



# Bulgarian Innovation Policy: Options for the Next Decade

The political changes in the EU – the entry into force of the Treaty of Lisbon, the new composition of EU institutions, as well as the development of their remit – will influence policy in the field of innovation in Bulgaria and the EU over the next decade. Regardless of the fact that in respect to science and innovation the Treaty of Lisbon preserves the current competencies of the member-states and the complementarity of the measures for encouraging innovations, at EU level there are designs for essential change and promotion of initiatives in support of innovation policy. Should Bulgaria miss 2010 too for drafting a national innovation policy, the country's model of economic development will increasingly resemble those of the most backward in Europe – low competitiveness, long-term low income, a high degree of indebtedness and extreme vulnerability to external economic shocks.

## European initiatives in support of innovation

Since 2005, innovation policy has acquired greater significance among EU common policies and was recognized as a key factor for competitiveness, productivity and sustainability. The results and the problems of EU innovation policy can be structured in three fields – framework conditions for innovation, initiatives in support of innovation demand and supply.<sup>70</sup>

*Framework conditions* include the changes in **the provision of state aid** for research, innovation and development, which include help for young entrepreneurs, centers for providing innovation services, loans for highly qualified staff, support of innovation clusters and so on. The new regulation for exempting

<sup>70</sup> Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions, Reviewing Community innovation policy in a changing world, Brussels, 2.9.2009, COM(2009) 442 final.

from notification state aid to the amount of up to €200,000 per enterprise for a three-year period allows member-states to use a variety of tools in support of innovations and for the development of eco-innovation. **Tax initiatives** for encouraging research and development are embodied mainly in comparative analysis of member-state tax policies and in the distribution of good practices. Access of business to a single patent, keeping talented scientists in the EU, the reform in the structure of educational degrees and the acquisition of e-skills remain unresolved problems.

*The supply and demand of innovations in the EU* are characterized by **limited access to venture capital** in the first stages of the innovation process and the investment readiness of entrepreneurs. The Commission has undertaken several initiatives to encourage cross-border venture capital investment and to clarify the interests of venture investors, but they cannot replace the measures at the national level. The European Institute of Innovation and Technology has the key task of generating pioneer innovations by stimulating the connection between education, science and business, as well as the development of public-private partnerships. The first knowledge and innovation communities through which it operates are those in the field of climate change, sustainable energy and the future of information and communication technologies. Important initiatives of the European Commission include the drafting of an innovation policy in respect to services and **linking cohesion policy with innovation policy**. The utilization of funds under the operational programs for overcoming the consequences of the economic crisis remains a problem for member states.

*The measures for simultaneous support of demand and supply* are taken in several main directions:

- Development of **lead markets** in the sectors of e-health, sustainable construction, recycling, bio-products, renewable energy sources, as well as wider access to and better utilization of the technologies ready for commercialization in the field of eco-innovation;
- Information and communication technologies;
- Intelligent transport systems and intelligent energy;
- Using the potential of **public procurement** to encourage innovation;
- Development of active policy in the field of **standardization**;
- Better regulation of new technologies and newly emerging markets and assessment of their impact.

On this basis the European Commission recommends that policies at the level of EU member states define priorities in the following fields:

- A clear understanding of the significance of R&D and innovations to overcome the crisis quickly and create potential for sustainable growth; increasing the regulatory functions of the state towards reconsidering regulatory regimes, overcoming the barriers to entrepreneurship and innovation, and financial support for companies incapable of setting aside the necessary funding for innovation;
- Simultaneous stimulation of the supply and demand of fundamental and applied research results, with a focus on encouraging interaction between innovation system units and shortening the cycle for application of new technological projects;
- Uniting efforts around the so-called national strategic technologies set down as priorities and thus focusing the principal portion of the planned investments in research and technology;
- Orientation of financial schemes towards support for building a green and clean economy and a healthy society.

