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REPORT* "The Prospects of the Development of Digital Economy in the BSEC Member States "

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I. INTRODUCTION

- 1. Over the past decades the world is rapidly moving towards a new type of economy, where digital technologies are becoming main tools for its formation. Today information technology and digital transformation are the main factors of technological change and the condition for ensuring competitiveness both at the level of individual enterprises and at the country level, leading to the restructuring of all economic and production processes, radical increase in productivity, and reduction in the cost of goods and services.
- 2. Today, most countries are promoting the so-called digital economy in their societies as a strategic goal for the coming decades. According to the definition of the World Bank, the digital economy is a system of economic, social and cultural relations based on the use of digital information and communication technologies. In the modern economy, digital companies are coming to the fore and becoming growth points that enrich economy with a digital resource.
- 3. At the beginning of the 20th century, the main locomotives of the world economy were large oil, steel-making, machine-building and mining companies and the technological sector was considered the most expensive sector of the world economy. In parallel with the above-mentioned sectors, the banking sector also developed, which rapidly passed ahead the energy sector. Currently, the world's largest companies are representatives of the digital economy sector, which is based on information technology and is ahead of other sectors, estimated at more than 4 trillion USD.
- 4. Digital technologies have affected all areas of society. New technologies have changed the social relationships between people, buyers and producers of goods, customers and recipients of services, business partners. Currently, the popularity of electronic money crypto currency, as a means of payment, is growing every day. Today it is possible to make payments in crypto currency for many goods or services, it can be exchanged for real money. It is presumed that soon it will be possible to pay with bitcoin any product or service. But, so far there is no common solution for further development strategy for crypto currency in the world, and it is important that the competitive development of various electronic payment systems is under the mandatory control of financial regulators.
- 5. Today there are countries in which trade is conducted with the use of crypto currency. In the countries with developed economy, stable monetary and credit system, and established tradition of banking operations, the crypto-currencies take the place for its most effective use. In developing countries with young and yet unstable monetary and credit system, the strict control is required when introducing them. The number of the established systems is to be limited and unified to the extent possible. Although development of this sector is the subject of debates it continues to make progress.
- 6. The global digital economy is in the stage of active growth, the rapid development of innovation, and the widespread use of digital technology in all sectors. As indicated in the World Bank's World Development Report 2016, the impact of digital technology on economic growth is realized through three mechanisms: involving the maximum number of citizens in social processes, increasing efficiency and developing innovations. The Report indicates that these three mechanisms ensure growth through increased trade, capital and labour, as well as increased competition.
 - 7. The share of the digital economy in the GDP of developed countries increased from 2010 to 2017 by 4.3% and currently is 5.5%, and in the GDP of developing countries from 3.6% to 4.9%. In the G20 countries, this indicator has grown over five years from 4.1% to 5.3%. As noted above, information technology is the basis of the digital economy. The US and China together spend more than 500 billion US dollars each year on IT development. According to the International Data Corporation (international research and consulting company), the world costs of information technology will exceed 4.8 trillion US dollars in 2018. From the geographical point of view, North America is the largest consumer of IT, this region accounts for about 33%

of global IT spending, the share of Europe is 22%, in the aggregate, the Asia-Pacific region covering Japan, China, Australia, India and neighbouring countries is 33 %.

- 8. According to the forecasts of the consulting company Accenture, the use of digital technologies in 2020 will increase by 1.36 trillion US dollars or 2.3% of GDP to the total GDP of the ten leading world economies. The share of the digital economy in developing countries, especially in South-East Asia is growing substantially. If the GDP of developed countries grows by 1.8% due to the digital economy, the GDP of developing countries will increase by 3.4%. The Boston Consulting Group prognoses that by 2035 the digital economy volume may reach 16 trillion USD.
- 9. At the Forty Ninth Meeting of the Economic, Commercial, Technological and Environmental Affairs Committee in Tirana on 19-20 October 2017 it was decided to discuss the "Prospects for the Development of the Digital Economy in the BSEC Member States" at the Fiftieth Meeting as the main item on the agenda.
- 10. The present report reflects the information received from the national delegations of Armenia, Azerbaijan, Bulgaria, Greece, Moldova, Romania, Russia, Serbia, Turkey and Ukraine, as well as from the relevant Internet resources.

