



BELARUS

ICT ENVIRONMENT, INNOVATION POLICIES & INTERNATIONAL COOPERATION

EECA CLUSTER

This report is a compilation of information and data collected in the framework of the EECA cluster work. It is a part of three wider reports on EECA countries ICT priorities, Innovation Policies and Strategies and International Cooperation.

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Belarus

ICT Environment

1 Overview of the main trends in the National ICT Sector

1.1 Recent Trends in Macroeconomic and Market Developments

Belarus has industrial and import-oriented economy specializing in the production of machinery, petrochemical products and agriculture. Industry plays an important role in the national economy. The main sectors of industry are metallurgy, mechanical engineering, metalworking, chemical and petrochemical industries, light and food industries. Total share of industry in GDP in current prices is 32% (2012).¹

Since 1996 the economy of Belarus has been steadily growing annually at an average rate of 7%. During 2001-2008, Belarus's GDP grew on average by 8.3% annually, more rapidly than EU-28 (1.6%), the Europe and Central Asia region (5.7%) and the CIS (7.1%). Growth slowed down substantially in the context of the global economic crisis of 2008–2009, and dropped to 0.2% in 2009. Tight monetary and fiscal policy in late 2011 and through 2012 helped to restore macroeconomic stability in the country by 2013.² "The influence of the government over the economy remains extensive, including not only direct ownership of enterprises but also administrative intervention in credit allocation and widespread subsidies".³

According to the World Bank's income classification, Belarus belongs to the group of upper middle-income countries and has \$6,530 GNI per capita (2012). Estimated GDP was BRL636 trillion (\$72.2 billion) and its growth was 0.9% in 2013. Intramural expenditures on R&D are 0.67% of GDP (2012).⁴

The economy of Belarus is strongly export-oriented. Belarus has trade relations with over 180 countries in the world and, within the Custom Union and the Common Economic Space, free access to the market of Russia and Kazakhstan (over 170 million people). More than half of all production in Belarus is exported. In 2013 Belarus' export reach more than \$37 billion (80.8% as to 2012) but external trade balance was negative and stood at over \$5.7 billion. Software development, including for export, is one of the most rapidly developing branches of the Belarusian economy. Export of communication, computer and information services reached 8.8% of total services exports in 2011.

The amount of foreign investment in the economy of Belarus reached \$14.3 billion in 2012 and decreased by 23.9% compared to 2011. The main investors in the economy of Belarus are Russia (46.7% of total foreign investments), United Kingdom (25.2%), Cyprus (6.4%), Austria (4.0%) and

¹ National Statistic Committee of the Republic of Belarus, *Statistical Yearbook 2013* (Minsk: Belstat, 2013), p. 267 (in Russian).

² World Bank, *Belarus*, <http://www.worldbank.org/en/country/belarus>, 20.12.2013.

³ United Nations Economic Commission for Europe, *Innovation Performance Review of Belarus* (New York and Geneva, 2011), p. 4.

⁴ National Statistic Committee of the Republic of Belarus, *Science and Innovation Activities in the Republic of Belarus: Statistical Book* (Minsk: Belstat, 2013), p. 41 (in Russian).



Ukraine (2.5%). The largest amounts of foreign investment were directed at such industries as trade (39.1% of total), transport and communication (29.3%), manufacture of chemicals and chemical products (7.6%). Direct foreign investment (DFI) amounted to 72.0% of all foreign investment and their volume decreased by 21.9% to \$10.3 billion in 2012. The main part of DFI came from the Russian Federation and the United Kingdom (48.6% and 32.0% respectively).

Comparable indicators of economic performance

Indicator	National performance		EU27 (28 Average)	
	2009	2013	2009	2013
GDP per capita in PPS (EU25=100)	40.6	45.5	100	100
Real GDP growth rate (% change previous year)	0.2	0.9	-4.5	0.1
Labour productivity per person employed (EU25=100)	37.7	41.5	100	100
Inflation rate (average annual)	12.9	16.5	1.0	1.5
Unit labour costs (growth rate)	1.2	9.4	3.3	0.6
Unemployment rate (as % of active population)	0.9	0.5	8.8	10.8
Foreign direct investment intensity	2.0	1.3		
Fixed-telephone Subscribers Rate (% population)	38.4	46.3		
Mobile-cellular Subscribers Rate (% population)	84.0	112.1		
International Internet Bandwidth (Kbit/s per 1 Internet user)	2.0	78.3		
Percentage of households with computer	28.5	51.7		
Internet access Penetration Rate (% household with Internet access)	15.6	48.3		
Percentage of Individuals Using the Internet	23.0	46.9		
Percentage of Fixed(wired)-broadband Subscriptions (% population)	4.9	26.6		
Percentage of Active Mobile-broadband Subscriptions	0.2	32.9		

Source: National Statistical Committee of the Republic of Belarus, <http://belstat.gov.by/en/>; ITU Statistics, <http://www.itu.int/en/ITU-D/Statistics/Pages/stat/default.aspx>; World Bank Data, <http://data.worldbank.org/>.

Recent Trends in ICT Performance

Formation of information society and development of ICT are national priorities in Belarus. Thanks to the well-developed infrastructure ICT are widely used in the real sector of the economy. There are almost 4 thousand organisations acted in the ICT sector of Belarus (2012) with more than 92 thousand employees (2.2% of total employment, 2012). In 2012, total amount of investment in the ICT sector reached \$350 million and increased by 5% compared to 2011. According to the data at the beginning of 2013, most of the enterprises in Belarus have a local area network and Internet access (76.4% and 96.8% respectively). Over half of organisations have their own websites.

Software development, including for export, is one of the most rapidly developing branches of the Belarusian economy. Export of communication, computer and information services reached 8.8% of total services exports in 2011.

The main telecommunication company in Belarus is the Republican Unitary Enterprise “Beltelecom”. It is fully owned by the Government of the Republic of Belarus and operated by Ministry of Telecommunications. “Beltelecom” has a network of fiber-optical trunk lines and provides long-distances and international calls (it is the sole provider of fixed telephony in Belarus), broadband access to the Internet via ADSL and Wi-Fi services. There are more than 4.2 million automatic telephone station (ATS) numbers located on the country’s fixed public



switched telephone network (2012). The number of fixed-telephone subscribers is 46.3 per 100 people (2012). Belarus has 4 GSM operators (MTS, velcom, life and Dialog) and total number of mobile-cellular subscribers is more than 11 million (112 subscribers per 100 population). Today, mobile connection covers 99.7% of population and 98.1% of territory in Belarus. Strong market competition encourages mobile communication operators to expand their services, cut costs and introduce state-of-the-art technologies.

The width of external Internet channel of Belarus reached 390 Gbit/s, which is 41 kbit/s per 1 person or 104 kbit/s per 1 Internet user. The share of households with a computer was increasing from 46% in 2011 to 52% in 2012 and the proportion of households with Internet access growing from 40% 2011 to 48% in 2012. Fixed (wired)-broadband penetration went up from 22% in 2011 to 27% in 2012, which is by far the highest penetration in the CIS region. At the same time, wireless broadband is becoming increasingly important, having reached a penetration rate of 33% by end 2012. The proportion of individuals using the Internet is increasing, too, reaching 47% in 2012. There are 57 thousand Internet providers and 32 thousand hosting providers in Belarus. 48 thousand web-sites were registered in the .by-zone in 2012. On December 2013 Belarusian operator beCloud, in cooperation with mobile operator MTS Belarus, completed tests of four LTE Advanced base stations (4G connection with the speed from 150 Mbit/s to 240 Mbit/s) in the city of Minsk.

The biggest cable TV operators of Belarus are upgrading their networks to digital technologies: Cosmos TV launched digital operations using the DVB-C standard in 2009, MTIS launched DVB-C in Minsk in 2011, and Garant, which operates in several regions, started DVB-C services in 2012. DTT deployment is well advanced in the country with 96% of the population covered by the DTT signal (2013).

Belarusian ICT sector consist of about 4 000 organization with a total more than 92 000 employees at the end of 2012. The share of ICT value added in GDP is 3.1%. Great part of ICT organization (77%) is small and micro-entities with a team of less than 100 employees⁵. However, there are large-scale companies such as EPAM Systems (more than 4 000 employees in 2013), IBA Group (more than 2 500 employees in 2013), Belhard (more than 1 100 employees in 2013) and SaM–Solutions (about 1 000 employees in 2014). Belarusian IT companies mainly aim at western customers' orders, while the local clients usually are state institutions, financial enterprises, banks, and corporate customers. Approximately 650 companies and organizations operate on the IT market of Belarus. The estimated number of software developers, web designers, network administrators and other technical personnel working in the IT sector is around 25 000⁶.

In 2005, the Belarus High Tech Park was founded in Minsk in order to support the development of IT sector in Belarus. Currently, 138 IT companies with 18 000 employees are residents of the High Tech Park and the software development companies amongst them enjoy major tax benefits. In the first half of 2014, the production of computer programs and services in the High Tech Park resident-companies amounted to BYR 2.8 trillion (\$ 283,8 million). The growth rate over the same period of 2013 is 148%.

⁵ *Information Society in the Republic of Belarus, 2013*, http://belstat.gov.by/bgd/public_compilation/index_112/, 08.08.2014 (in Russian).

⁶ *Belarusian IT Industry*, <http://development.by/it/>, 08.08.2014



The export of software and IT services totaled \$ 246.1 million in the first half of 2014, thus exceeding the figure for the same period of 2013 by 30%. The share of exports in the High Tech Park total production came to 88 %. The High Tech Park resident-companies provide services for customers from 57 countries. The list of major importers of the High Tech Park includes the USA, Russia, Germany, Great Britain, Finland, Israel, the Netherlands and Denmark.

One should be noted the following figures by the type of investment in the High Tech Park:

- 64 companies were established by Belarusian investors;
- 76 companies were set up with the participation of foreign investors, including:
- 40 companies with 100% foreign capital;
- 36 joint organizations.

Generally, most of the High Tech Park companies cooperate with business partners in the EU in areas such as outsourcing, licensing, analysis, design and software development for information systems, data processing, consumer software support and upgrade, custom-designed software, fundamental and applied research, experimental development and engineering combined with implementation of results, service provision and etc.

Belarus' ICT performance is quite favorable when compared to other countries. For example, Belarus has been ranked 46 out of 155 in the ICT Development Index 2013 and has been rated among ten countries with greatest change in the IDI access sub-index from 2011 to 2012 (7th place). Moreover, Belarus is the only country from the CIS region among the most dynamic countries and has the highest fixed (wired)-broadband penetration in the region. In the United Nations e-Government Survey 2012, Belarus has been ranked 61 out 190 countries based on the e-Government Development Index.



Objectives and Targets of National ICT Policy

During the past decade, Belarus has been extremely active in designing and implementing a broad range of ICT related policy measures to establish and develop its information society. The key policy documents on the matter are listed in the table below.

