

SMART SPECIALISATION STRATEGY BULGARIA (S3 BULGARIA)

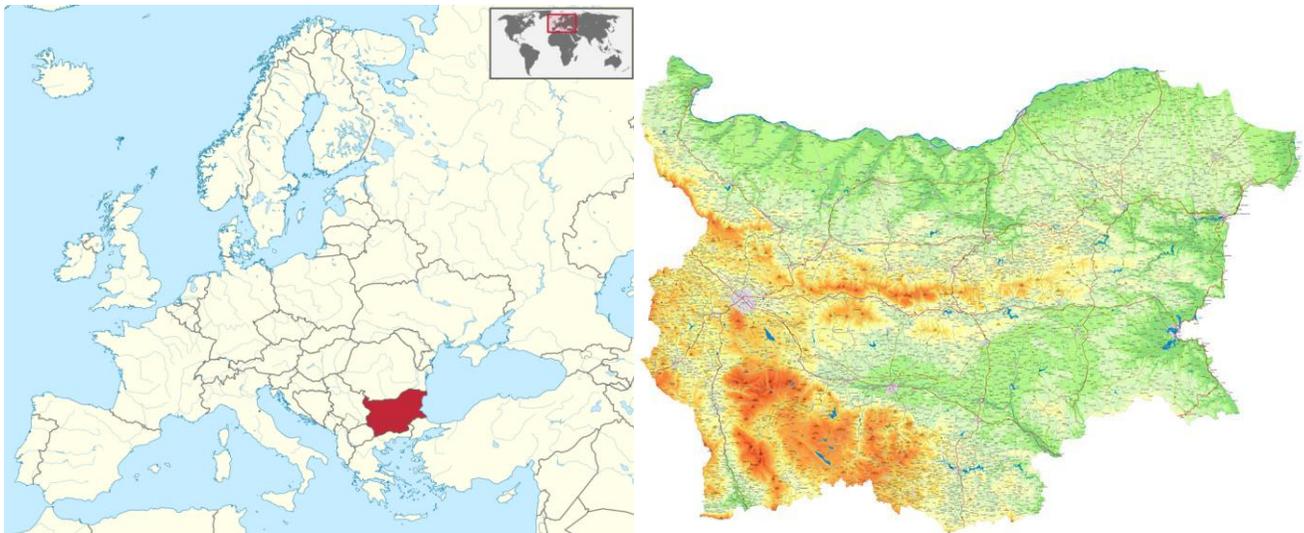
REPUBLIC OF BULGARIA – GENERAL INFORMATION

Bulgaria occupies a portion of the eastern Balkan peninsula, bordering Rumania to the north, Serbia and FYR of Macedonia to the west, Greece to the south, Turkey to the southeast and Black sea to the east. Bulgaria is located in Southeastern Europe and is the 14th largest country in Europe, although it is fairly sparsely populated with just 66 people per square kilometer (171/sq mi), ranking 139th in the world. It's estimated that Bulgaria has a population of 7.15 million in 2014.

The geographical position of the country provides a strategic connection between Europe and Asia. Located at the heart of the Balkans, Bulgaria is a strategic logistics hub. Ease of transportation of cargo is provided by

Five Pan-European corridors (IV, VII, VII, XI, X), crossing the country

- Transport program TRACECA, connecting Europe with Caucasian and Central Asian region
- Four major airports: Sofia, Plovdiv, Bourgas and Varna
- Two main seaports: Varna and Bourgas
- Numerous ports at the Danube River



Bulgarian nature is various - from high alpine mountains to beautiful sandy beaches.

Mountains

Rila is the sixth highest mountain in Europe and the highest on the Balkan Peninsula. In Rila is situated one of the most visited tourist destinations – The Seven Rila Lakes.

Pirin is the most beautiful mountain of alpine type in Bulgaria.

The Rhodopes are one of our most interesting mountains in terms of the flora and the fauna, the architecture of the settlements and the cultural traditions of the people.

Vitosha is situated in close proximity to Sofia. The mountain offers unique opportunities for recreation and sport.

Seaside

The Bulgarian Black Sea coast is a good opportunity for recreation, entertainment, and sports activities. The history is close to the modernity in the Bulgarian Black Sea resorts.