II. DIGITAL ECONOMY

Stages of Development

- 11. In the second half of the 20th century, humanity entered the era of global change and moved to the next stage of its development the information society. Today, information is a key factor in the economy as a resource, service, good, source for added value and employment. As information processes develop and penetrate the sectors of economy the forms of economic activity like Internet shops, Internet banking, electronic payment systems enhance and the new types of money virtual currencies (crypto-currencies) gradually develop. At the same time the whole new sector of economy is created digital economy.
- 12. Broader approach to the concept of digital economy implies an economic production using digital technologies, i.e. the digital economy is an economic activity founded on the electronic services, as well as electronic money exchange. As a rule, these terms apply to operation of electronic services focused on the sale of electronic goods and services, often with the exchange of electronic money between participants in electronic transactions.
- In the framework of digital economy research, the Digital Evolution Index 2017, prepared by 13. Mastercard jointly with the Fletcher School of Law and Diplomacy of the Tufts University, reflects the progress in the development of the digital economy in different countries, as well as the level of integration of the global network into the life of billions of people. Countries are divided into four groups - "Stand out" elite countries, "Break out" perspective countries, "Stall out" countries with slower pace of progress and "Watch out" problematic countries. The highest in the ranking of countries are characterized by a high level and rapid pace of digital development including countries like Singapore, Great Britain, New Zealand, the United Arab Emirates, Estonia, Hong Kong, Japan and Israel. The results of the survey show the competitiveness and potential of the development of the digital economy in 60 countries. The Ranking shows the progress in the development of the digital economies and the level of integration of the global network into people's lives. The Digital Evolution Index 2017 estimates each state according to 170 indicators. They describe four main drivers that determine the rate of digitization - the level of supply, consumer demand for digital technology, the institutional environment, and the innovative climate.
- 14. The modern digital economy is a product of the development of the information society for the last thirty to thirty-five years. The first stage in the development of the digital economy was the emergence of the global computer network Internet. Since early 1980s, the network has grown steadily, increasing the number of connected users. Today, almost half of the world's population is connected to the Internet. Initially, the Internet was used to send e-mail, but, enlarging the

network, it started to provide more opportunities for data transmission. This trend affected the existing sectors of the economy, and in 1994 the first online store was opened. This was the beginning of the development of electronic commerce (e-commerce) in the world. From this moment on, a major business began to invest in the development of e-commerce. At the same time, in October 1994, the American bank of Stanford Federal Credit Union launched the world's first Internet banking system that allowed paying the bills for public services, internet, telephone, making loan payments and transferring money to third parties without leaving their personal computer. The emergence of online stores and Internet banking systems, served as a transition point in next stage of developing digital economy.

- 15. The second stage in the development of the digital economy was the massive transfer of the existing 4 subjects of the economy (firms, stores, retail chains, banks) into the virtual world. The main process of this stage in the development of the digital economy is the creation of e-business forms by business entities. The electronic component begins to appear massively in almost all major forms of economic activity. Due to free access to Internet technology, more and more forms of economic activity open their "online" branches, thus gaining additional sales of the products while increasing the profits. The virtual banks, shops, offices start to emerge with the main feature of not having the physical offices.
- 16. A large-scale study conducted by the McKinsey Global Institute (MGI) notes that the Internet is an essential element of economic progress ensuring a significant part of the economy's growth. Thus, its contribution to the GDP of developed countries has doubled in the last five years to 21 %. It should be noted that most of the economic value of the Internet is that the profit is generated with the help and at the same time outside the technological sector. For example, companies in traditional industries receive up to 75 % of the benefits through online activities. The Internet is also a catalyst for creating new jobs. The analytical work carried out by the MGI experts says that over the three-year period, the level of sales of small and medium-sized enterprises that used the Internet as distribution channel become 22 % higher than in companies with low or zero presence in the Internet space.
- 17. At the third stage virtual goods and electronic currency have appeared. Virtual goods are the goods that can be purchased in online stores in the form of files, for example, various software files, e-books, computer games, etc. The increase in sales volume in electronic economy entailed the emergence of electronic currency. Electronic currency is a system for storing and transmitting both traditional currencies and non-public private currencies. Thus, the digital economy has established its own monetary system different from the real economy, which has allowed sharp increase in its growth rates.

Sectors

18. At present, the following sectors of the digital economy are differentiated: *E-commerce* - a new type of trade that is carried out via the Internet in virtual stores. Here, the buyer can choose the goods from available catalogues through a computer. The subject of electronic commerce can be almost any product - goods, services, real estate, banking products, etc. Today, the main goods purchased through the Internet are food products, manufactured goods, information products. For the buyer e-commerce is very important to save time in finding and buying necessary products, while for the seller it is important to reach as many buyers as possible. *Electronic money* – a virtual money or crypto-currency. *E-marketing* is a set of marketing activities with the use of electronic tools. The object of marketing is the information-analytical and expert-research activity of an enterprise (organization, company) using network information systems and technology for: selecting a competitive place in the market; defining strategies for promotion and distribution of goods; choosing advertising and pricing policies with due regard to entire set of factors of external and internal environment in terms of risk and uncertainty. The subject is the activity of a concrete owner. *Electronic banking* - a technology for providing remote banking services to clients (i.e. without visiting the bank) often through computer and mobile networks. *Electronic insurance services* - insurance services that can be obtained through the Internet.