Annex 1: Overview of ICT Policy Documents

Main policy documents concerning ICT policy adopted/published since 2010-2011

Title of document	Date	Organisation responsible	Legal status
Electronics and Photonics, 2011-2015	June 09, 2010	National Academy of Science of Belarus, Ministry of education, Ministry of industry, State Military Industrial Committee	State programme of scientific researches
On approval of the priority directions of scientific and technological activities in the Republic of Belarus for 2011-2015	July 22, 2010	Council of Ministers	Decree of President of the Republic of Belarus No. 378
Strategy for the development of the information society in the Republic of Belarus for the period up to 2015	August 09, 2010	Ministry of Communications and Informatization	Strategy
Programme of Social and Economic Development of the Republic of Belarus for 2011-2015	April 11, 2011	Ministries and State Committees of the Republic of Belarus	Programme
Innovative Development of the Republic of Belarus for 2011-2015	May 26, 2011	State Committee on Science and Technology, Ministries of the Republic of Belarus	State Programme
Radio Electronics-2, 2011-2015	February 1, 2011	Ministry of Industry, State Military Industrial Committee,	State Scientific and Technical Programme
Information Protection-2, 2011-2015	February 1, 2011	Operative and Analytical Centre under the President of the Republic of Belarus	State Scientific and Technical Programme
Information	February 1, 2011	National Academy of	State Scientific and Technical



Title of document	Date	Organisation responsible	Legal status
Technologies, 2011-2015		Science of Belarus	Programme
CALS-ERP Technologies, 2011-2015	February 1, 2011	Ministry of Industry	State Scientific and Technical Programme
Informatics and Space Technologies, 2011-2015	February 1, 2011	National Academy of Science of Belarus	State Complex Target Scientific and Technical Programme
Accelerated Development of Services in Information and Communication Technologies for 2011-2015	March 28, 2011	Ministry of Communications and Informatization	National Programme
On some issues of the informatization	December 2, 2013	Council of Ministers	Decree of President of the Republic of Belarus No. 531
On approval of the Instruction on the procedure of establishing and maintaining a national fund of project documents and the national data bank of analogous objects concerning the construction.	March 26, 2014	Ministry of Architecture and Construction	Resolution of the Ministry of Architecture and Construction No. 14
On approval of the list of measures for informatization	April 10, 2014	Ministry of Communications and Informatization	Resolution of the Ministry of Communications and Informatization No. 4
On approval of the Instruction on the procedure of functioning a single settlement and information space in the Republic of Belarus	June 10, 2014	Board of the National Bank of the Republic of Belarus	Resolution of the Board of the National Bank of the Republic of Belarus No. 393

ICT sector has been included in the list of priorities of science and technology development of the Republic of Belarus. The main objectives of national ICT policy have been captured in the Strategy for the development of the information society in the Republic of Belarus for the period up to 2015 (2010) and the National Programme of Accelerated Development of Services in Information and Communication Technologies for 2011-2015 (2011). According to the Strategy, the main goal of developing ICT sector is to promote sustainable socio-economic, political and cultural development of Belarus, improve the citizens' quality of life and create broad opportunities for satisfying the individual's needs and allowing free personal development. The Strategy has the following objectives:

- promoting development of the information society based on innovations



- development of ICT industry to anticipate the growing information needs of citizens, business and the State
- developing national information industry and attracting investment in national production of ICT, information resources and electronic services
- improving the education system to train high-quality human resources
- development of a system of information security to protect the national interests of Belarus in the global information space

In addition to these objectives, the National Programme of Accelerated Development of Services in ICT adds the following ones to be implement:

- creating an enabling environment for e-services and access to national information resources throughout the country and involving all participants of information exchange into information interaction
- creation and development of state system of providing electronic services
- improving the quality and accessibility of health services and service of health care system
- developing e-services in the employment and social protection, improving the quality of the organizations of the Ministry of Labour and Social Security on the base of ICT
- widespread adoption of e-learning elements
- developing e-services for domestic and international trade and promoting international trade as a part of the Belarusian economy
- increasing the representation of the Government, civil society organizations and national business in the Internet, development of national Internet content.

Annex 2: Overview of ICT Policy Measures

IPM Number	Title of measure	Overview
	State programme of scientific researches "Electronics and Photonics, 2011-2015"	<p>The main goal of the Programme is development of new technologies, materials and equipment for using in national industry, medicine and agriculture. The Programme includes two sub-programmes:</p> <ol style="list-style-type: none"> 1) "Electronics-2015" which deals with development of scientific basis to create new systems and equipment in electronic technologies, micro- and optoelectronics; 2) "Photonics-2015" which deals with development of new technologies for using in national industry, medicine, agriculture, environmental protection and defence (micro- and optoelectronics, radio-electronic, laser physics, environmental monitoring, etc.); <p><u>Duration</u> 2011-2015</p> <p><u>Budget</u> BRL 89.8 billion</p> <p><u>Administering Agency</u> National Academy of Science of Belarus 66 Independence Avenue, Minsk 220072 E-Mail: nasb@presidium.bas-net.by</p>

IPM Number	Title of measure	Overview
		<p>Phone: +375 (17) 284-18-01 Web: http://nasb.gov.by/</p> <p><u>Manager Responsible for the Measure</u> Nikolay Kazak, Member of the NASB , Doct. Sc. E-Mail: ifanbel@ifanbel.bas-net.by Phone: +375 (17) 284-17-51</p> <p><u>References</u> http://www.government.by/upload/docs/file69a2a57e8639f358.pdf http://asio.basnet.by/programs/details.php?ELEMENT_ID=139</p>
	<p>Strategy for the development of the information society in the Republic of Belarus for the period up to 2015</p>	<p>Development of information society is one of the priorities of state technology policy of Belarus. The document describes the strategic goal and main objectives of development of information society in Belarus. The main goal of developing ICT sector is to promote sustainable socio-economic, political and cultural development of Belarus, improve the citizens' quality of life and create broad opportunities for satisfying the individual's needs and allowing free personal development.</p> <p>The Strategy has the following objectives:</p> <ul style="list-style-type: none"> • promoting development of the information society based on innovations; • development of ICT industry to anticipate the growing information needs of citizens, business and the State; • developing national information industry and attracting investment in national production of ICT, information resources and electronic services; • improving the education system to train high-quality human resources; • development of a system of information security to protect the national interests of Belarus in the global information space. <p>The main indicator of successful implementation of the Strategy should be a significant increase of Belarus' position (inclusion into top-30 countries) in the ranking of European countries based on the methodology of the ITU and the UN (the ICTI Development Index) by 2015. The Strategy sets the list of development priorities: e-government; e-health; e-education; e-employment and welfare; e-economy and trade; the system of mass communication and electronic content.</p> <p><u>Duration</u> 2011-2015</p> <p><u>References</u> http://pravo.by/main.aspx?guid=3871&p0=C21001174&p2=%7BNRPA%7D</p>
	State	Strategic goal of the Programme is to develop the Belarusian economy to be

IPM Number	Title of measure	Overview
	<p>Programme “Innovative Development of the Republic of Belarus” for 2011-2015</p>	<p>knowledge-based, competitive in the world market, science-intensive, resource saving and eco-friendly.</p> <p>The objectives of the Programme include:</p> <ul style="list-style-type: none"> • To create new high-tech sectors (biotechnology, nanotechnology, microelectronics, information technology, new materials, optical-electronic technologies, communication technologies, nuclear and renewable energy, genetic engineering); • To achieve the maximum rate of value added in manufacturing based on its technological renovation; • To create enabling legal, economic and social conditions for the technological development of the national economy and attraction of investment; • To develop markets of high-tech and innovation products; • Protection of intellectual property; • Acceleration of innovative development of regions; • Formation of innovative society and creation of effective system of continuous training, retraining and professional development for the innovation economy. <p>The Programme contains a list of priority measures and projects, funding sources, executors and stakeholders with the overall goal to develop new and upgrade existing manufactures based on technologies of the V and VI technological levels (ICT, aerospace industry, pharmaceuticals, microbiology and biotechnology, nanoindustry, nuclear energy). According to the Programme, by 2015, the shares of science-based and traditional products in Belarus should be comparable.</p> <p>The list of programmes for 2011-2015 includes:</p> <ul style="list-style-type: none"> • 28 state S&T programmes and 6 regional ones approved by the Regulation of the Council of Ministers of the Republic of Belarus № 116 of 1 February 2011; • 16 basic research and applied research programmes adopted by the Regulation of the Council of Ministers of the Republic of Belarus № 886 of 9 June 2010, (based on the List of priority areas of basic and applied research approved by the Regulation of the Council of Ministers of № 585 of 19 April 2010). <p>In the section “ICT and aerospace technologies”, the document describes main objective of ICT development:</p> <ul style="list-style-type: none"> • stimulating domestic demands for domestic software to promote the comprehensive informatization of national economy; • development of infrastructure of the High Tech Park (Minsk); • development of innovation engineering in sector of information technologies; offering new services of data centres; • training of teachers and specialists in ICT in accordance with international standards; • introduction of CALS-technologies, ERP-systems, Future Internet, digital television and broadcasting, IMS-platforms, etc.



IPM Number	Title of measure	Overview
		<p><u>Duration</u> 2011-2015</p> <p><u>Administering Agency</u> State Committee on Science and Technologies Akademicheskaya Str. 1, 220072, Minsk, Republic of Belarus Phone +37517 2840760 Website http://www.gknt.org.by/ Email gknt@gknt.org.by</p> <p><u>References</u> http://www.government.by/ru/solutions/1652 http://www.pravo.by/main.aspx?guid=3871&p0=C21100669&p2=%7BNRPA%7D</p>
	<p>State Complex Target Scientific and Technical Programme “Information and Space Technologies, 2011-2015”</p>	<p>The objectives of the programme:</p> <ul style="list-style-type: none"> • to support the development of ICT and space technologies as one of the leading sectors of national economy; • to provide the use of space technologies while taking commercial and managerial decisions in agriculture, forestry, water and irrigation sector, prevention and liquidation of emergency situations, prospecting and mapping; • to use the potential of ICT in protecting national security and interests of the Republic of Belarus. <p><u>Duration</u> 2011-2015</p> <p><u>Budget</u> BRL 618 billion</p> <p><u>Administering Agency</u> National Academy of Science of Belarus 66 Independence Avenue, Minsk 220072 E-Mail: nasb@presidium.bas-net.by Phone: +375 (17) 284-18-01 Web: http://nasb.gov.by/</p> <p><u>Manager Responsible for the Measure</u> Vladimir Gusakov, Chairman of the NASB Presidium E-Mail: nasb@presidium.bas-net.by</p> <p><u>References</u> http://pravo.by/main.aspx?guid=3871&p0=C21100116&p2=%7BNRPA%7D http://asio.basnet.by/programs/details.php?ELEMENT_ID=130</p>



IPM Number	Title of measure	Overview
	State Scientific and Technical Programme “Radio Electronics-2, 2011-2015”	<p>The Programme is aimed to develop new generation of electronic equipment (automation, control, telecommunication and informatization, equipment for measuring and testing). It consists of three sub-programmes:</p> <ol style="list-style-type: none"> 1) Radio-Electronic Equipment for General Industrial Application; 2) Radio-Electronic and Optoelectronic Devices of Special and Dual-Use Application; 3) Household and Industrial Equipment. <p><u>Duration</u> 2011-2015</p> <p><u>Administering Agency</u> Ministry of Industry 2 Partizansky av., Minsk, 220033 Phone: +375 (17) 224-95-95, 223-72-01 E-mail : minprom4@minprom.gov.by Web: http://www.minprom.gov.by/</p> <p>State Military-Industrial Committee 115 Nezavisimosti av., Minsk, 220114 Phone: +375 (17) 280-91-00 E- mail: gvpk@vpk.gov.by Web: http://www.vpk.gov.by</p> <p><u>References</u> http://asio.basnet.by/programs/details.php?ELEMENT_ID=877</p>
	State Scientific and Technical Programme “Information Protection-2, 2011-2015”	<p>The objectives of the programme include creation and development of tools and systems of information protection for the government bodies, economy and business; guidance and coordination of S&T activities in the sector of information security.</p> <p><u>Duration</u> 2011-2015</p> <p><u>Budget</u> BRL 22.2 billion</p> <p><u>Administering Agency</u> Operational and Analytical Centre under the President of the Republic of Belarus 17 Kalvariyskaya str., Minsk, 220004 Phone: 375 (17) 203-59-67 E-mail: obr@oac.gov.by Web: http://oac.gov.by/</p> <p><u>References</u> http://pravo.by/main.aspx?guid=3871&p0=C21100116&p2=%7BNRPA%7D http://asio.basnet.by/programs/details.php?ELEMENT_ID=884</p>