## European innovation policy prospects

The European innovation policy is reflected in the EU 2020 strategy.<sup>71</sup> The strategy focuses on three thematic objectives:

- Creating value by basing growth on knowledge;
- Empowering people in inclusive societies;
- Creating a competitive, connected and greener economy.

Innovations concern all three objectives. The Commission is expected to make a detailed proposal for updating the European innovation policy to the Spring European Council. This is part of the overall European program for reform. The 2010 Spring European Council conclusions will underpin the so-called 'integrated guidelines', confirming the policy priorities which should be pursued by the EU and member states in partnership. The new guidelines will replace those in force under the Lisbon Strategy since 2005. For each of these objectives, member states will be invited to set national objectives for five years corresponding to their specific situations and their starting points.

## Bulgaria's innovation policy as EU member

Given Bulgaria's membership in the EU, the modernization and enhanced competitiveness of its economy emerge as a requirement for the improvement of living conditions.

The adoption of a National Innovation Strategy of the Republic of Bulgaria in 2004 and its implementation through concrete projects, such as the establishment of the National Innovation Fund and the development and launch of Operational Program Competitiveness, were the first – albeit quite restricted – measures in support of innovation in the transition to a market economy. Because of the lack of consistent policy and adequate financial support they did not succeed in bringing essential change to the environment for innovation. The surveys of the European Commission – the European Innovation Scoreboard and Innobarometer – classified Bulgaria as a "catching-up country" in the field of innovation, characterized by a downturn of investment in innovation in a time a crisis and increasing innovation deficit in several key problem zones:

1. **The national innovation policy** is implemented on the basis of a strategic document developed more than five years ago, without updating of the objectives set down in it according to the change in the potential of the Bulgarian economy and the conditions of the environment in which the national innovation system units operate. The imbalances which existed at the launch of the National Innovation Strategy and the lack of coordination with the then draft research development strategy and the objectives of the country's economic development continue at present. In practice, the National Innovation Strategy has not been implemented since 2007 – there are no annual plans, part of the few measures undertaken earlier have been terminated or are carried out formally, without a vision, the consultative body established with the Minister of Economy,

<sup>71</sup> The Commission launches consultation on EU 2020: a new strategy to make the EU a smarter, greener social market, [http://ec.europa.eu/enterprise/policies/innovation/index\\_en.htm](http://ec.europa.eu/enterprise/policies/innovation/index_en.htm)

Energy and Tourism – the National Council on Innovation – does not fulfill the commitments set down in the Strategy, while the Ministry of Economy, Energy and Tourism does not engage in effective monitoring of its implementation. The national innovation policy (inasmuch as it could be said to exist) is carried out on the basis of sporadic measures which are not subject to an overall logic and are not oriented towards achieving the objectives of national development within the EU.

2. The approaches to **updating the legislative framework in support of innovation** in Bulgaria (lack of transparency and public debate), as well as the mechanisms for the implementation of the legislative documents (lack of control and ineffectively operating judicial system) cannot be considered part of an innovation enabling environment. This is the case with the actions undertaken – or not – for the development of high-tech, human resources (engaged in science and technology), higher education, protection of intellectual property (including by R&D units and universities), and enterprise and innovation activity.
3. **Funding of R&D** is declining as a share of GDP. There is a lack of strategic orientation, responsibility and administrative capacity for more effective utilization of the finances from the European funds in support of R&D. Insufficient financing, combined with the lack of a long-term vision, leads to the establishment of units in support of innovation with questionable sustainability. Cases in point are the technology transfer offices established with some universities and scientific organizations. They were supported financially for a year, with the clear prospect that they would be unable to support themselves and would have to change their functions after this period in order to exist. Such projects can be described as tests of initiatives for encouraging innovation rather than a well designed innovation strategy.
4. The reform of the **national innovation system** is yet to come, both in respect to state-subsidized scientific units and to defining the role of Bulgarian universities in the “science – education – innovation” triangle. Against this backdrop, the number of innovation companies in Bulgaria is growing, regardless of the neutral – and in some cases hostile to innovation – business environment, while among publicly funded research organizations and higher education institutions there are effectively working units whose achievements find practical application. In spite of that, the issues research and innovation remain a *terra incognita* for Bulgarian media.