The Ways of Development

- 19. Two approaches could be noted in building a digital economy: projected and market-oriented. At present the strategies applied by countries in developing digital economy constitute a combination of these two approaches. A market approach to building a digital economy assumes that a state creates optimum conditions primarily for establishing the favourable environment for proper functioning of digital economy thus stimulating business towards transition to this new sector. A projected approach to the establishment of digital economy envisages the phased development of infrastructure under the leadership of the state and targeted support in addressing gaps in the relevant sector by various economic entities.
- 20. In countries with a high-performing technology sector, for example in the EU countries, in most cases state takes active part in the formation of the digital economy. Governments are now taking measures to provide citizens with high-speed digital communications.
- 21. The digital economy is based on innovative technologies created by the electronic industry. It is represented by two components. First, it is the electronic industry, the production of microchips, computers and telecommunications devices, consumer electronics. Second, these are companies that provide services in the field of digital technologies and use digital means of production, storage, data management. The importance of the development of the digital sector for national economies is confirmed by the fact that a number of countries are currently implementing comprehensive and quite large-scale programs aimed at developing the digital sectors in their economies, creating new jobs in the respective areas, and increasing the competitiveness of the electronics industry and IT technologies. One of the key components is investment in the digital economy.
- 22. The digital economy is rapidly developing on a global scale. It is the most important locomotive for innovation, competitiveness and economic growth in the world. As the European Commission notes, the digital economy is estimated at 3.2 trillion euros in the group of G20 countries and already accounts for about 5.3% of GDP, stimulating development and creation of jobs. In addition, more than 75% of the added value in the Internet belongs to the traditional industries, which is associated with higher labour productivity.
- 23. The expansion of the role of information technology in the work of the private and public sectors is the basis for the transition to a digital state. According to the forecasts of the world's leading experts 25% of the world economy will become digital by 2020 and the introduction of digitalization technologies that allow the state, business and society to interact effectively is becoming a huge and dynamic process.
- 24. The key to preserving the competitiveness of the country's economy is the development of the digital component by joint efforts of state and business, including the following sectors: industry, transport and logistics infrastructure, agriculture, subsoil use, energy, education and healthcare. Due to the rapid progress in digital technologies, it becomes possible to print not just sheets of documents on printers, but to create complex 3D projection models using 3D printers that are used in various fields from food industry and medication sector and construction. One of the additional factors favouring introduction of modern digital technologies are digital dividends.
- 25. According to the World Bank's "World Development Report 2016: Digital Dividends" the introduction of digital technologies makes it possible to increase efficiency and transparency of public administration, ensure employment, improve the quality of education and healthcare, improve the investment climate, increase labour productivity and increase shares of small and medium-sized businesses in the GDP structure.
- III. DEVELOPMENT OF THE DIGITAL ECONOMY IN THE EUROPEAN UNION

- 26. The European Union recognizes that the digital economy is "the most important driving force for innovation, competitiveness and economic growth in the world". The European Union pays great attention to the development of the digital economy considering that the future level of economic growth of the continent depends on how effectively enterprises use digital technologies. The Digital Economy and Society Index (DESI) shows that the European Union, as a whole, and the individual member states are progressing towards the digital economy and society. In the EU countries, according to official data of the European Commission for March 2017, there are more than 30 national and regional initiatives on industrial digitalization. The European Commission has identified five parameters for a digital business growth program: digital knowledge and the market of information and communication technologies, a digital business environment, access to finance for business development, labour skills for the use of information and communication technologies and electronic leadership, and the creation of a supportive entrepreneurial culture.
- 27. Despite the positive developments towards informatization, the huge potential of the digital economy is still not used in Europe. Thus, according to the European Commission, 41% of enterprises currently do not use digital technologies at all, and only 2% fully realize their advantages. Therefore, Europe is trying to create new opportunities for enterprises to accelerate the digital transformations of its business environment encouraging the use of the latest digital technologies to improve processes, creating new business models, refining business analytics in the sphere of interacting with customers, increasing growth pace and creating new jobs. The need to use the potential of digital technologies with the aim to improve competitiveness, entrepreneurship and innovation was separately highlighted in the Business Action Plan 2020. The European Commission encourages the use of the opportunities offered by the digital revolution, encouraging innovative transformations of the existing business and supporting digital enterprises in Europe.
- 28. The more effective use of digital technologies has been recognized by the EU countries as a key factor for enhancing competitiveness and economic growth, as well as increasing the employment. As a result, this issue together with the Action Plan "Entrepreneurship 2020" appears in a number of other initiatives as one of the topical points on the agenda, among them: EU 2020 flagship initiatives Industrial Policy in the Era of Globalization, the Digital Agenda for Europe, Innovative Union; The Small Business Act of Europe; Communication of the Commission "Adapting e-business policies in a changing environment: the lessons of the Go Digital initiative and the challenges ahead".
- 29. The Action Plan "Entrepreneurship 2020" provides the basis for the policy and ways to develop key priority sectors until 2020. The program is structured in five sections, each of which describes the key factors that impact digital entrepreneurship. The Commission intends to work towards the deployment and implementation of this approach on the basis of a five-section strategy.
- 30. The European Commission also works on other issues related to the competitiveness of the digital economy in Europe, namely: encouraging the transition to electronic circulation of invoices (e-invoices) and payment information between enterprises, which accelerates the money flow between them, reduces printing and postal expenses, reduces the cost of storing documentation; standardization of information and communication technologies (ICT) in order to unify their specifications and properties, maximize opportunities for cooperation between business entities; training and the development of the necessary skills for the effective use of digital technologies in industry and other sectors of the economy. Competitiveness, innovation and job creation in the EU are increasingly advanced through the use of new information and communication technologies.

IV. DIGITAL ECONOMY IN BSEC MEMBER STATES

31. Over the past decade, many countries have made efforts to develop "single digital agendas", i.e. search for joint effective solutions and mechanisms for regulating digitalization processes

at the interstate level. At the same time, the obvious leader in this direction is the European Union, whose leaders determined the formation of a single digital market in Europe as a major long-term goal.