IPM Number	Title of measure	Overview
	State Scientific and Technical Programme “Information Technologies, 2011-2015”	<p>The objectives of this programme is to develop and introduce to the national economy the following technologies:</p> <ul style="list-style-type: none"> • identification and navigation systems; • logistic technologies (for logistic centres); • multimedia systems and technologies; • integrated CAD systems (in industry); • reverse engineering with high-performance computer systems; • information technologies in public administration, medicine and education. <p><u>Duration</u> 2011-2015</p> <p><u>Budget</u> BRL 116.5 billion</p> <p><u>Administering Agency</u> National Academy of Sciences of Belarus 66 Nezavisimost av., Minsk, 220072 Phone.: +375 (17) 284-25-79, 284-04-75 E-mail: innovation@presidium.bas-net.by Web: http://nasb.gov.by/</p> <p><u>References</u> http://pravo.by/main.aspx?guid=3871&p0=C21100116&p2=%7BNRPA%7D http://asio.basnet.by/programs/details.php?ELEMENT_ID=160</p>
	State Scientific and Technical Programme “CALs-ERP Technologies, 2011-2015”	<p>The main objectives of the programme are: design and development of CALs-ERP-technologies; development and implementation of information complexes supporting product lifecycle.</p> <p><u>Duration</u> 2011-2015</p> <p><u>Budget</u> BLR 63 billion</p> <p><u>Administer Agency</u> Ministry of Industry 2 Partizansky av., 4 Bldg, Minsk, 220033 Phone: +375 (17) 223-72-01 E-mail: untp@minprom.gov.by Web: http://www.minprom.gov.by/</p> <p><u>References</u> http://pravo.by/main.aspx?guid=3871&p0=C21100116&p2=%7BNRPA%7D http://asio.basnet.by/programs/details.php?ELEMENT_ID=161</p>



IPM Number	Title of measure	Overview
	<p>National Programme of Accelerated Development of Services in Information and Communication Technologies for 2011-2015</p>	<p>The purpose of the Programme is to create conditions for accelerated development of services in information technology, promoting the development of information society on the basis of innovation and to improve the quality and efficiency information for the population, business and government, including the formation of the state system of providing electronic services to ensure effective application of modern ICT</p> <p>The main objectives are:</p> <ul style="list-style-type: none"> • development of national ICT infrastructure, creating an enabling environment for e-services and access to national information resources throughout the country and involving all participants of information exchange into information interaction; • implementation of key government functions through the creation and development of state system of providing electronic services; • creation of conducive conditions to the development of information society and widespread adoption of e-education elements; • implementation of national information policies promoting international trade as part of the economy, ensure national economic competitiveness in world markets; • development of information security, providing legal and safe use of ICT, building trust, creating conditions for safe delivery and receipt of electronic services; • improving the quality and accessibility of health services and service of health care system; • developing e-services in the employment and social protection, improving the quality of the organizations of the Ministry of Labour and Social Security on the base of ICT; • increasing the representation of the Government, civil society organizations and national business in the Internet, development of national Internet content. <p>The Programme includes 9 sub-programmes:</p> <ol style="list-style-type: none"> 1) National IT infrastructure; 2) e-Government; 3) e-Health; 4) e-Employment and welfare; 5) e-Education and human resources development; 6) National content formation; 7) e-Custom; 8) ICT security and trust; 9) Development of export-import IT industry. <p>Total number of projects and activities in the framework of the Programmes is 129.</p> <p><u>Duration</u></p>



IPM Number	Title of measure	Overview
		<p>2011-2015</p> <p><u>Budget</u> BRL 314 billion</p> <p><u>Administering Agency</u> Department of Informatization, Ministry of Communications and Informatization 10, Independence ave., Minsk, 220050 Phone: +375 (17) 287-87-06, +375 (17) 327-21-57 E-mail: mpt@mpt.gov.by</p> <p><u>References</u> http://pravo.by/main.aspx?guid=3871&p0=C21100384&p2=%7BNRPA%7D http://www.mpt.gov.by/en/national-programme-24-05-2011/ http://www.belpost.by/eng/news/NATIONAL-PROGRAM/</p>
	<p>Sub-Programme “Nano-materials and nano-technologies, 2013-2015”</p>	<p>This sub-programme is a part of the State programme of scientific researches “Functional and composite materials, nano-materials, 2013-2015”. The objective of the Programme is to develop scientific basis and create new functional and composite materials, including nano-materials, for national industry, transport, medicine and other sectors of economy.</p> <p><u>Duration</u> 2013-2015</p> <p><u>Administer agency</u> National Academy of Sciences of Belarus 66 Nezavisimost av., Minsk, 220072 Phone.: +375 (17) 284-25-79, 284-04-75 Web: http://nasb.gov.by/</p>

1.2 Recent National Policy Trends

Development of information society and ICT sector has been included in list of the priorities of state technology policy of Belarus. The main goal of developing information society in Belarus is to promote sustainable socio-economic, political and cultural development of the country. The government bodies have identified the following priority areas of national economy for the development of ICT technologies: IT sector; governmental sector; health and medicine;



employment, welfare and social protection; education; domestic and international trade, custom services; national security⁷.

Monitoring of ICT policy implementation and coordination of activities of all agents in ICT sector (bodies of state administration; local executive and administrative bodies; state organizations subordinated to the Council of Ministers of the Republic of Belarus; education institutes; healthcare and culture institutions; state legal persons; industry organisations) are

carried by the Aid of President of the Republic of Belarus – Head of the ideological department of the Administration of the President of the Republic of Belarus. The main government organisation implementing the national policy of information society and ICT development is the Ministry of communications and informatization.

Current National Policy in ICT sector can be divided into two main directions:

- 1) ICT infrastructure policy⁸:
 - Creation of multi-service telecommunication network (RUE “Beltelecom”)
 - Introduction of xPON and Ethernet technologies (including GPON technologies) in current telecommunication networks
 - Construction of new digital TV stations (12 digital TV stations to be launched by the end of 2014)
 - Development of networks of mobile broadband access based on the WIMAX and LTE technologies
 - Construction of new fiber-optics communication lines (more than 900 thousand km in the first quarter of 2014)
 - Modernization and development of fixed broadband Internet networks (DWDM networks)

⁷ *National Programme of Accelerated Development of Services in Information and Communication Technologies for 2011-2015*, <http://pravo.by/main.aspx?guid=3871&p0=C21100384&p2=%7BNRPA%7D>, 24.07.2014.

⁸ See Ministry of Communications and Informatization, *Innovative activities in 2014*, http://www.mpt.gov.by/ru/new_page_4_2_15128/, 23.06.2014 (in Russian).



- Introduction of commercial digital TV.
- 2) Development of information society in Belarus focused on the creation and development of basic components of e-Government⁹:
 - automated information systems on support of informatization and information society development;
 - the Computerized system for proceeding of instruction of the Council of Ministers of the Republic of Belarus;
 - the Unified system of identification of individuals and legal entities;
 - the Information system of the Financial Investigation Department of the State Control Committee of the Republic of Belarus;
 - the Computerized system of information proceeding of the Financial Monitoring Department of the State Control Committee of the Republic of Belarus;
 - a multi-functional web-portal of courts and justice organisations (Web-portal “Justice”);
 - the Protected information and analytical support system for decision-making in the states bodies of the Republic of Belarus “Analytic”;
 - a single web-portal of national mass-media in the national sector of Internet;
 - the Register of household services;
 - a web-portal of social protection for the citizens;
 - a national fund of project documents and national data bank of analogous object concerning the construction;
 - a single settlement and information space in the Republic of Belarus.

ICT Policy Measures

IP N°	Title	Organisation responsible
BY_01	Decree of President of the Republic of Belarus No. 378 of July 22, 2010 “On approval of the priority directions of scientific and technological activities in the Republic of Belarus for 2011-2015”	Council of Ministers
BY_02	Strategy for the development of the information society in the Republic of Belarus for the period up to 2015, approved on September 9, 2010	Ministry of Communications and Informatization
BY_03	National Programme “Accelerated Development of Services in Information and Communication Technologies for 2011-2015” approved on March 28, 2011	Ministry of Communications and Informatization
BY_04	Decree of President of the Republic of Belarus No. 531 of December 2, 2014 “On approval of the list of measures for informatization”	Council of Ministers
BY_05	Resolution of the Ministry of Communications and Informatization No. 4 of April 10, 2014 “On some issues of the informatization”	Ministry of Communications and Informatization
BY_06	Law of the Republic of Belarus No. 2/2170 of July 1, 2014 “On amendments to the Law of the Republic of Belarus ‘On electric communication’”.	
BY_07	Decree of President of the Republic of Belarus No.	Council of Ministers

⁹ See Decree of President of the Republic of Belarus No. 531 of December 2, 2013 “On some issues of the informatization”, <http://law.by/main.aspx?guid=3871&p0=P30600252e>, 23.06.2014.



IP N°	Title	Organisation responsible
	371 of July 24, 2014 “On creation of a state informational resource ‘Register of household services’ ”.	

Lessons from the Evaluation of ICT Policy Measures

During the last ten years, Belarus demonstrated good results in ICT development and climbed 16 positions globally in the ICT Development Index, from 57 in 2002 to 41 in 2012¹⁰. In 2012, Belarus has been included in the top 10 most dynamic countries in the ICT Development Index (the only country from the CIS region) and has taken 2nd place among the CIS countries (the Russian Federation has taken 1st place).

The country has committed to the ambitious State Programme “Innovative Development of the Republic of Belarus for 2011–2015” and the National Programme of Accelerated Development of Services in ICT for 2011–2015 in order to improve the quality of ICT services, to modernize and expand telecommunication networks and, finally, to create an information society in Belarus.

Analysing the dynamic of two sub-indices of the ICT Development Index (the ICT access sub-index and the ICT use sub-index), one can declare improvement in both the sub-indices and, consequently, first successes of the state policy in ICT sector.

So, Belarus has been included in the top 10 countries with the greatest 2011-2012 change in the ICT access sub-index by rank change in 2012. The household connectivity has increased significantly and includes the following indicators:

- The proportion of households with a computer has increased by 11.4%, from 46.4% in 2011 to 51.7% in 2012.
- The proportion of household with Internet access has increased by 19.8%, from 40.3% in 2011 to 48.3% in 2012.

