. Non-civil use seems to still be a limiting factor for the successful assignment of 700 MHz frequency band, while in the 26 GHz band undertakings declare only their principal interest in obtaining spectrum; a new public consultation is being considered for Q4 2021. Operators have signalled a preference for the full release of the 700 MHz band before expressing commercial interest, after a testing period in 2020, during which three operators were conducting 5G trials. The 3.6 GHz band is already commercially available.

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<sup>2</sup> <https://www.mtict.government.bg/sites/default/files/updatedngaplanconnectedbulgaria.pdf>.

<sup>3</sup> <https://crc.bg/en/news/1379/the-communications-regulation-commission-has-completed-an-auction-procedure-for-granting-authorizations-for-use-of-individually-assigned-scarce-resource-radio-frequency-spectrum-in-the-3-6-g-hz-band>.



### Main market & regulatory developments

No significant developments (entries, consolidations, altered market shares) have taken place in 2020 in the fixed telephony, fixed internet and mobile markets.

The number of bundled services and their composition have been stable over the last few years. Consumers continue showing a preference for fixed broadband and TV bundles, which amount to 51.9% of bundle subscriptions, followed by fixed voice and mobile services bundles at 38.6%.

Telework and stay-at-home regimes increased the use of services (in particular internet and voice services), but no substantial deterioration of quality of service has been reported, suggesting that operators have sufficient capacity to deal with the COVID-19 induced increase in demand.

The transposition of the European Electronic Communications Code into national law was delayed, and on 4 February 2021 the Commission sent Bulgaria a letter of formal notice. Bulgaria replied notifying complete transposition on 29 March 2021. The Commission is assessing whether the notification is complete.

On 19 June 2020, the Commission registered notifications from the Bulgarian national regulatory authority (NRA) concerning the review of the markets for: (i) wholesale call termination on individual public telephone networks provided at a fixed location; and (ii) wholesale call termination on individual mobile networks in Bulgaria.

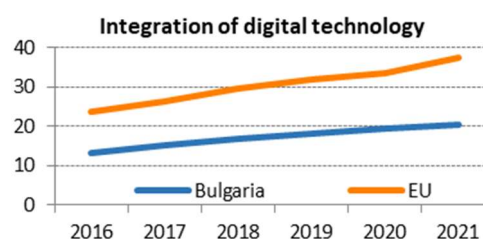
In its roadmap to implement the Connectivity toolbox, Bulgaria informed the Commission that it has already implemented a number of best practices such as: (i) permit exemptions and fast track procedures; (ii) availability of georeferenced information about the occupation level of infrastructure and existence of dark fibre; and (iii) easy access to physical infrastructure controlled by public bodies. It also indicated that it is currently working notably on: (i) ensuring that permit applications are submitted through electronic means; (ii) establishing broadband coordinators; (iii) entrusting a body with a coordination role regarding rights of access to existing physical infrastructure; and (iv) reducing networks' environmental footprint.

The Bulgarian NRA received 1,388 complaints from end users during the first 9 months of 2020, a decrease from the reference period in 2019 (1,721 complaints). The complaints relate to charges for services, how bills are structured, charging penalties regarding contract terminations and border roaming. Complaints for roaming and payments made to third parties through direct billing seem have decreased significantly compared to 2019.

Although the COVID-19 pandemic and the teleworking regime led to increased use of internet services, Bulgaria still faces challenges in coverage and take-up of both fixed and mobile broadband. On fixed broadband there is a continued commercial interest in investing. As for mobile broadband, the recently completed 5G auction is an important step toward achieving timely 5G deployment, although there is still a lack of sufficient spectrum. This is even more of an issue since commercial interest has been signalled for frequency bands that have not yet been auctioned.

### 3 Integration of digital technology

3 Integration of digital technology	Bulgaria		EU
	rank	score	score
<b>DESI 2021</b>	<b>27</b>	<b>20.5</b>	<b>37.6</b>



	Bulgaria		EU	
	DESI 2019	DESI 2020	DESI 2021	DESI 2021
<b>3a1 SMEs with at least a basic level of digital intensity</b> % SMEs	NA	NA	33%	60%
<b>3b1 Electronic information sharing</b> % enterprises	23%	23%	23%	36%
<b>3b2 Social media</b> % enterprises	9%	10%	10%	23%
<b>3b3 Big data</b> % enterprises	7%	7%	6%	14%
<b>3b4 Cloud</b> % enterprises	6%	6%	8%	26%
<b>3b5 AI</b> % enterprises	NA	NA	31%	25%
<b>3b6 ICT for environmental sustainability</b> % enterprises having medium/high intensity of green action through ICT	NA	NA	68%	66%
<b>3b7 e-Invoices</b> % enterprises	13%	13%	10%	32%
<b>3c1 SMEs selling online</b> % SMEs	6%	7%	8%	17%
<b>3c2 e-Commerce turnover</b> % SME turnover	2%	2%	3%	12%
<b>3c3 Selling online cross-border</b> % SMEs	3%	3%	3%	8%