- 32. For the first time, the need to develop such a common strategy was officially announced by the President of the European Commission Jean-Claude Juncker in October 2015. In 2010, within the framework of the more general strategy "Europe 2020" the EU countries launched a special initiative "Digital Europe", the main the focus of which was on stimulating the growth of the pan-European Internet economy. In the same year, in 2010, the "Digital Agenda for Europe", which envisages the development of common approaches and priorities of the EU member states in relation to the further development of the digital sectors of the European economy and measures to stimulate digital innovation. In April 2016, the European Commission launched a new comprehensive initiative under the tentative title "Digitization of European Industry", which formulated a wide range of new tools and mechanisms to support the further digitization of European industry and services.
- 33. The Organization for Economic Cooperation and Development (OECD) adopted the Strategy for the Development of a Common Digital Market. Within the framework of the Trans-Pacific Partnership (TPP), special interstate agreements have been developed in the field of telecommunications and e-commerce. The ASEAN countries in 2015 agreed on a common Master Plan for the development of information and communication technologies. During the G20 meeting in 2016 the Program for Development and Cooperation in the Sphere of Digital Economy was adopted. In 2016, the heads of state of the members of the Eurasian Economic Union (EAEU) signed the Statement on the digital agenda of the EAEU until 2025.
- 34. The development of digital technologies in the BSEC member states is determined by such conditions and factors as strengthening the role of information and communication services in the global market and supporting local enterprises and companies manufacturing and exporting information services to enhance the competitiveness of the information industry and modernize the country's economy. The governments and state bodies of the BSEC member states, being aware of the importance of informatization of society and the development of digital technologies in determining long-term economic growth, take an active part in the development of the digital economy as one of the key directions of the state policy.
- 35. With the development of the digital economy, the existing system of taxation rules in many countries is not able to prevent the risk of tax evasion by large companies or incomplete tax payment, which results in a negative consequence for the development of the economy as a whole. In this context, it is necessary to improve the tax system of the BSEC member states.
- 36. At present, the development of the digital economy is one of the main factors for increasing the competitiveness and productivity of the economy of **Armenia**. The main directions of the country's technological and innovative development, which contribute to the development of the digital economy in Armenia, are enshrined in the Program of the Government of the Republic of Armenia for the period 2017-2022.
- 37. In Armenia work is underway to develop a strategy for digital transformation and strategies for the development of the innovation sector, which is in harmony with the development processes of both the Eurasian Economic Union and the European Union and other countries for which the development of a digital and innovative economy is a priority. At this stage, contemporary infrastructure has been created to modernize the education system and train highly qualified specialists, where educational programs are implemented on the basis of cooperation with major technology companies. Quite a number of training centres and laboratories have been set up, in particular the Armenian National Engineering Laboratory (created in conjunction with National Instruments), the Microsoft Innovation Centre, the IBM Centre for Innovative Technologies and Solutions, the technology centres in the cities of Gyumri and Vanadzor, equipped with modern innovative infrastructures.

- 38. Since 2013, the Venture Fund "Granatus Ventures" operates in Armenia, which finances the innovative ideas of technology start-up companies in the fields of healthcare, information and telecommunication technologies, engineering, materials science and environmentally friendly technologies. Since 2017, the venture fund "SmartGate" also operates in Armenia. Competitions are organized for revealing innovative start-ups, who receive grants for the implementation of innovative ideas. In 2014, the Parliament of the Republic of Armenia adopted the Law "On state assistance to the IT sphere", which gives IT start-ups the right to be exempted from payment of a 20 % profit tax. In addition, employees of IT startups are subject to a preferential 10 % of income tax. As a result of the adoption of this law, a breakthrough in establishing start-ups was registered in the country. At the same time in 2017 the "Startup Academy of Armenia" was established, the main purpose of which is to promote the development of the start-up ecosystem of Armenia.
- 39. Armenia is also actively participating in the Digital Market Harmonization (HDM) initiative between the EU Member States and the countries of the Eastern Partnership. In particular, within the framework of the Declarations on Digital Economy adopted in 2015 in Luxembourg and in 2017 in Tallinn, the joint work is being carried out on cooperation in the field of digital skills, e-commerce, e-health, cybersecurity, ICT innovation and telecommunications.
- 40. Necessary work was carried out in **Azerbaijan** to ensure the transition to a digital economy. An infrastructure was created to exchange information between the information systems of state bodies, the portal of "E-government" was developed to provide services to citizens of the country in a qualitatively new form using virtual space, the capabilities of modern technologies and a high level of informatization in state bodies. One of the measures implemented in this direction is the creation of the "Digital Trade Hub of Azerbaijan" on the basis of the Decree of 22 February 2017 issued by the President of the country Ilham Aliyev "On additional measures towards strengthening the position of the Republic of Azerbaijan as the Digital Trade Hub and expanding foreign trade operations". The operator of a Digital Trade Hub of Azerbaijan is the Centre for Analysis of Economic Reforms and Communication.
- 41. The Action Plan of the Strategic Roadmap for the Development of Communications and High Technologies in the Republic of Azerbaijan, approved by the Decree of the President of the Republic of Azerbaijan No. 138 of 6 December 2016 identified a number of priority areas for the development of the digital economy, including "Choosing an Approach to Increasing Coverage broadband infrastructure", "Providing access to international gateways and increasing the speed of international channels in accordance with demand", "Expansion of digital payments" and "Consideration of other ways to increase the use of the broadband network" and implementation of these measures with the participation of other relevant institutions was entrusted to the Ministry of Transport, Communications and High Technologies.
- 42. At the same time, within the framework of the Action Plan, such measures as "Creation of a working group to study the wider application of technologies in business", "Promoting the transfer of business entities to digital entrepreneurship", and within the framework of the "Digital Expansion" a draft "State Program for the Expansion of Digital Payments in the Republic of Azerbaijan in 2018-2021" will be developed.
- 43. At present, in accordance with the Strategic Roadmap, a study is under way to expand the use of technologies in business activities, to study international best practices for the transition of business entities to the digital environment.
- 44. Currently, **Bulgaria** is undergoing a process of coordination of the "Digital Bulgaria 2020" National Programme, which is a continuation of the existing Programme. The former recognizes what has been achieved and takes into account the new European strategic and programming guidelines for achieving a smart, inclusive, sustainable, and addressed to the whole society digital growth for the period 2016-2020. It aims at the modernization and widespread introduction of smart IT solutions in all spheres of the economic and social life by