The indicators applied to measure the ICT use sub-index also have shown the good progress and the country has been included in the top 10 economies with the greatest 2011-2012 change in the ICT use sub-index both by absolute value change and by rank change. The sub-index includes, in particular, the following indicators:

- Fixed (wired)-broadband penetration has increased by 21.4%, from 21.9% in 2011 to 26.6% in 2012, and this result is the highest penetration rate among the CIS countries.
- Most, notably, wireless broadband (the proportion of active mobile-broadband subscriptions) has increased by 74.0%, from 18.9% in 2011 to 32.9% in 2012.
- Finally, the percentage of individuals using the Internet has increased by 18.4%, from 39.6% in 2011 to 46.9% in 2012.

In a similarly way, Belarus has significantly improved its positions in the E-Government Development Index 2014 by 6 points, from 61st place in 2012 to 55th place in 2014, and has been

¹⁰ See ITU, *Measuring the Information Society 2013*, www.itu.int/en/ITU-D/Statistics/.../MIS2013_without_Annex_4.pdf, 23.06.2014.



included in the group of countries with the high E-Government development level¹¹. The most significant increase has been shown by the Telecommunication infrastructure sub-index: from 50% in 2012 to 60% in 2014. For comparison, the Republic of Belarus had taken 81st place the E-Government Development Index 2003.

However, there is a number of difficulties in the implementing the national policy on ICT development in Belarus including:

- Current low level of development of e-Government. According to the E-Government Development Index, the Online Services Index of Belarus decreased from 0.5882 in 2012 to 0.3228 in 2014. It should be noted that the most developed components of the Online Services Index is the emerging information services (81%) while the other ones are less well developed (enhanced information services – 16%; transactional services – 14%; connected services – 26%).
- Actual monopoly of the RUE “Beltelecom” in telecommunication market in Belarus, particularly with respect to telecommunication infrastructure (fixed-line telephony and internet access channels), international Internet traffic and Internet price policy.
- Insufficiently high level of computer and Internet penetration in households comparing with leading countries.
- Shortage of domestic Internet contents.
- Slow development of legislation on the information society inadequate to current demands of ICT sector.
- Administrative barriers for ICT business actors.

Review of Good Practice- Summary of good practice cases in Belarus

A number of ‘good practice’ examples in ICT policymaking and implementation from 2009 onwards are listed below.

Year	Title of good practice case	Justification for selection
2011	State Programme “Innovative Development of the Republic of Belarus” for 2011-2015	RUE "Beltelecom" implemented five innovative projects included into the programme in order to improve the quality and quantity of ICT services: 1) Construction of multi-service telecommunication network; 2) Modernization and development of networks of fixed broadband Internet access; 3) Development of hardware-software complex IPTV to the level of regional centres; 4) Introduction of passive optical network (xPON) and Ethernet technologies with the installation of Ethernet switches; 5) Che construction of a fiber-optic communication lines. More than BRL690 billion were funded for the innovative projects in the State program in 2011. 197 job positions were created as a result of the implementation of the projects of the State Program.

¹¹ See *UN E-Government Survey 2014*, <http://unpan3.un.org/egovkb/Reports/UN-E-Government-Survey-2014>, 27.06.2014.

Year	Title of good practice case	Justification for selection
2012	National Programme of Accelerated Development of Services in Information and Communication Technologies for 2011-2015 and its sub-programmes ¹² :	The results of the programme for 2012 are: 46 underway R&D projects on the creation of state information systems; 1 complex investment projects to implement multi-service networks and modernize the data network infrastructure. The main projects are listed below:
	e-Government	Development and implementation of the System of interdepartmental documents e-circulation for public authorities of the Republic of Belarus (117 subscribers); Development of State mapping Internet service; Development and implementation of informational system and resources to account the natural resource of the Republic of Belarus; Development and implementation of informational system and resources on the specially protected areas of Belarus; Development and implementation of e-procurement system
	e-Health	Development of the system of clinical TV consultation
	e-Education and human resources development	Development of 10 new educational standards, 10 educational curricula and 60 educational programmes in ICT.
	ICT security and trust	Development of secured information-analytical system of decision-making support "Analyst" for governmental bodies
	Development of export-import IT industry	Export of computer services totalled \$329 million.
2012	State Scientific and Technical Programme "CALs-ERP Technologies, 2011-2015"	The corporate system information system "CALs BELAZ" was developed to organise and support the whole lifecycle of product development and production in the OJSC "Belarusian Autoworks" (BELAZ). The system provides automation of product design, engineering analysis of project solutions, technology preparation of products, management of product structure, document and project management, planning and resource management.
2012	Performance of the Belarus Hi-Tech Park (HTP) ¹³	The volume of sales revenues from IT products by the HTP resident-companies amounted to \$370.5 million. The exports of software and IT services totalled \$331.5 million and increased by 54% compared to

¹² Ministry of Communications and Informatization, *Implementing the "National Programme of Accelerated Development of Services in Information and Communication Technologies for 2011-2015" in 2012*, http://www.mpt.gov.by/ru/new_page_7_22_15292/, 23.06.2014 (in Russian).

¹³ HTP Belarus 2012 Results, <http://www.park.by/post-594/?lng=en>, 04.08.2014.

Year	Title of good practice case	Justification for selection
		<p>2011. The share of exports in total sales made up 89%.</p> <p>The number of employees increased by 20.8%, from 12 000 people in 2011 to 14 500 people in 2012.</p>
2013	State Programme “Innovative Development of the Republic of Belarus” for 2011-2015	<p>7 projects were implemented by the organisations of the Ministry of Communications and Informatization: 1) Construction of a multi-service network NGN/IMS; 2) The introduction of passive optical networks (xPON) and Ethernet technology with the installation of Ethernet switches; 3) Construction of new radio and television broadcasting stations (implementation of this project has increased the coverage of terrestrial digital television broadcasting to 97.41%); 4) The creation and development of mobile broadband networks, including using WIMAX technology and LTE; 5) Construction of fiber-optic communication lines (2 700 km); 6) Modernization and development of networks of fixed broadband Internet access; 7) The introduction of commercial digital terrestrial television broadcasting in regions of the republic.</p>
2013	National Programme of Accelerated Development of Services in Information and Communication Technologies for 2011-2015 and its sub-programmes ¹⁴ :	<p>39 underway R&D projects on the creation of state systems of information security;</p> <p>13 R&D projects were finished;</p> <p>3 investment projects to implement multi-service networks and modernize the data network infrastructure.</p> <p>The main projects are listed below:</p>
	e-Government	<p>6 projects has been performed:</p> <p>Development of Information Management System for the President Administration and the Internet Portal of the President of the Republic of Belarus;</p> <p>Development of Information Management System for local Councils of Deputies;</p> <p>Development of cadastre and land-tenure registers;</p> <p>Development of information management systems for banking and custom;</p> <p>Development and implementation of e-archive of statistic information.</p>
	e-Health	<p>6 projects has been performed:</p> <p>Development of system of injuries full account in the Republic of Belarus (IAS “Trauma”);</p> <p>Development and implementation of information and analytical system of medical expertise and rehabilitation of invalids in Belarus.</p>

¹⁴ Ministry of Communications and Informatization, *Implementing the “National Programme of Accelerated Development of Services in Information and Communication Technologies for 2011-2015” in 2013*, http://www.mpt.gov.by/File/Natpr/report_19_03_2014.pdf, 23.06.2014 (in Russian).



Year	Title of good practice case	Justification for selection
	e-Education and human resources development	Development of e-services providing interaction between educational institutions, public authorities and citizens; Development and implementation of special measure to protect the information systems of the Ministry of Education;
	e-Custom	Development and improvement of e-declaring system; Development and improvement of preliminary e-informing system.
	National content formation	Development of the Portal of state-run media (underway); Development of the project of National e-library of Belarus (underway); Development of the information system "Culture of Belarus" (underway);
	ICT security and trust	Development of hardware-software complex of high-speed network traffic analysis for criminal investigation (code "Putina")
	Development of export-import IT industry	Export of computer services totalled \$552 million.
2013	Performance of the Belarus Hi-Tech Park (HTP) ¹⁵	The production of computer programs reached BYR 4.7 trillion (\$529.5 million) and increased by 1.4 times compared to 2012. The implementation of software developed in the HTP for Belarusian enterprises and organizations amounted to BYR 710 billion (\$79.9 million) and increased by 1.7 times compared to 2012. The export of software increased by 35% in 2013 and totalled \$446.7 million. The net exports made up \$435.6 million. The share of exports in the HTP total production came to 85%. The number of employees increased by 20%, from 15 000 people in 2012 to 18 000 people in 2013, and the production grew by 40%.
2014	The Scientific and Technological Association "Infopark"	Four Infopark member companies were included in the Global Outsourcing 100®. Two of these were included in the category "Leaders": IBA Group (25 th) and EPAM Systems (51 st). In addition, Infopark members were recognized in a number of sub-lists of the Rankings ¹⁶ .

¹⁵ HTP Performance for 2013, <http://www.park.by/post-769/?lng=en>, 04.08.2014.

¹⁶ See *The Global Outsourcing 100®*, <http://www.iaop.org/Content/19/165/3879>, 10.08.2014;
2014 Global Outsourcing 100 Sublists, <http://www.iaop.org/Download/Default.aspx?ID=2412>, 10.08.2014.



Updated National ICT R&D priorities towards H2020

Topics-areas
ICT in 'Excellent science'
Research infrastructures Development, deployment and operation of ICT-based e-infrastructures
ICT in 'Leadership in Enabling and Industrial Technologies'
Future Internet Advanced Cloud Infrastructures and Services Tools and Methods for Software Development
Content technologies and information management Big data Innovation and take-up Big data - research Technologies for better human learning and teaching
Robotics Robotics
Micro- and Nano-electronic technologies, Photonics Generic micro- and Nano-electronic technologies Photonics KET
ICT Cross-Cutting Activities Cyber security, Trustworthy ICT
Factories of the Future ICT-enabled modeling, simulation, analytics and forecasting technologies
ICT in 'Societal challenges'
SC1: Health, demographic change and wellbeing <i>Advancing active and healthy ageing</i> Advanced ICT systems and services for Integrated Care Digital representation of health data to improve disease diagnosis and treatment
SC3: Secure, clean and efficient energy Smart Cities and Communities solutions integrating energy, transport
SC6: Europe in a changing world – Innovative, inclusive and reflective societies ICT-enabled open government

Innovation Policy

National innovation system and innovation governance

Already in the early 1990s, Belarus openly declared its strategic policy objective to develop an economy based on science and technology. Since then, more than 25 Laws and Presidential decrees have been introduced, some 40 governmental decrees have been issued and many other legal acts have been put in place to contribute to this stated aim. All this has created an effect of broad awareness and recognition of the importance of science and technology for the economic prosperity of the country.

The innovation system of Belarus is seen as a combination of:

- Laws and regulations;
- National strategic priorities and their translation into programmes at all levels;
- Sources of financing and human resources;
- Allocation of responsibilities at national, regional, local as well as the institutional level for the management, organization and control of the programmes.

By now ***the normative legal regulation system*** is established for provision of innovation policy in the Republic of Belarus (see Annex 3). The law “On State Innovation Policy and Innovation Activities in the Republic of Belarus” was adopted by National Assembly in 2012. The law determines key principles, definitions and arrangements for the state innovation policy. In accordance with the law the innovation policy of the Republic of Belarus is enforced on the basis of special document, that is “State program of innovation development”, which is formed for a period 5 years and ratified by the President of the Republic of Belarus. Moreover innovation development programs of certain economic activity sectors can be formed by separate Ministries and agencies. Even more, region innovation development programs are formed by Local Councils of Deputies.