Population

73% of Bulgaria's population live in urban regions mainly concentrated in the administrative centers of [28 provinces](#). Most commercial and cultural activities are centered in the capital and largest city- [Sofia](#). 84.6% of the population is Bulgarian, with other major ethnic groups being Turkish (8.9%), Roma (4.9%) and about 40 small minority groups totaling 1.7%. All ethnic groups in Bulgaria speak Bulgarian, which is the only official language and native for most of the population.

Bulgaria is experiencing demographic crisis, with negative population growth since the 1990's and economic collapse that's caused serious emigration. By 2005, approximately 1.2 million people, mostly younger adults, left the country permanently, and the fertility rate is well below the replacement rate. 1/3 of households have just one member, and 76% of families don't have children under 16. Bulgaria now one of the lowest population and birth rates in the world, with one of the highest death rates.

Bulgaria's population is now shrinking at an alarming rate, losing 582,000 in ten years, and 1.5 million since 1985, which is a global record. By 2050, the UN foresees Bulgaria to have a population of just 5.4 million, a huge drop from 1985's 9 million.

Bulgaria is a unitary parliamentary republic with a high degree of political, administrative, and economic centralization. Bulgaria is a parliamentary republic with a clear separation of powers: legislative, executive and judicial power.

The National Assembly is the only legislative body (240 members) of the Republic of Bulgaria, elected for four years. The Council of Ministers is the main body of executive power in Bulgaria. It is elected for a period of 4 years. The jurisdiction is administered by the Supreme Court, Supreme Administrative Court, appellate, district, and regional military courts.

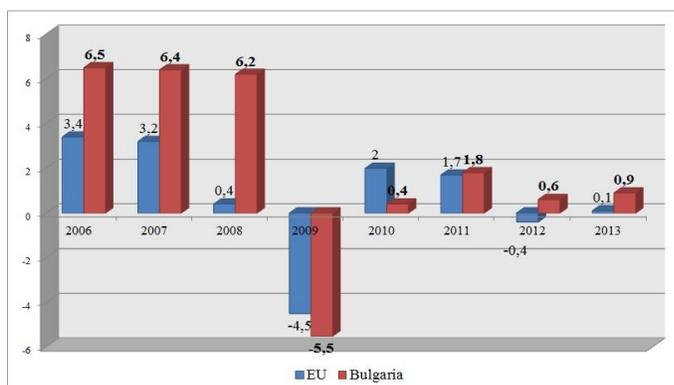
The capital of Bulgaria – Sofia is the center of the legislative, executive and judiciary power (the National Assembly, the Presidency and the Council of Ministers). Sofia is the 13th largest city in the European Union. In Sofia is concentrated 1/4 of the workforce of the country; is centered 1/6 of the industrial production , and produced 34.3 percent of GDP.

ECONOMIC OVERVIEW

For the last decade, Bulgaria has been one of the fastest growing Eastern European economies. It is a member of the European Union since 2007.

Main Economic Indicators

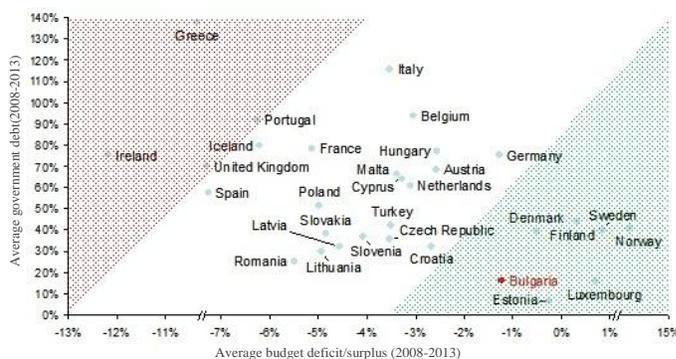
Real GDP Growth:



Source: Bulgarian National Bank, Eurostat

After the financial and economic crisis the Bulgarian economy recovers slowly due to relatively weak demand. In 2010-2011, the engine of growth was the external demand, while in 2012-2013 the focus is on domestic demand. GDP growth in Bulgaria in 2012 and 2013 amounts to respectively 0.6% and 0.9%, but in comparative terms per capita in 2012 it was 47% of the average EC28, which is the lowest level among member States. Accelerated improvement of these indicators is linked to the economic activity in the EU, which has a direct impact on the country's exports and indirect impact on consumption, FDI, etc.. Reaching the average level of income in the EU requires catching up in terms of productivity, which is not possible in med-term without technological modernization and change of the business model of corporate governance. An active integration policy of FDI and innovation policies is needed at sector level as well as building capacity in the labor force for absorption and adaptation of modern technologies and knowledge.