creating: environment for a broad application of the ICT, national infrastructure, and innovative services of a new type for businesses and citizens, uniform standards and the achievement of a high level of network and information security and interoperability. It sets out the objectives, measures and activities which are the commitment of the various departments to achieve the main strategic priorities. The Programme has been developed and implemented in response to the Programme for the Digital Technology in Europe, also known as the Digital Agenda for Europe (DAE), approved by the European Commission in 2010.

- It is one of the seven leading policy initiatives under the Europe 2020 Strategy for smart, 45. sustainable and inclusive growth which aims at preparing the EU economy for the challenges of the next decade, with a particular emphasis on building a digital single market of the European Union. The political framework for the development and implementation of the ICT in Bulgaria has been outlined in the main national strategic planning and programming documents which are in line with the EU's key strategic planning documents - "Europe 2020", and in particular the "Digital Agenda for Europe". Measures for the introduction of the ICT in different spheres of human activity that contribute to the emergence and development of the process of full informatization and electronization of society have been also set out in strategic documents such as: Innovation Strategy for Smart Specialization of the Republic of Bulgaria (2014-2020); National Strategy for Implementation of Cloud Technologies in Government; Cyber Security Strategy; Draft Strategy for e-Archiving (2014-2020), etc. The current legislation in the ICT field encompasses a number of normative acts, the most significant of which are: Electronic Communications Act, Electronic Governance Act, Electronic Document and Electronic Signature Act, Commercial Register Act, E-Commerce Act, Personal Data Protection Act and some other acts, as well as separate provisions in other special laws. There are a number of by-laws that set out in detail the rules in the ICT field. In the implementation of the "Digital Bulgaria 2015" National Programme, a significant progress has been made in the transposition and implementation of the European legal framework, a number of directives have been fully transposed into the Bulgarian legislation and others are in a process of being transposed. The Programme will be updated in the period 2016-2020.
- 46. The government in **Greece** envisages ICT as a lynchpin in restarting and developing the economy and in boosting employment, especially in highly specialised fields, viewing it as a catalyst in achieving more effective and efficient Public Administration and as a tool and instrument that will improve the quality of life for citizens and strengthen social cohesion.
- 47. The Greek National Digital Strategy (NDS) specifies efforts will be focused on: High Availability and Penetration of New Generation Broadband Services; Utilising ICTs in order to support essential reform actions; Supporting the digital transformation of enterprises in the Greek economy sectors/pillars; Developing the ICT industry as an internationally competitive sector of the economy.
- 48. Deployment of next-generation broadband infrastructure and networks that are necessary for the country. Specifically, the targets are Gigabit connectivity for all main areas of socio-economic concentration, Internet access speed of at least 100 Mbps, Uninterrupted 5G coverage in all urban areas and main roads.
- 49. The benefits of digitising the operation of Greek businesses and the economy in general concern all sectors of the economy since digitisation will enable them to: access new markets and broaden the target audience; improve their competitiveness by reducing production costs and increasing productivity; diversify the products and services they offer; recognise opportunities in an open and networked market; create the conditions for rapid adoption of innovation at all stages of their production processes.
- 50. In order for the planned interventions to deliver the best possible results in the economy and in society, they need to focus on the following sectors/pillars of the economy (excluding the ICT sector which is itself a separate area of intervention): Agri-Food Food Industry / Energy /

Supply Chain – Transport / Cultural & Creative Industries / Environment / Tourism / Health – Medicines / Materials – constructions.