In 2007, with the approval of the first State Programme for Innovative Development (SPID), the main emphasis was placed on innovation resulting from the commercialization of scientific outputs. The second State Programme for Innovative Development was approved in 2010 for the period from 2011 to 2015. These programmes have introduced the concept of the national innovation system and governance. Subsequently, substantial efforts were made to organize the institutional element of the national innovation system. The roles of the different levels of government as well as of different governmental institutions at the national and regional levels have been defined.

The Concept of the national innovation system has been developed on the basis of the National Strategy 2020; the Technology forecast 2006-2025 and other strategic documents of ministries and other governmental bodies. The Science and Technological Policy Committee of the Council of Ministers approved the first Concept on 8 June 2006 and the second Concept on 21st April 2011. The Concept recognizes the sectoral approach as predominant in developing and implementing the science and innovation policy in the country. The Concept rightly points out some of the weak points in the existing NIS, in particular, the entrepreneurial sector, which still does not adequately perform the role of being one of the main catalysts for development of the innovation infrastructure and market.

Complex and far-reaching set of measures provides a significant scope for drawing lessons from past experiences, thus contributing to the effectiveness and coherence of future actions. Belarus' own policy experiences provide a rich learning ground that could be better exploited. Such an element could make an important contribution to increasing policy effectiveness, while taking into account national circumstances.

The regional dimension of innovation policies is an important consideration, which is recognized in the current policy set-up. In addition, innovation policies can contribute to a more balanced regional development and the correction of regional disparities. This acknowledgement is a good starting point for a further strengthening of the policy linkages between innovation and regional development issues¹⁷.

The National Innovation System of the Republic of Belarus is managed by the President of the Republic of Belarus, the Council of Ministers, republican governments, the state governing bodies, the National Academy of Sciences of Belarus, other state agencies, local governing bodies and self-governing authorities within the limits and in accordance with their powers. At the same time it is carried out on several levels.

The President defines the main directions of state innovation policy and ratifies state program of innovation development. The Council of Ministers provides design and implementation of innovation development program. At the same time the special authorized body is determined for direct support of state innovation policy implementation. SCST carries out coordination of all state bodies and other organization activity within implementation of program on innovation development. It is necessary to point out, those non-state organizations and associations which represent interests of private non-state sector of economics virtually are not involved in development of state innovation policy.

National state governing bodies, the NAS of Belarus, other state organizations develop proposals on the priorities of the state innovation policy involved in the program formation and implementation of various levels and innovation projects. On the other hand they act as state customers of the scientific-technical programs and the programs of fundamental and applied researches, establish scientific, engineering and design and project organizations, monitor the implementation of innovation programs and projects financed by the national budget and the target use of these funds, involve in the creation and development of innovation infrastructure.

Information support of the functioning of the National Innovation System of the Republic of Belarus is carried out by the state governing bodies in accordance with their competence within the state system of scientific-technical information through the publication of information materials about the innovations and innovation projects proposed for realization.

Framework conditions, innovation policies and instruments

Global aim of innovation policy of the Republic of Belarus is creation of competitive, innovative, hi-tech, resource and energy saving, eco-friendly economy, ensuring sustainable socio-economic development of Belarus and on this basis, increasing the quality of Belarusian people life. The purpose of innovation development in 2011–2015 is formation of new technological base

¹⁷ United Nations Economic Commission for Europe / Innovation Performance Review



providing high level of competitiveness of state economy on the foreign markets. The priority directions of scientific and technological activities for 5 years were indicated by special Decree of the President of 22 July 2010, which became the basis of State Program of Innovation Development for 2011-2015. These are such directions as (1) energetics and energy saving; (2) agroindustrial technologies and productions; (3) industrial and building technologies and manufactures, pharmacy; (5) chemical technologies, nano- and bio-technologies; (6) info-communicative and aerospace technologies; (7) advanced materials; (8) rational nature management, resource-saving and fire and disaster prevention; (9) defense capacity and national security.

Similarly to neighbouring Russia and Ukraine, Belarus has a substantial R&D potential, 80% of which is concentrated in the National Academy of Sciences and the R&D structures of the Ministry of Industry, Ministry of Health and Ministry of Education. Fundamental research is carried out primarily by the National Academy of Sciences. Units under the Ministry of Industry undertake most of the development and implementation routines.

The policy push towards establishing innovation infrastructure in the country has been emphasized in the Presidential decree of 2007 and reinforced by the State Programme for Innovative Development for 2007-2010.

There are more than 80 different institutions that belong to the innovation infrastructure of Belarus. They provide consultancy, information and organizational support to innovation activities.

The present NIS and innovation governance are mostly oriented towards sectors and industries (the so-called vertical approach). This has been a good departing point but the system at present is very dense with institutions and programmes and, consequently, quite cumbersome. Even more importantly, such an approach fails to establish efficient horizontal interactions (e.g. multi-disciplinary, cross-sectoral and cross-departmental interactions), which are essential in a modern NIS.

The analysis of the national innovation system of Belarus indicates that the entrepreneurial sector is one of its weaker parts. A fast growing small and medium enterprises (SME) sector, in particular innovative, high-risk enterprises, is needed to ensure sustainable and vibrant economic growth. SMEs provide important complementarities to the innovative activities of large firms. Existing R&D and academic institutions, as well as large enterprises, can be a source for the emergence of innovative spin-off SMEs.

Belarus has accumulated valuable and unique experience in establishing framework conditions conducive to innovation, albeit with a limited degree of applicability. The experience of the Belarusian High Technology Park is one example of this kind, with highly encouraging outcomes. Nonetheless, this success has been facilitated by the granting of special privileges to the resident companies of science parks. The fact that such policies are applied to only limited parts of the NIS results in the formation of favoured “enclaves”, with limited incentives for resident companies to “graduate”, as doing so would imply forgoing such benefits. State funding plays an important role in channelling resources for innovation activities in Belarus. The increased use of competitive procedures to allocate these resources is a positive development that has increased the efficiency of spending decisions. However, it is important that policies encourage not only competition between applicants for state resources but also reward cooperative arrangements, in particular,



with the participation of SMEs. Benefits are also available to other entities of innovation infrastructure.

Besides within innovation policy the expected results which are expressed in quantity are defined. First of all, it is enhancement of intramural R&D expenditures. Secondly, this is enhancement of innovation-active organizations ratio in general quantity of organizations, the main activity of which is manufacture of industrial products. Thirdly, this is increase of ratio of shipped innovative products by organizations, the main activity of which is manufacture of industrial products, in total volume of shipped products. Fourthly, this is enhancement of volume of exports of knowledge-intensive and high-technology products and share growth of such products in total export volume. Target values were identified for each indicator of expected results (see Table 1).

The system of policy tools was developed for goal and expected results of innovation policy achievement within the state program on innovation development. This system includes 17 sets of measures. At the same time it is possible all main tools to group in 4 directions: (1) tax remissions, (2) instruments of financing, (3) innovation infrastructure and (4) human resourcing.

Within tax incentives of innovation activity is provided introduction of profit tax relief, land tax relief and real estate tax relief for subjects of innovative infrastructure (technological parks, technology transfer center) scientific organizations and innovation-active enterprises. Moreover, it is foreseen reduction of taxes amount, which are levied from salary budget of organization which carry out researches and developments.

Within improvement of instruments of financing it is provided organization of venture activity in the Republic of Belarus, also formation of effective mechanism of venture capital financing and attraction of financial resources of private funds for innovative projects financing. Aside from that it is foreseen providing of budget grants on the competition basis (which includes co-financing) for implementation of R&D, development and designing of new type of innovative products, recovery of marketing, engineering expenses. Important aspect is financial support of innovation activity of small and medium business subjects. It is planned active formation of government order by subjects of innovative infrastructure for small and medium innovative enterprises incubation; provision for natural and legal persons which are patent holders, innovative vouchers and grants for commercialization of prospective objects of intellectual properties; access expansion to credit resources, simplification of their issuing to the small enterprises subjects.

Within innovative infrastructure development is provided the most quantity of measures. Firstly, this is the end of formation of institutional basis of functioning of national system of intellectual property, meeting up-to-date and advanced economics and society needs; secondly, the infrastructure development on research results commercialization (establishment of commercialization agencies); thirdly, the system development of technical regulations and standardization and system development of innovation and technical audit; fourthly, the system development of scientific and technical information as well as creation of innovative information network; fifthly, furtherance of existing and creation of new subjects of innovative infrastructure such as technological parks, technology transfer center as well as science and technology clusters, innovation and industrial clusters.

Within human resourcing of innovation activities it is planned significant enrollment increase on priority PhD programs. Moreover State Program on Innovation Development provides work or study placements in core foreign science institutions and universities for Belarusian researchers



(minimum 70 per year). It should be pointed out that several measures were executed in all main directions by now (see Annex 4).

Assessment of the National Innovation System

Launch of the second State Program of Innovation Development was associated with intramural R&D expenditures increase in nominal terms. Intramural R&D expenditures amounted 288.8 million Euro in 2010 and 330.2 million Euro in 2012. At the same time intramural R&D expenditures as a percentage of GDP didn't change significantly. Intramural R&D expenditures as a percentage of GDP amounted 0.69% in 2010 and 0.67% in 2012. Moreover a similar ratio of intramural R&D expenditures was illustrative of Belarus before any innovation programs (in 2005 year – 0.68%). Significant increase of intramural R&D expenditures as a percentage of GDP occurred in 2007 year (0.96), but substantial decrease occurred in next years. Consequently the target value of intramural R&D expenditures increase wasn't achieved in result the first program and it is hardly probable during the course of second program. At that some structural changes occurred in sources of funding of R&D. State budget funds amounted 43.6% of all intramural R&D expenditures in 2012 year (in 2005 – 58.1%). Funds of commercial organizations at the domestic level amounted 46.3% (in 2005 – 30.6%). Foreign investments funds amounted 9.5% (in 2005 – 6.3%). Non-state foundations amounted 0.3% (in 2005 – 5.1%).

Empirical trends of key indicators afford ground for some inferences (see Table 1). Innovation policy has not ensured yet a sustainable growth of key indicators. As consequence innovation policy has not provided achievement target values of key indicators. On the one hand more key indicators have demonstrated substantial growth in nominal terms. On the other growth in nominal terms has not provided change of relative indicators i.e. significant structural changes of national economy have not occurred.