The financial and economic crisis could not affect the level of public debt and budget deficit of Bulgaria. In both indicators Bulgaria has one of the lowest rates among the member states. The fact is that similar figures show the countries that are leading in innovation - Finland, Denmark, Sweden, Norway, Estonia, i.e. that this is a good basis for accelerated innovation development.



National investment policy is aimed at encouraging investment in regions with the highest unemployment rate, as well as in high-tech industries and services, opening of high-productive jobs. The total volume of investments after the crisis year 2009 amounts to little more than 1 billion euros, often accompanied with outflows larger than input.

In structural aspect, after the entry of Bulgaria into the EU, besides to the environment, (mining and metallurgical) investments are directed to important elements of the innovation system (education and ICT) and to sectors with potential for development as vehicles (83%), electrical equipment (51%), food products and beverages (30%) and others., i.e. to technological areas as Mechatronics and clean technologies, ICT Industries for healthy living and biotechnology.

The country provides excellent opportunities for the realization of investment projects of all kinds. It has stable macroeconomic environment, the most favorable tax treatment in the European Union, highly skilled labor force and one of Europe's lowest operational costs. Corporate income tax rate is 10%, the lowest in the EU. Bulgaria is among the top countries with the lowest rates of VAT (20%). Personal income tax is 10 %, flat rate. Industries in high-unemployment areas are granted 0% tax rate. There is a 2-year VAT exemption for imports of equipment for investment projects over €5 million, creating at least 50 jobs. Bulgaria has one of the most competitive costs of labor in Central

and Eastern Europe. The work force is well educated, highly skilled and multilingual. 62.2 % of the total population is in working age (appr. 4.6 million). 60 000 students annually graduate from 51 universities. 98% of the high school students study a foreign language (usually English) and 73% study a second language (mainly German, French, Spanish, Russian).

Sound macroeconomic indicators, transparent business environment and existing regulatory framework with clear political vision are important factors for change towards smart specialization. Such business environment is oriented to actively attract FDI and entrepreneurship development. But lower corporate tax, accompanied by low labor wage is not sufficient to stimulate the economic development of the country. They are not sufficient conditions for export-oriented enterprises, seeking FDI-based technologies. The strength of the Bulgarian entrepreneurship is the result of relatively favorable business environment in terms of getting credit, protecting investors and starting a business. However, Bulgaria has serious weaknesses related to the execution of the contracts with the issues insolvency, cross-border trade, obtaining building permits and production / gaining access to electricity, which hinders the effective development of entrepreneurship.

The role of government is to create and develop a sustainable environment and favorable conditions for business, independent and expeditious legal system. The business sector needs to reduce the administrative burden and the development of e-government, which will not only accelerate the absorption of EU funds, but will also lead to better coordination and monitoring of national and local policies. Reduction and refinement of licensing and permit systems is a priority for the Bulgarian government.

Bulgaria's place in relation to the global technological frontier and leading economies suggests that the absorption of new technologies has to be a major area in innovation policy. This means prior knowledge, skills and workforce capacity to absorb new technologies. Bulgaria has the potential to build on the education of the younger population, but at the same time has a lot to be desired, because the transition to a higher stage of technological development requires skill to adapt and develop in many new technology areas.

SITUATION IN RESEARCH AND INNOVATION SYSTEM

Bulgaria is one of the countries with the lowest R&D intensity in the EU and ranks the lowest in the EU on private R&D investment as a share of GDP. The GERD per inhabitant for 2011 is € 29.3, and is the lowest in the EC 27, where the average GERD per inhabitant for 2011 is € 510.5. In this respect the latest R&I policy development in the country is connected with Government decision of 9th of January 2013 for separate operational programme (OP) during the next programming period, 2014-2020, called "Science and Education for Smart Growth 2014-2020". The new operational program is seen as an important contribution to reviving the decapitalised and poorly funded Bulgarian science and education, which has been left behind in the 2007 – 2013 programming period. Some of the tangible goals laid down in the new operational programme include: a gradual increase of R&D spending in Bulgaria up from the current level of 0.6% to 1.5% of GDP by 2020, a decrease in the rate of schools dropouts to 11%, and an increase of the number of people with a university degree in the age group 24-30 up to 36%. Due to the low tax rates no special tax incentives for investment in R & D are envisaged and therefore the private expenditures are statistically not visible.