As regards the integration of digital technology in enterprises, Bulgaria ranks last among EU countries. Only 33% of SMEs have at least a basic level of digital intensity (while 60% do so in the EU on average). Only 8% of Bulgarian SMEs sell online (below the EU average of 17%), only 3% of SMEs are selling across borders (versus 8% in the EU) and only 3% of turnover comes from the online segment (against 12% in the EU). 6% of enterprises use big data. The relatively high uptake of AI, used by 31% of enterprises, is well above the EU average. Bulgaria scores well on the use of ICT for environmental sustainability.

The strategic document 'Digital Transformation of Bulgaria for the period 2020-2030'<sup>4</sup> outlines a vision for the digital transition of the Bulgarian economy. In parallel, the 2027 national strategy for SMEs focuses on supporting SMEs in the challenges they face when they innovate. According to a study by the European Investment Bank, as of the beginning of 2020, only 22% of the SMEs in Bulgaria made investments in innovation. Bulgaria's Council of Ministers adopted rules in January 2021 to initiate the national procedure to select potential European Digital Innovation Hubs under the Digital Europe Programme. After completion of the national selection procedure, the Council of Ministers approved

<sup>4</sup> [https://www.mtitc.government.bg/sites/default/files/digital\\_transformation\\_of\\_bulgaria\\_for\\_the\\_period\\_2020-2030\\_f.pdf](https://www.mtitc.government.bg/sites/default/files/digital_transformation_of_bulgaria_for_the_period_2020-2030_f.pdf).

a list of 17 candidates for EDIHs<sup>5</sup>, geographically located in the six regions of the country, in accordance with the regional specialisation part of Bulgaria's innovation strategy for intelligent specialisation<sup>6</sup>.

Bulgaria is also a founding member of the EuroHPC Joint Undertaking for high-performance computing. In 2020, the procurement contract for a new EuroHPC petascale supercomputer was signed by the EuroHPC Joint Undertaking and the Petascale Supercomputer Bulgaria consortium. Bulgaria also signed the EuroQCI declaration<sup>7</sup> in 2020.

The 2014-2020 science and education for smart growth operational programme is co-funded by the EU through the ERDF and supports the creation of centres of excellence and centres of competence in highly innovative technologies. A project called QUASAR is being implemented in the field of informatics and ICT and is expected to lead to the creation of patents for innovative products; importantly, it includes quantum communication research and development.

Bulgaria also updated its cybersecurity national strategy in April 2021. Several measures using the structural funds aim to strengthen the capacity of the National Computer Emergency Response Team (CERT) to monitor the national cyber space, detect vulnerabilities, prevent and respond to cyber incidents and crises and increase Bulgaria's cooperation with other EU countries and actors like ENISA.

In 2020, the Council of Ministers adopted a Concept for the development of Artificial Intelligence in Bulgaria until 2030. The document offers a policy vision for the development and use of AI in Bulgaria and identifies priority fields of application such as infrastructure and data availability, research and innovation capacity, knowledge and skills, and building trust in society.

The 'Competitiveness and innovation in enterprises' 2021-2027 (PCIE) programme, funded by the European Regional Development Fund (ERDF), will support the digital transformation of enterprises, including the development and introduction of Industry 4.0 technologies.

In summary, Bulgaria launched several successful initiatives in several pioneering technologies. However, integration of digital technologies is uneven across regions, and small enterprises show a significant delay in the integration of digital technologies. Policies for the digitalisation of enterprises that support regional balance and on all SMEs are crucial and should be further pursued.

#### **Highlight 2020-2021: Petascale computing in Bulgaria**

Bulgaria is a founding member of the EuroHPC Joint Undertaking for high-performance computing. In 2020, the EuroHPC Joint Undertaking signed the procurement contract for a new EuroHPC petascale supercomputer for the Sofia Tech Park. It is the most powerful petascale supercomputer in eastern Europe and will be hosted in Bulgaria. This is an achievement for the Bulgarian economy and society, and more broadly, a regional contribution to the EU's global leadership in high-tech.

The supercomputer will support analysis of the quality of the environment and natural disaster management. It will be used in areas such as pharmacy, biochemistry, mechanics, quantum chemistry and monitoring of climate change.

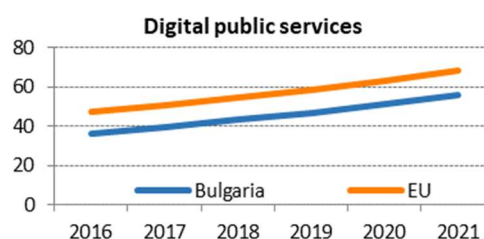
<sup>5</sup> Decision No 424 dated 26 May 2021.