Table 1 - Main indicators of innovation policies effectiveness

Indicators	Unit of measurement	Empirical value						Target value				
		2005	2006	2007	2008	2009	2010	2011	2012	2013	2010	2015
Intramural R&D expenditures	Million Euro	164.6	194.5	318.3	307.0	227.3	288.8	323.7	330.2	371.1	-	-
	% of GDP	0.68	0.66	0.96	0.74	0.64	0.69	0.70	0.67	0.69	1.4	2.7
Innovation-active industrial organizations	Units	318	378	380	371	234	324	443	437	411	-	1000
	% of total amount industrial organizations	14.1	16.3	17.8	17.6	12.1	15.4	22.7	22.8	21.7	25	40
Innovative production shipped by industrial organizations	Million Euro	2611.8	3048.3	3555.1	4277.8	2596.7	4711.4	5709.4	7608.5	7036.2	-	-
	% of total cost all production shipped by industrial organizations	15.2	14.8	14.8	14.2	10.9	14.5	14.4	17.8	17.8	18.5	20.5
Innovative production shipped to external market (all types of organizations)	Million Euro	2222.5	2277.8	2670.4	2610.3	1344.9	2391.4	3557.7	4926.5	4295.4	-	5665
	% of total cost all production shipped to external market by all types of organizations	15.8	12.6	13.6	10.6	7.7	10.8	10.6	12.2	n/a	-	-

Annex 3: Overview of Innovation Policy Documents

Title of document	Date	Organisation responsible	Legal status
On State Innovation Policy and Innovation Activities in the Republic of Belarus	July 10, 2012	State Committee on Science and Technology	Law of the Republic of Belarus no. 425-3
State Program of Innovation Development for the period from 2011 to 2015	April 21, 2010	State Committee on Science and Technology	Concept
State Program of Innovation Development for the period from 2011 to 2015	May 26, 2011	State Committee on Science and Technology	Programme
On Adoption of the Regulations on the National Contest of Innovation Projects	January 26, 2010	State Committee on Science and Technology	Enactment of the Council of Ministries of the Republic of the Belarus no. 98
On Certain Issues of Scientific, Scientific-Technical and Innovation Activity Financing	September 15, 2010	State Committee on Science and Technology	Enactment of the Council of Ministries of the Republic of the Belarus no. 1326
On Certain Issues Concerning Stimulation of Development of High Technological Productions	June 6, 2011	State Committee on Science and Technology	Decree of the President of the Republic of Belarus no. 231
On Certain Issues of Formation and Use of Means of Innovation Funds	August 7, 2012	State Committee on Science and Technology	Decree of the President of the Republic of Belarus no. 357
On Basics of State Scientific and Technical Policy	January 19, 1993	State Committee on Science and Technology	Law of the Republic of Belarus no. 2015-XII
On Scientific activities	October 21, 1996	State Committee on Science and Technology	Law of the Republic of Belarus no. 708-XIII
On Introduction of Amendments in Certain Laws of the Republic of Belarus on Issues of Regulation of Scientific, Scientific-Technical and Innovation Activities	May 4, 2010	State Committee on Science and Technology	Law of the Republic of Belarus no. 115-3
On Additional Measures of Stimulation of Scientific, Scientific-Technical and Innovation Activity	September 7, 2009	National Academy of Sciences	Decree of the President of the Republic of Belarus no. 441
On the Innovation Biotechnology State Program for the period from 2010 to 2012 and for the period till 2015	October 23, 2009	National Academy of Sciences	Enactment of the Council of Ministries of the Republic of the Belarus no. 1386
On Order of Maintenance of the Register of Innovation Infrastructure Entities	November 13, 2009	State Committee on Science and Technology	Enactment of the State Committee on Science and Technology of the Republic of Belarus no.29

Title of document	Date	Organisation responsible	Legal status
On Adoption of the Regulations on the National Contest of Innovation Projects	January 26, 2010	State Committee on Science and Technology	Enactment of the Council of Ministries of the Republic of the Belarus no. 98
On Certain Issues of Scientific, Scientific-Technical and Innovation Activity Regulation	August 12, 2010	National Academy of Sciences	Enactment of the Council of Ministries of the Republic of the Belarus no. 1196
On Certain Issues of Scientific, Scientific-Technical and Innovation Activity Financing	September 15, 2010	State Committee on Science and Technology	Enactment of the Council of Ministries of the Republic of the Belarus no. 1326
On Certain Issues Concerning Stimulation of Development of High Technological Productions	June 6, 2011	State Committee on Science and Technology	Decree of the President of the Republic of Belarus no. 231

Annex 4: Overview of Innovation Policies

IP Number	Title of measure	Overview
1	Tax remissions	<p>(1) Profit is exempted from tax if it is obtained from sale of own manufactured products which are innovative and high-tech.</p> <p>(2) Dividends are not object for profit tax if they are charged by innovative organizations for venture organizations and Belarusian Innovative Fund.</p> <p>(3) Benefits are provided for industrial enterprises with profitability of sale 8-9% and relative share of shipped innovative products 12-13%: such enterprises are free from payment to state budget of excess sum of profit tax which is necessary paid in the financial year in comparison with tax sum which is necessary paid in the previous year.</p> <p>(4) Science-technological parks, technology transfer centers, residents of science-technological parks pay privileged profit tax – 10% (instead of 18%).</p> <p>(5) Till 1 January 2016 permanent buildings and lands of research organizations, science-technological parks and technology transfer centers are free from real estate tax and land tax.</p>
2	Improvement of financing instruments	<p>(1) Possibility of financing of venture projects by Belarusian Innovative Fund is fixed in the legislative way. 2 venture projects were supported by Fund in 2012.</p> <p>(2) Order of percentage refund for bank credit usage for juridical persons which implements investment projects provided high level of labour productivity is defined.</p> <p>(3) The mechanism of state support of small businesses within innovative projects implementation has been formalized in legislation. Financial support is granted on the competitive basis by Belarusian Innovative Fund and Belarusian Fund of Financial Support of Entrepreneurs. Moreover within the framework of preparatory and design-engineering stages assistance is rendered on the irrevocable basis in the form of grants and innovative vouchers.</p>
3	Innovative infrastructure development	<p>(1) The strategy of the Republic of Belarus in the sphere of intellectual property (IP) has been adopted for 2012-2020. The key priority of strategy is law unification with international regulation norms IP. In accordance with this the Republic of Belarus has joined to the Singapore Treaty on the Law of Trademarks. Besides, the unified scale of patent duties has been introduced for residents and non-residents of the Republic of Belarus by the special decree.</p>

IP Number	Title of measure	Overview
		<p>(2) The requirement has been adjusted for state customers concerning providing of commercialization of R&D results during 3 years after their creation. According to the procedure, state customer which does not enable during 1 year to carry out R&D results commercialization independently, must delegate rights on these results to other interested resident of the Republic of Belarus. However this term can be prolonged till 3 years according to the customer decision.</p> <p>(3) Within the modernization of science-technological information system there have been introduced electronic forms of collection and processing data in such information resources as the State register of R&D projects, the National patent file, the Republican science and technical library. Moreover, new information resources have been developed and introduced such as the Automatized system of monitoring implementation of State Program of Innovation Development, the Information Internet resource about results R&D activity of the National Academy of Sciences of Belarus.</p> <p>(4) 5 technology transfer centers and 12 science-technological parks have been created within the period 2010 till 2013.</p>
4	Human resourcing of innovation activities	<p>(1) The list of priority postgraduate training programs which attributed to 5th and 6th technology revolution has been approved.</p> <p>(2) The annual republican competition for assignment of 100 scholarships of the President of the Republic of Belarus for talented young scientists is carried out.</p>

International Cooperation

After declaration of independence the Republic of Belarus entered the world stage not only as a new sovereign state which appeared as a result of the collapse of the USSR, but also as a European country¹⁸.

Belarus' major foreign policy principles, goals and objectives are enshrined in the Law "On Approval of the Basic Directions of Domestic and Foreign Policy of the Republic of Belarus" of November 14, 2005, No. 60-3. International activity in a country is primarily aimed at ensuring state security and protecting national interests, facilitating the creation of favorable conditions for the sustainable economic development of the country and improving the well-being of the population¹⁹.

There is no specific policy document on international collaboration in science, technology and



innovations in Belarus. However, the key documents and programmes, e.g. the Programme of Social and Economic Development of the Republic of Belarus for 2011-2015 approved by the Decree of the President of the Republic of Belarus no. 136 of 11 April 2011, State Programme of Innovative Development of the Republic of Belarus for 2011-2015 approved by the Regulation of the Council of Ministers of the Republic of Belarus no. 669 of 26 May 2011, etc. emphasise the role it should play in supporting the implementation of priority projects of public value,

promotion of domestic S&T products in the global market, training personnel and developing the national S&T potential, as well as in bringing investments into the national economy and science, including FDI, grants, loans, etc. And this is not just a declaration: international S&T cooperation has got the special line in the state budget and gets 3-4% of budget spending for R&D annually.

The development of bilateral cooperation with the CIS member states is one of the priorities of the foreign policy and foreign economic relations of the Republic of Belarus. These priorities are based on a number of historical, economic, political and cultural factors.

The number of agreements and direct contracts at the institutional level in Belarus is hard to estimate, as there is no unique source for such kind of information, while appropriations may give

¹⁸ http://www.mfa.gov.by/en/foreign_policy/

¹⁹ http://www.mfa.gov.by/en/foreign_policy/principles/



wrong results due to different level of international activity of institutions. Annually, ar. 450 international S&T projects are implemented in Belarus²⁰.

Part of these projects is being implemented through bi-annual programmes within the framework of bi-lateral cooperation agreements in science and technology between Belarus and its partners. Usually, each party funds its own participants. Belarusian partners of these programmes are funded by the State Committee for Science and Technology and/or Belarusian Republican Foundation for Fundamental Research.

The Foundation for Fundamental Research (FFR) was established by the Decree of the Government of the Republic of Belarus in May, 1991 in order to strengthen financial support of fundamental and exploratory research in areas of natural and technical sciences and humanities, conducted by scientific organizations, higher education institutions and individual scientists within priority directions of such research.

In 1996 by the Decree of the Government FFR was renamed to the Belarusian Republican Foundation for Fundamental Research (BRFFR), new Statute of the Foundation was adopted as well as membership of the Scientific Council and Trusteeship Council was approved. The Foundation was granted with additional rights and new opportunities for stimulation and support of fundamental research in Belarus.

BRFFR supports research projects, aimed at obtaining new scientific knowledge on nature, the man and society in the following areas of knowledge:

- physical and mathematical sciences;
- technical sciences;
- chemical sciences and Earth sciences;
- biological and medical sciences;
- agrarian sciences;
- humanitarian sciences²¹.

Table 1: Overview of bilateral Belarus-EECA agreements

Title of document	Date	Country/Organisation	Scope of cooperation
Agreement on scientific and technical cooperation between the State Committee on Science of the Ministry of Education and Science of the Republic of Armenia and the State Committee on Science and Technology of the Republic of Belarus	March 19, 2010	Armenia – Belarus/ Science of the Ministry of Education and Science of the Republic of Armenia – State Committee on Science and Technology of the Republic of Belarus	Agreement on scientific and technical cooperation
Agreement on scientific and technical cooperation between the State Committee on Science of the	November 4, 2010	Armenia – Belarus/ State Committee on Science of the Ministry of Education and	Agreement on scientific and technical cooperation