Development of the research policy in 2012 is connected with implementation of the revision of the Law for Bulgarian Academy of Science (2011). For the first time the National Assembly of the Republic of Bulgaria (Parliament) discussed and accepted the BAS research output annual report. Also the first decisions from the Advisory board, dominated by external for Academy staff took

place. The challenges of the national research and innovation system are defined by further dynamics of the structure of R&D funding and performing.

During the period 2010-2012 the Bulgarian government undertook some actions to update the strategic framework and address structural challenges. National Reform Programme (2011) set the national R&D spending goal at 1.5% of GDP by 2020. The National Strategy of Scientific Research to 2020 (adopted by Parliament in 2011) listed five priority areas for the development of research in Bulgaria. They are: energy, energy efficiency and transport; development of green and eco - technologies; biotechnologies and bio-foods; new materials and technologies; cultural and historical heritage; development of fundamental research on programme and competitive principles to reach 15% of the total public expenditures on science. The information and communication technologies have been listed as a horizontal topic. RIS3 has integrated the National Strategy of Scientific Research and developed it further taking into account industry potential for absorption of new knowledge. Priorities are integrated and developed and they will be supported in the next program period.

Establishment of "Sofia-tech" technology park as a core R&I hub for the whole country and set the conditions to attract leading international and local scientists is another side of the strengthening R&I in the country. The sixth challenge is intensifying links between education, research and business and avoiding bottlenecks for start-up companies and innovative SMEs 'The links between education, research and business are sporadic and weak, and thus the human potential is not effectively used for achieving social and economic objectives.

The main instruments to promote innovation in 2014-2020 will be the two OP's under the RIS -OP "Innovation and Competitiveness" and OP "Science and education for smart growth"(EU funding), as well as already established and acting National Innovation Fund (NIF) and Science Research Fund (SRF) – both with national budget funding.

STRENGTHENING ENTREPRENEURSHIP

State support for the development of entrepreneurship and entrepreneurial culture - SBA events and awards

The aim is to identify and gain recognition those who most successfully promote entrepreneurship in Bulgaria, exemplifies the implementation of policy and practice in this area, increase attention on the importance of entrepreneurship. There are several initiatives for encouraging and inspiring future entrepreneurs: Bulgaria participated in the competition for European awards for promoting entrepreneurship preliminary selection of candidates at the national level under the Ministry of Economy and Energy radiates candidates to continue participation on the European stage. Brandiko prize of the Ministry of Economy, which is awarded annually to three training companies from high schools and universities at home and abroad for the protection of intellectual property. Th13teen Arts is a national competition for promising business ideas in the field of creative industries, which will be held for the second consecutive year. The winner of the national competition represent Bulgaria at the world competition Creative Business Cup. Th13teen Arts creates opportunities for Bulgarian companies in this sector to promote their activities, provide good examples to start a business and to meet partners and investors. TECHNOSTART - The project will help students, graduate students or recent graduates of higher education and innovative business ideas to start their own business by providing grants for the creation of technology companies. These are companies whose existence and prosperity depend on the development of one or more technologies and products which require significant technological innovations; firms whose innovative products and technology are not only part of the business, but their business itself.

HUMAN RESOURCES IN RDI

Human capital is the core competitiveness of economies and their innovation potential. One of the most important factors that directly affect human capital is education. According to Eurostat, in 2011 for the financing of education in our region at least devote resources Romania and Bulgaria respectively 2068.9 and 2713.4 euros per person per year on average for the EU almost € 7000 so 3 times less funds strive to achieve European and global level of training. In the Global Competitiveness Report 2013-2014, Bulgaria is ranked 90th in terms of quality of education overall, 60 th in quality of primary education, 44th in quality of higher education.