<sup>6</sup> <https://s3platform.jrc.ec.europa.eu/digital-innovation-hubs-tool>.

<sup>7</sup> <https://digital-strategy.ec.europa.eu/en/news/austria-bulgaria-denmark-and-romania-join-initiative-explore-quantum-communication-europe>.

## 4 Digital public services

4 Digital public services	Bulgaria		EU
	rank	score	score
<b>DESI 2021</b>	<b>21</b>	<b>56.0</b>	<b>68.1</b>



	Bulgaria			EU
	DESI 2019	DESI 2020	DESI 2021	DESI 2021
<b>4a1 e-Government users</b> % internet users	33%	36%	36%	64%
<b>4a2 Pre-filled forms</b> Score (0 to 100)	NA	NA	53	63
<b>4a3 Digital public services for citizens</b> Score (0 to 100)	NA	NA	57	75
<b>4a4 Digital public services for businesses</b> Score (0 to 100)	NA	NA	87	84
<b>4a5 Open data</b> % maximum score	NA	NA	78%	78%

Bulgaria ranks 21st in the EU in Digital public services. E-government users represent only 36% of internet users, well below the EU average of 64%. This is consistent with the score of 57 on the provision of digital public services for citizens, for which the EU average is 75. In contrast, digital public services for businesses have a score of 87, slightly above the EU average of 84. Bulgaria performs at the EU average level on open data.

In March 2021, the e-government development strategy was updated to set out a vision until 2025 for the digital transformation of the public sector. This strategy is implemented by the State e-Government Agency (SEGA), which delivers e-government solutions and resources that are also used by, or specifically developed for, regional and local authorities.

Bulgaria has introduced a national interoperability framework and targets to make public registers available and interoperable. Already completed are the registers for budget, and project control. These will be followed by e-government specific registers, such as a register of registers and a register of standards. Since 2018, all administrative institutions have been required to exchange documents using the Electronic Document Exchange platform; currently 1,028 institutions are connected. The SEGA also put in place a portal for access to resources for development of software for e-government. It will be complemented by procedures for personal data access, secure technologies for data exchange and shared cloud infrastructure for public authorities.

A unified model for requesting, and delivering electronic administrative services was developed by the SEGA with the support of EU Structural Funds: it is in operation and provides access to 430 electronic services, among which 148 are provided by municipal administrations. It will be followed by the cross-border provision of e-services.

The SEGA is also implementing the 'Upgrading and Development of State Hybrid Private Cloud for e-Government Needs' project. The main objective of the project is building a highly resilient and redundant cloud infrastructure for public administration. The project funding is EUR 16 million from the EU Structural Funds and EUR 2.5 million from national co-funding.

More generally, the SEGA established a help contact centre to provide assistance to people including from abroad, and developed a quality feedback tool. It also took measures to increase the security and reliability of information and protection of personal data.

The building of a Sofia Digital Twin has started: this is a large interdisciplinary pilot project of the GATE Centre for Excellence in Big Data and Artificial Intelligence. The project aims to develop a digital twin platform to design, test, apply and service the entire lifecycle of the urban environment in a 3D simulation of the city.

In 2020, a consortium of five Bulgarian enterprises successfully applied under the CEF-TC-2020-1 call and received an EU grant for 24 months to set up, deploy and maintain the first Bulgarian EBSI (European Blockchain Infrastructure for Services) node and to develop three use cases – ESSI (European Self Sovereign Identity), notarisation, and diplomas. The consortium will work towards the completion of ready-to-use decentralised digital services and reusable design for the future development of the infrastructure. These actions aim to deliver to the public and the public administration a solid cross-border foundation for interoperable trans-European digital communication.

In 2021, as a response to the pandemic, the health sector was prioritised as a domain for digitalisation. A project for a national health information system was launched to store health records, prescriptions and referrals. It will also contain information about procedures and treatment of patients in hospitals. Other relevant projects include a project to digitise the certification of medical expertise and a project to support the vaccination campaign using a register. Bulgaria was among the first EU countries to launch the EU digital green certificate for COVID vaccination, launching its system on 1 June 2021 (i.e. one month early); as of 1 July 2021, around 1 million certificates had been downloaded.

Several actions have been taken to engage with the public to encourage take-up of e-government services. Electronic identification and electronic signatures would bring substantial advances in this area, but so far their introduction has been delayed and little progress has been made. Until their launch, various means of identification remain in use. These include: (i) qualified electronic signatures; (ii) various personal codes (personal identification codes used by the national regulatory authority (the Communications Regulation Commission), and the National Social Security Institute unique access code used by the National Health Insurance Fund); and (iii) usernames and passwords. Significant improvements in digital public administration could be achieved if delays in the reform process associated with the implementation of the e-government development strategy are overcome.