²⁰ <http://www.scienceportal.org.by/en/cooperation/>

²¹ http://fond.bas-net.by/default_eng.html

Title of document	Date	Country/Organisation	Scope of cooperation
Ministry of Education and Science of the Republic of Armenia and the Belarusian Republican Foundation for Fundamental Research		Science of the Republic of Armenia – Belarusian Republican Foundation for Fundamental Research	
Agreement between the Government of the Republic of Belarus and the Government of the Republic of Armenia on Cooperation in the field of Science and Technology	October 31, 2000	Armenia-Belarus/ Governments	Agreement on Cooperation in the field of Science and Technology
Agreement between the Government of the Republic of Belarus and the Government of the Azerbaijan Republic on Cooperation in the field of Informatization and Information Technologies	June 2010	Azerbaijan-Belarus/ Governments	Agreement on Cooperation in the field of Informatization and Information Technologies
Belarusian-Azerbaijani Working Group on the Implementation of Joint Innovation Projects	2012	Azerbaijan-Belarus/ Academies of Sciences	Working group
Agreement between the National Academy of Sciences of the Republic of Belarus and the National Academy of Sciences of the Republic of Azerbaijan on Scientific Cooperation	August 20, 2007	Azerbaijan-Belarus/ Academies of Sciences	Agreement on Scientific Cooperation
Cooperation agreement between the Science Development Foundation under the President of Azerbaijan, and the Republican Foundation for Fundamental Research and the National Academy of Sciences (NAS) of Belarus	September 2013	Azerbaijan-Belarus/ The Science Development Foundation under the President of Azerbaijan, the Republican Foundation for Fundamental Research, the National Academy of Sciences of Belarus	Cooperation Agreement
Belarus-Kazakhstan Commission on Cooperation in the field of Science and Technology		Kazakhstan-Belarus	Commission on Cooperation in the field of Science and Technology
Memorandum of cooperation in ICT	March 4, 2013	Kazakhstan-Belarus	Memorandum
Agreement between the Government of the Republic of Belarus and the	May 3, 1999	Kazakhstan-Belarus/ Governments	Agreement on Cooperation in the field of Science and

Title of document	Date	Country/Organisation	Scope of cooperation
Government of the Republic of Kazakhstan on Cooperation in the field of Science and Technology			Technology
Belarus-Moldova Joint Commission on Cooperation in the field of Science and Technology		Moldova-Belarus	Joint Commission
Belarusian Republican Foundation for Fundamental Research – Academy of Sciences of Moldova - 2015	2014/2015	Moldova-Belarus	Joint call of scientific projects
Agreement between the Government of the Republic of Belarus and the Government of the Republic of Moldova on Cooperation in the field of Science and Technology	November 13, 2003	Moldova-Belarus/ Governments	Agreement on Cooperation in the field of Science and Technology
Joint action plan on cooperation between the administrations of Republic of Belarus and the Russian Federation in the field of Information Technology and Communications	2012	Russia-Belarus	Joint action plan
Belarusian Republican Foundation for Fundamental Research - Russian Foundation for Humanities - 2015	2014/2015	Russia-Belarus	Joint call of scientific projects
Belarusian Republican Foundation for Fundamental Research - Russian Foundation for Humanities – M 2015 (Junior Researchers)	2014/2015	Russia-Belarus	Joint call of scientific projects
Belarusian Republican Foundation for Fundamental Research - Russian Foundation for Humanities – PR 2015 (border territories: Vitebsk, Mogilev, Pskov, Smolensk regions)	2014/2015	Russia-Belarus	Joint call of scientific projects
Belarusian Republican Foundation for Fundamental Research – Russian Foundation for Basic Research – M 2015 (Junior Researchers)	2014/2015	Russia-Belarus	Joint call of scientific projects
Belarusian Republican Foundation for Fundamental	2014/2015	Russia-Belarus	Joint call of scientific projects

Title of document	Date	Country/Organisation	Scope of cooperation
Research - Joint Institute for Nuclear Research in Dubna - 2015			
Agreement between the Government of the Republic of Tajikistan and the Government of the Republic of Belarus on Cooperation the field of Science and Technology	April 5, 2000	Tajikistan-Belarus/ Governments	Agreement on Cooperation the field of Science and Technology
Belarus-Turkmenistan Intergovernmental Commission on Cooperation in the field of Science and Technology	2012-2013	Turkmenistan-Belarus	Intergovernmental Commission
Agreement between the Government of Ukraine and the Government of Republic of Belarus on Scientific and Technical Cooperation	1992	Ukraine –Belarus/ Governments	Agreement on Scientific and Technical Cooperation
Belarus-Ukraine Intergovernmental Commission on Cooperation in the field of Science and Technology		Ukraine-Belarus	Intergovernmental Commission
Contest of Joint Belarusian-Ukrainian Scientific-Technical Projects for the Period from 2011 to 2013	2011-2013	Ukraine-Belarus	Joint call of scientific projects
Agreement between the Government of the Republic of Belarus and the Government of the Republic of Uzbekistan on Cooperation in the field of Science and Technology	May 19, 1994	Uzbekistan-Belarus/ Governments	Agreement on Cooperation in the field of Science and Technology
Agreement between the National Academy of Sciences of the Republic of Belarus and the Academy of Sciences of the Republic of Uzbekistan on Scientific Cooperation	May 24, 2007	Uzbekistan-Belarus/ National Academies of Sciences	Agreement on Scientific Cooperation

ICT policies and programmes facilitating co-operation with the EU

The European Community recognised the independence of the Republic of Belarus in December 1991. The bilateral relations developed steadily. Through participation in the TACIS program, through other programs and instruments Belarus received a considerable amount of technical and financial assistance. Negotiations on a **Partnership and Cooperation Agreement (PCA)** were



completed in 1995. However, neither the PCA nor the Interim Agreement was concluded and ratified. The Council stated in its September 1997 conclusions that “the EC and their Member States will conclude neither the interim agreement nor the Partnership and Co-operation Agreement” due to the deteriorating political situation in Belarus.

At present, EU-Belarus relations are governed by successive conclusions of the Foreign Affairs Council. Council Conclusions of October 2008 and November 2009 presented new opportunities for dialogue and more active cooperation between the EU and Belarus and reaffirmed the readiness of the Union to deepen its relations with Belarus in light of indications that Belarus might progress toward democracy, respect for human rights and the rule of law. Subject to progress in these areas, the Council has been ready to take steps towards upgrading the contractual relations with Belarus.

Belarus is also included in the European Neighborhood Policy although no action plan is currently foreseen for the country. EU cooperation with Belarus within ENP follows the guidelines of Country Strategy Paper 2007-2013 and National Indicative Programme 2007-2010.

Belarus joined the Eastern Partnership initiative in May 2009 together with Armenia, Azerbaijan, Georgia, Moldova and Ukraine. Assistance for Belarus is granted under the Country Strategy Paper 2007-13 and focuses on:

- supporting the needs of the population;
- directly and indirectly supporting democratisation;
- mitigating the effects of the self-isolation of Belarus on its society.

EU-funded assistance and cooperation with Belarus involves nearly €100 MEuro worth of projects including regional and thematic both ongoing and in preparation.

EU-Belarus cooperation is based on successive Conclusions of the Foreign Affairs Council of the EU including that of the 31 January 2011. Projects supported by the EU in Belarus follow the guidelines of the Country Strategy Paper and the National Indicative Programme. These documents provide for two key priority areas in technical cooperation between the EU and Belarus Priority Area 1 – Good governance and people to people contacts and Priority Area 2 – Economic modernisation.

Latgale region in Latvia, Panevėžys, Utena, Vilnius, Alytus and Kaunas counties in Lithuania; Vitebsk, Mogilev, Minsk and Grodno regions and Minsk city took part in the Cross Border Cooperation Programme. The Latvia, Lithuania and Belarus Cross Border Cooperation Programme within the European Neighbourhood and Partnership Instrument succeeds the Baltic Sea Region INTERREG IIIB Neighbourhood Programme Priority South IIIA programme for the period of 2007-2013.

In 7th framework programme Belarus participated in more than 35 projects (IncoNets projects, PICTURE, Idealists, NET4SOCIETYs, BalticGrid-II and etc.)

NCP structure in Belarus:

1. Health, demographic change and wellbeing
2. Science with and for Society
3. SMEs

4. Marie Skłodowska-Curie actions on skills, training and career development
5. Climate action, resource efficiency and raw materials
6. Food security, sustainable agriculture, marine and maritime research and the bio-economy; & Biotechnology
7. European Research Infrastructures
 8. Information and Communication Technologies (ICT)
 9. Legal and Financial Aspects
 10. Nanotechnologies, advanced materials and advanced manufacturing and processing
 11. Secure, clean and efficient energy
 12. Future and Emerging Technologies
 13. Inclusive, innovative and reflective societies
 14. Euratom
 15. Space
 16. Smart, green and integrated transport

Table 2: Overview of bilateral Belarus - EC agreements

Title of document	Date	Country/Organisation	Scope of cooperation agreed
Partnership and Cooperation Agreement (PCA) ²²	2005	EU/EC-Belarus	Agreement
Memorandum of Understanding between the Government of the Republic of Belarus and the European Commission	1997	EU/EC-Belarus	Memorandum
Work Programme For Grants of the EU Delegation to Belarus	2014	EU/EC-Belarus	Work Programme
Agreement between the Government of the Republic of Belarus and the Government of the Italian Republic on Cooperation in the field of Science and Technology	June 11, 2011	Italy-Belarus/ Governments	Agreement
Agreement between the Government of the Republic of Belarus and the Government of the Republic of Lithuania on cooperation in the field of Information and Communication Technologies and Information Society Development	February 22, 2013 (Came into effect on June 17, 2013)	Lithuania-Belarus/ Governments	Agreement
Belarusian-Serbian Commission for Scientific and Technological Cooperation		Serbia-Belarus	Joint Commission
Agreement between the Government of the Republic of Belarus and the Government of the Republic of Bulgaria on Cooperation in the fields of Education, Science and Culture	February 23, 1994	Bulgaria-Belarus/ Governments	Agreement
Agreement between the Government of the Republic of Belarus and the	July 25, 1995	United Kingdom of Great Britain and	Agreement

²² was not ratified

Title of document	Date	Country/Organisation	Scope of cooperation agreed
Government of the United Kingdom of Great Britain and Northern Ireland on Cooperation in Education, Science and Culture		Northern Ireland-Belarus/ Governments	
Agreement between the Republic of Belarus and the Federal Republic of Germany on the Development of large-scale Cooperation in the field of Economy, Industry, Science and Technology	April 2 1993	Germany-Belarus/ Governments	Agreement
Agreement between the Government of the Republic of Belarus and the Government of the Hellenic Republic on Economic and S&T Cooperation	2009	Greece-Belarus/ Governments	Agreement
Agreement between the Government of the Republic of Belarus and the Government of the Kingdom of Denmark on the Development of Economic, Industrial and Technical Cooperation	November 7, 1994	Denmark-Belarus/ Government	Agreement
Agreement between the Government of the Republic of Belarus and the Government of the Republic of Cyprus on long-term Economic, Scientific, Technical and Industrial Cooperation	January 11, 1997	Cyprus-Belarus/ Governments	Agreement
Agreement between the Government of the Republic of Belarus and the Government of the Republic of Latvia on Economic and S&T Cooperation	April 21, 2004	Latvia-Belarus/ Governments	Agreement
Agreement between the Government of the Republic of Belarus and the Government of the Republic of Lithuania on Cooperation in the field of Science and Technology	January 24, 2008	Lithuania-Belarus/ Governments	Agreement
Agreement between the Government of the Republic of Belarus and the Government of the Republic of Macedonia on Cooperation in the field of Science and Technology	28 May 2008	Macedonia-Belarus/ Governments	Agreement
Agreement between the Government of the Republic of Belarus and the Government of the Republic of Poland on Cooperation in the field of Science and Technology	1992	Poland-Belarus/ Governments	Agreement
Agreement between the Government of the Republic of Belarus and the Government of the Republic of Poland on Cooperation in the field of Culture, Science and Education	April 29, 1996	Poland-Belarus/ Governments	Agreement