It is necessary to increase the entrepreneurial orientation among young people, gradually entrepreneurship education an integral part of the curriculum. Art schools (a total of 23 schools in 15 cities in the country) in Bulgaria, for example, does not provide training in entrepreneurship, and students in these schools are the future of the creative industries in the country. Launched is a pilot project "Starts", where students undergo training and mentoring in entrepreneurship and protection of intellectual property and create their driving enterprise that operates within the school year.

SMALL AND MEDIUM-SIZED ENTERPRISES

Small and medium enterprises (SMEs) in Bulgaria have a serious contribution to the development of the economy - generating over 60% of value added, 67% of turnover and 75% of employment among all businesses. Bulgarian SMEs are often among the innovators. In recent years (2006-2010) the number of innovative enterprises with number of employees among 10-49 is around 20%. Only 14% of them are technological innovation, about 5% of them are new or significantly improved products to market, with a turnover of only 1.5% of the total and 18% of them have made innovation cooperation. A little better is the situation in the group of enterprises with number of employees among 50-249. Innovative companies are on average 33%, with 29% of technological innovation, 10% of them are new or significantly improved products to the market, whose turnover is only 3.2% of the total and 20% of them have made innovation cooperation. Either way these data are among the lowest in the EU. Bulgarian SMEs innovations are largely related to cost reduction and much less those related to new products and processes. Such activities have made two thirds of medium-sized enterprises and about 1/3 of the micro and small enterprises. The least common innovation activities are those related to the implementation of joint projects in education between business and academia - only about 9% of SMEs are involved in such projects.

INNOVATION PERFORMANCE

The average annual growth rate of innovation performance of the EU27 in the period 2006-2013 amounted to 1.7%. Countries modest innovators show growth rates higher than the EU average, striving to catch up with other countries - Romania (1.9%), Bulgaria (2.5%) and Latvia (3.5%).

As noted Bulgaria is in the group of modest innovators and occupies the last place among the Member States. Bulgaria shows both: significant strengths and weaknesses, a fact which determines the innovation system of the country as unbalanced. The practice of the innovation leaders shows that a balanced innovation system is a prerequisite for success.

The unenviable Innovation position of our country persists despite relatively high shown innovation dynamics. The greatest gaps are in the field of innovators (measured innovation of enterprises) and the financing and support. Obviously, the existing innovation dynamics is not enough to lift our country from the group of modest innovators. Need is even greater innovation and accelerated growth changes to achieve a relatively balanced innovation system.

Bulgaria is constantly improving its performance according to the rankings of the Global innovation index. 49 position in the global ranking for innovation in 2010, Bulgaria switched to position 41 in 2013.

Regardless of the identified strengths, the deviation from the best world achievements remains essential, especially in the field of investment, basic infrastructure, creation, dissemination and utilization of knowledge, creative goods and services, R & D and ICT.

ACCESS TO FINANCE

Financing of innovation activity of enterprises

Access to finance is one of the most serious constraints to growth and entrepreneurship. Entrepreneurs encounter particular difficulties to raise funds in the early stages of their business, especially in the current state of crisis. Therefore, the expansion and strengthening of financial instruments for entrepreneurs is a key building block of support for entrepreneurs. SMEs largely depend on bank loans for their external financing, and they actually have very few alternatives.

Among the government programs supporting SMEs is Bulgarian Development Bank (BDB AD). The institution uses its position on the Bulgarian banking market in the implementation of government economic policy. Ownership of the share capital of BDB is 99.99% owned by the Republic of Bulgaria, represented by the Ministry of Finance and 0.0001% of DSK Bank. The main focus of BDB are Bulgarian SME project financing for export-oriented enterprises, and investment banking and public projects of national importance. In Bulgaria, the Holding Fund JEREMIE (HFD) is financed by the European Regional Development Fund together with the co-financing of 15% of the state budget through the OPC. Budget for implementation of the JEREMIE Initiative including national co-financing is EUR 199 million. The main objective is to improve access to finance for SMEs through various instruments of financial engineering. JEREMIE Initiative in Bulgaria provides a balanced mix of debt and equity instruments that address the significant gaps between demand and supply of financial engineering instruments in Bulgaria. Among the various financial instruments are Guarantees covering losses on a portfolio of loans, Venture capital fund, Mezzanine Fund, risk-sharing instrument. There are two successful funds for promotion of entrepreneurship and the provision of seed funding: Eleven and Launch Hub. Eleven managed fund with a capital of 12 million to make around 200 investments in innovative start-ups. The other selected fund - LAUNCHHub, managing a fund with a capital of 9 million, focused on information and communication technologies. Over the past two years, both funds for start-up businesses invested nearly 6 million in 92 companies.