- 51. Greece holds a prominent place in funding from RTD Framework Programs intended for ICT in both the "7th Framework Program" (FP7) and "Horizon 2020". It is estimated that applied research aimed at its entrepreneurial exploitation will have more direct benefits for the development of the ICT sector in Greece.
- 52. ICT innovation should focus on serving as a supportive tool that will generate value in other sectors/pillars of the economy (beyond ICT), which facilitates the following objectives: Strengthens the supply of specialised ICT services for the development of priority sectors of the economy. Provides ICT ecosystems, an in-house test environment as well as initial demand for specialised innovative products which in turn create significant prospects for outward growth.
- With a view to developing the digital economy, in particular, to implementing information 53. society technologies, the Republic of Moldova approved through Government Decision no. 857 of 31 October 2013 and is implementing the National Strategy for the Development of the Information Society "Digital Moldova 2020", as well as other legislative and normative acts: Law on Electronic Communications (no. 241 of 15.11.2007, amended by Law 135/2017), Law on payment services and electronic money (no. 114 of 18.05.2012), Law on Electronic Commerce (no. 284 of 22.07.2004, amended by Law 59/2017), Law on the Electronic Signature and Electronic Document (no. 91 of 29.05.2014), Strategy for Increasing the Competitiveness of the Information Technology Industry 2015-2021 (Government Decision no. 254 of 14.05.2015), Program for the creation and implementation of the "Single National Emergency Call Service 112" in the Republic of Moldova (Government Decision no.241 of 03.03.2016), National Cyber Security Program of the Republic of Moldova for 2016-2020 (Government Decision no. 811 of 29.10.2015), Program for the transition from analogue terrestrial television to digital terrestrial television (Government Decision no. 240 of 08.05.2015), Radio Frequency Spectrum Management Program for 2013-2020 (Government Decision no. 116 of 11.02.2013), Concept of Open Government Data Principles (Government Decision no. 700 of 25.08.2014), Strategic Program for Governance Technological Modernization (e-Transformation) no. 710 of 20.09.2011 (Government Decision no.710 of 20.09.2011). The process of adjusting the legislation related to Law no. 77 of 21.04.2016 on information technology parks was completed and the mechanisms for the creation and operation of IT parks were fully ensured. The legislation in the field of taxation, social security and compulsory health insurance has been amended to simplify the way IT businesses are managed and operate and to introduce a 7% single tax on sales revenue and the possibility of operating as a virtual resident of IT parks. On 27 October 2017, a number of 15 IT companies from the Republic of Moldova submitted an application to the Ministry of Economy and Infrastructure regarding the establishment of the first IT Park "Moldova IT Park". The draft Government Decision on the creation of the IT Park and its attachments (Regulation on the organization and operation of the Administration of "Moldova IT Park", Regulation for the IT Park residents' registration) is currently under consideration by the State Chancellery
- 54. In order to develop the Information Society in the Republic of Moldova, the National Strategy for the Development of the Information Society "Digital Moldova 2020" (approved by Government Decision no. 857 of 31 October 2013) was drafted. The Strategy outlines the complex vision and objectives for the development of the Information Society in the Republic of Moldova, including the objective of the "Creation of conditions for increasing the security and confidence degree in the digital space", and also identifies a series of constraints and proposes the necessary solutions.
- 55. The Action Plan for the implementation of the Strategy includes concrete actions, such as the "National Cyber Security Program of the Republic of Moldova for 2016-2020" developed with all the competent authorities and approved by the Government (Government Decision no. 811

of 29.10.2015). The main objective of the Program is to create and implement a cyber security management system in the Republic of Moldova.

- 56. The Government of **Romania** approved by Government Decision No 245/2015, the National Strategy for the Digital Agenda for Romania 2020. The document takes over and adapts to the situation of our country, the elements of the Digital Agenda for Europe, one of the seven flagship initiatives of the Europe Strategy 2020. The Digital Agenda defines the major role that the use of information and communication technology (ICT) will have to play in meeting the Europe 2020 objectives.
- National Strategy for the Digital Agenda sets out four areas of action as follows: e-Government, 57. Interoperability, Cyber Security, Cloud Computing and Social Media - field which aims to increase efficiency and reduce costs in the public sector in Romania by modernizing the administration; ICT in education, culture and health - field which aims to support these technologies at the sectoral level; CT in e-commerce, and research, development and innovation in ICT - area aimed at regional comparative advantages of Romania, and backs growth in the private sector; Broadband and digital infrastructure services - aimed at ensuring social inclusion field. A full implementation of the strategic vision of the ICT sector in Romania will result in a total investment of around 2.4 billion euro. Direct and indirect impact on the economy can be translated into a GDP growth of 13 %, increase in the number of jobs by 11 % and cut in administration costs by 12 % during 2014-2020. Concrete measures set out in the Strategy will lead to: ensuring access to electronic public services for citizens and organizations (egovernment services);, improving access to the Internet by increasing the coverage of highspeed electronic broadband communications networks; increased use of the Internet; Ecommerce promotion; increasing the number of cross-border electronic public services; enhancing digital content and the development of ICT infrastructure in education, health and culture; supporting the growth of the ICT sector added value by supporting research, development and innovation in the field.
- 58. The strategy also establishes the following indicators for 2020 Romania: at least 35 % of people use e-government systems; at least 60 % of citizens use the Internet regularly; at least 30 % of citizens make purchases online; coverage with broadband communication networks (over 30 Mbps) of minimum 80%.
- 59. The information and telecommunication technologies sector is one of the most dynamically developing sectors in the economy of **Russia**. The digital economy growth rate reached 59 % from 2011 to 2015 (Russia's GDP 7 %). During these years, the digital economy of Russia accounted for 24% of the total GDP growth. In recent years, Russia has made significant progress in the area of digital entrepreneurship. At present, there are more than 6 thousand commercial and 6 federal electronic trading platforms. The number of companies participating in electronic trading is estimated at approximately 1.2 million. In the first quarter of 2017, the volume of the e-commerce in Russia grew by 14 % to 240 billion RUB, while the volume of cross-border trade increased by 26 % to 89 billion RUB. In the Internet economy of the Russian segment of the Internet are employed 2.3 million people (in 2013 1.1 million people).
- 60. In Russia the two basic documents in the field of information technology development were adopted in 2017: the Strategy for the Information Society Development in the Russian Federation for 2017-2030 and the programme Digital Economy of the Russian Federation. The program is aimed at creating the necessary conditions for the development of the digital economy of the Russian Federation, in which data in digital form is a key factor in production in all spheres of socio-economic activity, which increases the country's competitiveness, the quality of life, and ensures economic growth and national sovereignty.
- 61. The program includes the following main directions: regulatory policy; personnel and education; establishment of research competences and technological works; information infrastructure and information security.