Title of document	Date	Country/Organisation	Scope of cooperation agreed
Agreement between the Government of the Republic of Belarus and the Government of Romania on Trade and Economic Collaboration and S&T Cooperation	April 28, 1992	Romania-Belarus/ Governments	Agreement
Agreement between the Government of the Republic of Belarus and the Government of the Slovak Republic on Trade-Economic and S&T Cooperation	February 10, 1994	Slovakia-Belarus/ Governments	Agreement
Agreement between the Government of the French Republic and the Government of the Republic of Belarus on Cooperation in the field of Culture, Education, Science and Technology, Media	January 20, 2010	France-Belarus/ Governments	Agreement
Belarus - Slovak Joint Commission on Trade-Economic and S&T Cooperation		Slovakia-Belarus	Joint Commission
Belarusian-Czech Joint Commission on Economic, Industrial and Scientific-Technical Cooperation		Czech Republic- Belarus	Joint Commission
Belarusian-Polish Intergovernmental Commission on cooperation in the field of Science and Technology		Poland-Belarus	Intergovernmental Commission
Contest of Joint Belarusian-Serbian Scientific-Technical Projects for the Period from 2013 to 2015	2013-2015	Serbia-Belarus	Joint call of scientific projects
Contest of Joint Belarusian-Latvian Projects for the Period from 2014 to 2015	2014-2015	Latvia-Belarus	Joint call of scientific projects
Contest of Joint Belarusian-Polish Projects for the Period from 2013 to 2014	2013-2014	Poland-Belarus	Joint call of scientific projects
Contest of Joint Belarusian-Lithuanian Projects for the Period from 2015 to 2016	2015-2016	Lithuania-Belarus	Joint call of scientific projects
Belarusian Republican Foundation for Fundamental Research - The National Center for Scientific Research	2014/2015	France-Belarus	Joint call of scientific projects



Several important international cooperation projects funded under FP7 help to reinforce S&T relations with Russia:

- Enhancing the bilateral S&T Partnership with the Russian Federation (BILAT-RUS-Advanced) project aims to facilitate the science- technology and innovation cooperation between Russia and the EU. The web portal offers information about the Russian S&T landscape and funding opportunities from the EU and Russia for the implementation of joint scientific activities. The project has published a number of interesting reports such as case studies of good cooperation practice in S&T; good practice instruments and barriers for successful S&T cooperation; EU-Russian scientific mobility.
- Strengthening EU-Russia Science and Technology cooperation and EU access to Russian National Funding Programmes (ACCESSRU) project aims to help EU researchers and research organisations to access the scientific and innovation programmes established within the Russian Federation by providing an overview of the Russian research and innovation system, mapping access opportunities for EU researchers to Russian research programmes, identifying opportunities for R&D actors and proposing mechanism for facilitate the access by the EU researchers to Russian R&D programmes.
- Linking Russia to the ERA: Coordination of MS/AS ST programmes towards and with Russia (ERA.Net RUS) project aims to strengthen S&T cooperation between the Russia and the EU by the coordination of EU Member States' research programmes towards and with Russia. The studies carried out within this project identified common grounds across bilateral S&T programmes of MS/AC with Russia by analyzing Russian S&T system from perspective of international cooperation, developing an appropriate instrumental setting for joint funding activities.
- The INCO-NET EECA project has intensified the S&T policy dialogue with the broader region of Eastern Europe and Central Asia (EECA). It also includes a variety of activities, such as the support to FP7 Contact Points, information and brokerage events aiming at an enhanced participation of researchers from EECA countries in FP7.

At the EU-Russia Summit in Brussels in December 2012 the political leaders of the EU and Russia agreed to make 2014 the «EU-Russia Year of Science». Starting on 25 November 2013, this year-long series of events, to be jointly organised across the EU and Russia, will celebrate the vibrant and multifaceted cooperation between the EU, the EU Member States and the Russian Federation in the areas of research, higher education and innovation.

Measures facilitating co-operation between the EU and Russia

N°	Title	Organisation responsible
1	Common Space in Research and Education, including Cultural Matters	European Commission, Government of the Russian Federation
2	EU-Russia Partnership for Modernization	European Commission, Government of the Russian Federation
3	The 2011-2013 EU-Russia S&T Cooperation Roadmap	

N°	Title	Organisation responsible
4	EU Framework Programmes for Research and Technological Development	European Commission
5	Russia's Federal Targeted Programmes	Ministry of Education and Science of the Russian Federation
6	Decree of the Government of Russian Federation No. 220 "On measures for attracting leading scientists to Russian higher education institutes"	Government of the Russian Federation
7	EU researchers' mobility programmes	European Commission
8	BILAT-RUS-Advanced	http://www.bilat-rus.eu/en/
9	ACCESSRU	http://www.access4.eu/russia/
10	ERA.Net RUS Plus	http://www.eranet-rus.eu/
11	IncoNet EaP	http://www.inco-eap.net/

Table 2: Overview of bilateral Russia - EC agreements

Title of document	Date	Country/Organisation responsible	Scope of cooperation agreed
Agreement between the Government of the Russian Federation and the Government of the Republic of Austria on cooperation in science and technology	May 19, 2011	Austria – Russia/ Governments	Cooperation agreement
Agreement between the Government of the Russian Federation and the Government of the Republic of Austria on cooperation in the field of technology infrastructure.	April 23, 2012	Austria – Russia/ Governments	Cooperation agreement
Agreement on Economic, Scientific and Technological Cooperation between the USSR and the Belgium-Luxembourg Union	July 26, 1969	Belgium – Russia/ Governments	Cooperation agreement
Agreement between the Ministry of Education and Science of the Russian Federation and the Ministry of Education, Youth and Science of the Republic of Bulgaria on cooperation in science and technology	October 14, 2010	Bulgaria – Russia/ The Ministry of Education and Science of the Russian Federation and the Ministry of Education, Youth and Science of the Republic of Bulgaria	Cooperation agreement
Agreement between the Ministry of Science and Technology Policy of the Russian Federation and the Ministry of Education, Youth and Sport of the Czech Republic	May 23, 1995	Czech Republic – Russia/ The Ministry of Education, Youth and Sport of the Czech Republic - The Ministry of Science and	Cooperation agreement

Title of document	Date	Country/Organisation responsible	Scope of cooperation agreed
Republic on cooperation in science and technology		Technology Policy of the Russian Federation	
Agreement between the Government of the Russian Federation and the Government of the Czech Republic on economic, industrial and scientific-technical cooperation	2005	Czech Republic – Russia/ Governments	Cooperation agreement
Agreement on the development of economic, industrial, scientific and technological cooperation between the Russian Federation and the Kingdom of Denmark.	October 26, 1992	Denmark – Russia/ Governments	Cooperation agreement
Agreement between the Government of the Russian Federation and the Government of the Kingdom of Denmark on cooperation in culture, science and education.	November 4, 1993	Denmark – Russia/ Governments	Cooperation agreement
Agreement between the Government of the Russian Federation and the Government of the Kingdom of Denmark on technical cooperation.	February 26, 1997	Denmark – Russia/ Governments	Cooperation agreement
Agreement between the Government of the Russian Federation and the Government of the Republic of Finland on cooperation in culture, science and education	July 11, 1992	Finland – Russia/ Governments	Cooperation agreement
Agreement between the Government of the Russian Federation and the Government of the Republic of Finland on cooperation in science and technology (previous agreement with the USSR from 1971).	July 11, 1992	Finland – Russia/ Governments	Cooperation agreement
Agreement between the Government of the Russian Federation and the Government of the Republic of France on cooperation in	July 22, 1992	France – Russia/ Governments	Cooperation agreement

Title of document	Date	Country/Organisation responsible	Scope of cooperation agreed
science and technology (previous agreement with the USSR from 1990).			
Joint Statement on the Strategic Partnership between the Russian Federation and the Republic of France in the field of education, research and innovation.	September 20, 2008	France – Russia/ Governments	Joint Statement
Joint Statement on Strategic Partnership between the Russian Federation and the Federal Republic of Germany in the field of education, research and innovation	April 11, 2005	Germany – Russia/ Governments	Joint Statement
Agreement between the Government of the Russian Federation and the Government of the Federal Republic of Germany on cooperation in science and technology (previous agreement with the USSR from 1986)	July 16, 2009	Germany – Russia/ Governments	Cooperation agreement
Agreement between the Government of the Russian Federation and the Government of the Hellenic Republic on economic, industrial and scientific-technological cooperation.	July 30, 1993	Greece – Russia/ Governments	Cooperation agreement
Agreement between the Government of the Russian Federation and the Government of Hungary on economic, industrial and scientific-technological cooperation (30 July 1993)	July 30, 1993	Hungary – Russia/ Governments	Cooperation agreement
Agreement between the Government of the Russian Federation and the Government of the Republic of Italy on cooperation in science and technology (previous agreement with the USSR from 1989).	December 1, 1995	Italy – Russia/ Governments	Cooperation agreement
Agreement between Russia and Luxembourg on	August 26, 1996	Luxembourg – Russia/ Governments	Cooperation agreement

Title of document	Date	Country/Organisation responsible	Scope of cooperation agreed
cooperation in culture, education and science			
The Protocol between the Government of the Russian Federation and the Government of Malta on the inventory of contracts declares the validity of the Agreement between the Government of the Soviet Union and the Government of the Republic of Malta on cooperation in culture, education and science (18 March 1982)	September 10, 1993	Malta – Russia/ Governments	Cooperation agreement
Agreement between the USSR and the Kingdom of the Netherlands on the development of Economic, Industrial and Technical Cooperation	1975	Netherlands – Russia/ Governments	Cooperation agreement
Agreement between the Government of the Russian Federation and the Government of the Republic of Poland on cooperation in science and technology	August 25, 1993	Poland – Russia/ Governments	Cooperation agreement
Agreement between the Government of the Russian Federation and the Government of the Republic of Portugal on cooperation in culture and science	July 21, 1994	Portugal – Russia/ Governments	Cooperation agreement
Agreement between the Ministry of Education and Science of the Russian Federation and the Ministry of Science and Technology of Romania on cooperation in science and technology	March 2, 1995	Romania – Russia/ The Ministry of Education and Science of the Russian Federation and the Ministry of Science and Technology of Romania	Cooperation agreement
Agreement between the Ministry of Science and Technology Policy of the Russian Federation and the Ministry of Education and Science of the Slovak Republic on cooperation in science and technology	February 3, 1995	Slovakia – Russia/ The Ministry of Science and Technology Policy of the Russian Federation and the Ministry of Education and Science of the Slovak Republic	Cooperation agreement
Agreement between the	November 7,	Slovakia – Russia/	Cooperation

Title of document	Date	Country/Organisation responsible	Scope of cooperation agreed
Government of the Russian Federation and the Government of the Slovak Republic on protection of mutual interests in the use and definition of intellectual property rights	2006	Governments	agreement
Agreement between the Ministry of Education and Science of the Russian Federation and the Ministry of Science and Technology of the Republic of Slovenia on cooperation in science and technology.	June 23, 1994	Slovenia – Russia/ The Ministry of Education and Science of the Russian Federation and the Ministry of Science and Technology of the Republic of Slovenia	Cooperation agreement
Agreement between the Government of the Russian Federation and the Government of the Kingdom of Spain on cooperation in science and technology.	November 15, 2001	Spain – Russia/ The Government of the Russian Federation and the Government of the Kingdom of Spain	Cooperation agreement
Agreement between the Government of the Russian Federation and the Government of the United Kingdom of Great Britain and Northern Ireland on cooperation in science and technology.	May 28, 1996	United Kingdom – Russia/ Governments	Cooperation agreement