INTERNATIONAL COOPERATION

Participation of the business sector (in particular SMEs) in EU programs

The participation of Bulgarian enterprises in international programs is growing. Recently, Bulgaria has become an effective member of the European EUREKA initiative. In recent years has been built administrative capacity to promote the capabilities of the initiative and the many programs it implements. In 2013 Bulgaria is a member of Eureka Tourism, one of the umbrella initiatives of Eureka. Since 2011 Bulgaria is a full member of the Joint European Program Eurostars. As a result of massive information campaign in 2011 and 2012 on the rules of application and opportunities offered by this program, 8 Bulgarian enterprises applied in 2012, and in 2014 the project with Bulgarian participation – IMG – Technology has been endorsed. Bulgaria plans to enter into a cooperation agreement with the European Space Agency (ESA) to allow for Bulgarian SMEs and research organizations to participate in implementation projects of high-tech products and services.

2014 for this purpose have been allocated 2.6 million leva national resources. In 2014 Bulgaria undertakes the initiative to participate in three of the Joint European initiatives - ECSEL (Electronic components and systems for European leadership), Bio-technology industries and fuel cells and hydrogen. The business sector participates in several global innovation networks and technology platforms as Enterprise Europe Network. In Bulgaria, the network brings together 14 organizations, located in Sofia, Plovdiv, Sandanski, Stara Zagora, Vratsa, Yambol, Dobrich, Ruse. There is already a tradition in participation of research organizations in European and global innovation networks and technology platforms under which the 7th Framework Programme. Aggregated data to the beginning of March 2013 show that a total of 381 open invitations to the Seventh Framework Programme received proposals with Bulgarian participation are 2811 or 0.86% in the EU-27, totaling 804.6 million (0.53%). For the entire duration of the Seventh Framework Programme 465 projects with Bulgarian participants were approved for funding with a total of 589 participants from Bulgaria and the Framework Programme grant totaling 82.73 million.

The gradual expansion of the partner countries in the European and global significance in the formation of large interdisciplinary research networks and consortia. Ministry of Education and Science currently has over 15 effective agreements for bilateral scientific and technological cooperation covering wide geographic area. In recent years bilateral cooperation programs are under implementation in the field of research with China, India, Ukraine, Germany, Austria, France, Slovenia, Slovakia, Russia, Romania and FYR Macedonia.

In 2011 started the implementation of the Bulgarian-Swiss program for overcoming the economic and social disparities in the enlarged EU on the basis of which there were established two funds with national co-fund "scientific exchange" and the "Research" with duration of 2011-2016, Bulgaria also participates in the European Organisation for Nuclear Research (CERN), the European Science Foundation (ESF), International Thermonuclear Experimental Reactor (ITER), the European Molecular Biology Organization (EMBO), the European metrology research programs, (EUMETSAT) and a member of the Convention establishing the European Centre for midterm weather forecasts.

CONTEXT AND APPROACH – RIS3 BULGARIA

The Innovation Strategy of the Republic of Bulgaria, adopted in 2004 and amended in 2006 by the Council of Ministers, is part of the process of accession of Bulgaria to the European Union, during which Bulgaria has set targets for increasing the competitiveness of Bulgarian industry and improve its ability to withstand the competitive pressure on the European and world markets. The lessons learned from the implementation concern the following areas:

- the usefulness of the use of international experience and expertise in research, analysis and practice inventory Bulgarian national innovation system (benefit is the support of the Dutch government in the pre-accession program PSO);
- the necessity to review the legal framework and synchronization policies of scientific and technological development and innovation in the institutional and legal framework;
- the conclusion that the development and coordination of quality document (and the need for transforming long-running financial and institutional lined guaranteed Partnership Facility) is not enough;
- the ambition, with which should the innovation policy should be pursued (ie requirement for an integrated approach with numerous activities and measures not only in the short term but in the medium-term and long-term perspective);
- the clarity and the focus that are of paramount importance to obtain tangible results (in other words, it is not possible on the basis of financial resources effect in all areas and sectors to be obtained);
- the importance of political consistency and commitment, particularly in the field of scientific and technological development and innovation.