- 62. One of the main directions of the Program is the "Regulatory Policy", within the framework of which work is carried out in order to establish regulatory environment for the use of digital technologies in the Russian economy, including the financial sector. It is planned to elaborate and adopt more than 50 bills in 2018-2019 that form a legal basis for the development of the digital economy in the Russian Federation.
- 63. In Russia, the list of available public services placed on the official Internet portal (gosuslugi.ru) is enlarging. 207 new federal services were introduced in 2017. 968 federal government services are already available. 1.3 billion government services were provided via the Internet portal in 2017 (three times more than in 2016). The number of registered users in the Internet portal of government services was 65 million people in 2017. Altogether, the number of users has increased almost 20 times since 2012 (3.6 million people were registered in 2012). The volume of payments made by Internet users in 2017 (compared to 2016) quadrupled and reached 30.3 billion RUB (in 2016 8.1 billion RUB, in 2015 2.9 billion RUB, in 2014 780 million RUB).
- 64. In 2017 the National Assembly of the **Republic of Serbia** adopted the Law on Electronic Document, Electronic Identification and Electronic Trust Services ("Official Gazette of RS" No. 94/17). The Law equalises the legal effect of an electronic document and the paper one, and besides the e-signature and time stamp, it also envisages new qualified trust services in electronic business (e-stamp, electronic delivery, storage of e-documents and authentication of websites). It also provides for the service of a qualified signature in the cloud, which will enable the use of a qualified electronic signature only through a mobile device and authentication data. The Law envisages three levels of reliability of electronic identification schemes (basic, medium and high) through which the identity is established during electronic transactions.
- 65. The Law is almost fully aligned with the acquis on these issues. The Law enforcement is expected to bring many advantages for the citizens, economy and the state faster and more efficient business operation, reduction of costs and increased availability of public authority services by electronic means. The prerequisite conditions for the development of digital economy in the Republic of Serbia are constantly improving, particularly having regard to the high percentage of usage of internet, computers and broadband internet connection. However, there is more space for further development, particularly in the part referring to e-commerce and cloud service
- 66. The new Law on Commerce, which is under preparation, will additionally regulate the ecommerce area and contribute to a faster development of this field. Moreover, the increase in the usage of public administration e-services is expected, having regard to the adoption of the Law on Electronic Document, Electronic Identification and Electronic Trust Services, and to the fact that a Draft Law on E-Government is under preparation. In November 2016, the Government of the Republic of Serbia adopted the Strategy for the Development of Information Technology Industry 2017 - 2020. This act provides for strategic priorities: 1. development of successful enterprises and products in the field of information technologies; 2. improvement of administrative environment suitable for the development of IT industry; 3. building up human resource capacities; 4. modernisation of business operation in all economic activities by using IT.
- 67. The increasing use of the internet and mobile communication technologies is providing a positive impact on e-commerce in **Turkey**. According to the data from the Interbank Card Centre (BKM), as of September 2017 the payments over credit cards on the internet, an important telling indicator of the volume of e-commerce, has reached TRY 72.7 billion. For 2018, the target set for e-commerce approaches TRY 170 billion, whereas 2023 is expected to bring a volume of TRY 350 billion. Furthermore, marked by a young and dynamic population, Turkey saw the computer and internet use rates rise from 61.2 % in 2016 to 66.8 % in 2017 according to TurkStat data. On the other hand, 24.9 % of all users ordered or purchased goods or services over the internet for personal use.