The new approach of smart specialization helps to build on precisely these areas and further enhance competitiveness through focused investments in R & D and innovation based on science-business cooperation, but also taking into account the potential market niches in which Bulgaria to realize their innovative products and services.

The Innovation strategy for smart specialization (RIS3) 2014-2020 is successor of the Innovation Strategy of the Republic of Bulgaria and the measures for its implementation for the period 2006-2013 and is one of the mandatory ex-ante conditions (Decision of Council of Ministers of the Republic of Bulgaria 668/2012, supplemented by Decision of Council of Ministers of the Republic of Bulgaria 102 / 2013, supplemented by Decision of Council of Ministers of the Republic of Bulgaria 597/2013) as in is envisaged in the Annex IV to the draft Regulation laying down general provisions on the funds covered by the Common Strategic Framework, taking into consideration the specific recommendations of the Council by 2012. The Strategy has been developed in accordance with two Guidelines of the European Commission (published in May and November 2012) and it is an integrated document of the innovation policy, science policy and the policy of the digital growth. The document was developed in accordance with the Europe 2020 Strategy in the directions of smart and sustainable growth, and is expected to have additional effect in terms of inclusive growth. The efforts are in line with the national targets set out in the National Reform Programme and the National Programme for Development - Bulgaria 2020.

In the process of creation of the document, the active involvement of a wide range of representatives of all stakeholders – ministries, which are relevant to innovation policy, academia (research institutes and universities), business and NGOs, regional administrations and representatives of local authorities has been ensured. The Innovation strategy for smart specialization has been consulted by international experts, including by the World Bank and the European Commission (technical assistance). The consultation meetings covering sectors (food, pharmaceutical industries, creative industries, electronics, mechanical engineering, information and communication technologies), as well as meetings on specialized topics (eco-innovation and resource, intellectual property, etc.) have been realized. The meetings were organized both at national level and regional level to take account of the specificities of different regions. A list of all participants in the discussions is available. It is planned the consultation process to continue during the whole period of realization of RIS3.

The broad public debate on the subject, conducted over the last two years, is an expression of the will to find common ground between the participants in the innovation system so that they can unite around a common vision for the future and be chosen paths of realization. The main task of the strategy in the European context is to identify the unique characteristics and potential of the country to develop in areas where there are competitive advantages.

To improve the position of Bulgaria in terms of competitiveness and to move the country up in the world and European rankings lists, the strategy should become an engine for innovation for export, creation of new jobs and growth. Therefore, long-term vision for the economic future of Bulgaria, which is adopted by the document, is a comprehensive and shared by all stakeholders.

The main elements of the innovation system and their relationships are considered in a detailed analysis: research system, research and innovation infrastructure, human capital, SMEs, financing, clusters, digital growth, integration into the European Research Area, patent activity, the science - business internationalization of enterprises sustainable development.

On the basis of the consultation process, analysis and SWOT analysis the vision of RIS3 is brought out and the two main strategic objectives, which are mutually complementary and suggest strengthening the synergies between sustainable and smart growth, namely:

Vision: By 2020, Bulgaria to pass from the group of "modest innovators" in the group of "moderate innovators" by:

Objective 1: Focus on innovation potential in the identified thematic areas (the creation and development of new technologies, leading to competitive advantages and increase the added value of domestic products and services)

Objective 2: Support innovation for resource efficiency and ICT applications in the enterprises throughout the whole industry (for accelerated absorption of technologies).

To ensure successful implementation of the strategy and the achievement of the defined goals in the document there is a clear financial plan, consistent with the objective of Bulgaria in the field of R & D (1.5% share of R & D expenditure of GDP) and further integrated mechanisms for monitoring and evaluation on the base of more reliable indicators.

The Strategy marks the beginning of a process that will continue throughout the whole period of implementation. The action plan which is under development is to ensure implementation of the Strategy. Till 2016 the detailed innovation potential of the regions will be worked out. The dialogue with all stakeholders, especially local authorities, scientific bodies and entrepreneurs on the ground is ongoing.

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