- 68. The first regulation drawn up to govern and lay down the legal framework for e-commerce in Turkey, the Law no. 6563 on the Regulation of E-Commerce entered into force on 1 May 2015. With reference to the relevant Law, the Regulation on Commercial Communications and Commercial Electronic Messages, and the Regulation on Service Providers in Electronic Commerce and the Providers of Intermediary Services were introduced.
- With a view to ensure studies on facilitating the development of e-commerce in Turkey and 69. taking required measures, references to matters related with e-commerce took place within the Government Program as well as within the strategy action plans. In this context, the Program of the 65th Government, published on 24.5.2016 stipulate the actions "to further the development of e-commerce services to extend the reach of the entrepreneurs to overseas markets; to complete the work on the regulations to facilitate e-commerce", and "to encourage the development of e-commerce; and to implement the security seal system for e-commerce sites". Moreover, with contributions from relevant institutions and organizations, the 2015-2018 Information Society Strategy and Action Plan was published under the coordination of the Ministry of Development, and was adopted by the Supreme Council of Planning, followed by entry into force through publication on the Official Gazette dated 6 March 2015. The actions where the Ministry is named the responsible entity are the "Development of the Security Seal System for E-Commerce Sites", "Development of E-Commerce Monitoring and Review System", and "Completion of the E-Commerce Regulations". The actions where the Ministry is named an associate are the "Establishment of the Internet Entrepreneurship Support Centre" and "Development of E-Exports Strategy" actions.
- 70. Ukraine cooperates with the EU in the field of digital economy, both at the bilateral level and within the framework of state participation in the Digital Community (DC) initiative, along with other countries participating in the Eastern Partnership (EaP). Officially, the invitation to Ukraine to join the cooperation with the EU in the field of the digital economy was made during the visit of the EU Commissioner for Digital Economy and Society G. Oettinger to Ukraine on 25-26 July 2016.
- 71. The main areas of cooperation and dialogue between the EU and EaP countries within the framework of the DC are: the digital communications infrastructure, including mobile communications and data transmission by a fixed high-speed broadband Internet infrastructure; use of digital technologies in the audio-visual sphere; e-management, including such areas as electronic customs and taxation; e-commerce, e-health, harmonization of roaming tariffs for mobile communications, cybersecurity.
- 72. The Ukrainian side seeks to coordinate the process of reforms and activities in the field of innovation and the introduction of digital achievements with EU priorities in the development of the Single Digital Market and the Central European Initiative. With this aim, digital technologies and trends in the development of the Single Digital Market of the EU have been taken into account in the Government's program documents Ukraine, namely the Strategy "Digital Ukraine 2020" and the Action Plan for its implementation, prepared by the Ministry of Economic Development and Trade of Ukraine and approved by the Government of Ukraine on 18 December 2016.
- 73. A more detailed list of priority proposals (a total of 22 points) of cooperation between Ukraine and the EU in the spirit of the Strategy "Digital Ukraine 2020" and the DC was presented to the European Commission in a letter dated 12.05.2017 from the First Vice Prime Minister, Minister of economic development and trade of Ukraine S.I. Kubiv to the Vice-President of the European Commission on the Single Digital Market of the EU A. Ansip. In the mentioned letter, the Ukrainian side calls on the European Commission to support these priorities at the political level, to include them in the list of priorities for the new multi-year EU assistance instrument for Ukraine for the period 2018-2020, as well as for the priorities of the European financial institutions on the territory of Ukraine (EIB, EBRD).

V. CONCLUSIONS

- 74. At present the digital economy becomes pervasive and takes important place in the real economy and is rapidly changing the familiar forms and methods of economic life throughout the world.
- 75. The development of the digital economy provides the opportunity for communication, exchange of ideas and experiences. The sites on the Internet allow you to unite efforts to create business, to invest, to search for employees, partners, resources and markets. Digital technologies can also play a key role in training employees, sharing knowledge, implementation of innovative ideas, including in the social sphere.
- 76. The digital economy brings lots of benefits for consumers and society consumers benefit from both improving the efficiency of public spending, improving the quality of services and the state of infrastructure, healthcare and education, which is made possible by technological innovation.
- 77. The development of digital technologies in the public sector is of great importance. The digital government and public services are increasingly viewed as a means of reducing costs, while providing more efficient services to citizens and businesses, as well as being part of the government's efforts to conserve the environment. Digital government and innovative technologies can ensure the effective participation of public administration in the enhancement of sustainable development.
- 78. The digital government allows public authorities to provide better services and be more open to the public. It can help governments reduce the damage to the environment, promote the effective management of natural resources, and stimulate economic growth and contribute to the development of the public sector of the economy.
- 79. The digital economy is transforming the labour market and increasing public services in a digital format. This trend implies that digital mechanism of rendering public services becomes not only real, but also the only one used, excluding the possibility of providing a service "bypassing the system". At the same time, the physical centres for the provision of public services are beginning to be transformed into centres for assisting citizens in obtaining public services in digital form. The interaction of government departments with citizens and enterprises becomes more comfortable due to the introduction of new technologies with the access to the public services.
- 80. The digital economy provides chances for any country to make a technological breakthrough using the lack of basic technology core, as it was once created around electricity and metal production. At present, any state can succeed in one of the industries that is engaged in high technologies and reach leading position in this field.
- 81. As stressed in the World Bank Report, the countries participating in digital economy will receive "digital dividends". Among the positive effects of digitalization are the expansion of markets for local enterprises, the simplification of trade and search for partners, higher labour productivity, increased competitiveness of companies, lower production costs, the easing of crises (through accelerated sales of goods and services), employment growth, better meeting human needs, reducing poverty and even weakening the social polarization of society.
- 82. The digital economy is becoming the most important engine for innovation, economic growth and competitiveness, therefore, in its strategic plans, the BSEC member states ensure comprehensive development of the sector as a key area for informatising society in the future. Current trends in world economic development point to the fact that only those countries that have already chosen digital economy, automatization and development of artificial intelligence can be successful. The overall development of digital economy can become a driving force for the economic systems in the BSEC member states.