The need of developing a national program within the EU 2020 Strategy is an appropriate occasion for reconsidering the national innovation policy and for reforming the innovation system so that the strategic foundations for the development of the Bulgarian economy over the next decade would improve.

### Recommendations for the establishment of a working national innovation system

The analysis of the innovation potential of the Bulgarian economy presented in this report confirms the need for measures for catching up with the rest of the European economies in respect of innovative development. Support of company and national competitiveness by the introduction of advanced technological achievements in enterprises will help overcome a number of economic and social problems and will permit an improved utilization of the existing innovation

potential. The changes in Bulgaria's innovation policy, which the *Innovation.bg* report summarized for the past six years, should include:

## 1. Making innovations a priority of the country's economic and social development.

- **Updating the National Innovation Strategy** and its integration with the research strategy and the country's priorities of economic development. Coordination of the main priorities for economic development and the key technological fields in support of their achievement.

The prioritizing of innovation in the economy should be visible in the work of the individual ministries and in the implementation of all operational programs and financial instruments of the state, including the procedures for public procurement, licensing, etc.

It is necessary to draw up an action plan by sectors and scientific and technological fields for the application of the objectives and priorities of the strategy and to determine the financial, legal and institutional instruments for its implementation. The annual and medium-term action plans of the individual ministries and other units disbursing public funds should be linked to the fulfillment of objectives and priorities set down in the action plan, as well as to the assessment of their implementation. Annual updating of the action plan according to the rate of its implementation and external factors, as well as respective updating of the annual action plans of ministries and units operating with budget funds based on it.

- **Designing a mechanism of accountability, monitoring and control of the execution of measures set down in the national strategy.** The strategy should feature measurable results allowing for impact assessment of scientific research and innovation on boosting the competitiveness of the economy. Financial backing of the implementation of the strategy aiming to ensure consistency and continuity in the long-term application of the national innovation policy.

Modern information and communication technologies permit the establishment of procedures for adequate interaction and exchange of information between the state institutions which create an environment and participate in the implementation of the measures set down in the innovation strategy. Drafting of governance rules for decision-making at national, regional and local level in the conditions of transparency and open interaction with the various units of the innovation system. Following the best practices in the developed countries, the potential of civil society organizations in the country which have considerable experience in carrying out such initiatives should be used to hold a broad debate on the issues of the innovative development of the economy.

- **Organizational measures on the application of international standards for collection, processing and provision of statistical data** about the operation and innovation activity of enterprises, research and university institutions in the country. The establishment of an updated information database to serve the analytical process and the introduction of measures for an innovation-supportive environment will lead to an improved ranking of Bulgaria's achievements in the European Innovation Scoreboard and will help form a policy adequate to the existing innovation potential.

## 2. Drafting legislation encouraging science, research and innovation in their interaction.

- **Revision of legislation in the field of science and innovation** with the objective of creating a favorable statutory environment for innovations. Updating existing laws and secondary legislation, including the Promotion of Scientific Research Act and the Public Procurement Act, among others;
- **Drafting and adoption of legislative acts** which would provide an overall regulation of activity of the units integrated in the innovation process (business, universities, research units), including in terms of protection and transfer of the intellectual property they hold.

The practice of EU countries shows the need of legislation which promotes the development of innovation-related processes such as mobility between research organizations and business, technology transfer, public-private partnerships in R&D, incorporation in the European scientific infrastructure framework. Legislation should support innovation through the procedures for public procurement, state aid and the introduction of international regulations and standards.

## 3. Establishment of a center for integrated decision-making which would coordinate the implementation of the country's scientific, technological and innovation policy.

A unit should be established with the Council of Ministers, headed by the Prime Minister or a Deputy Prime Minister, which would ensure significant changes in the national innovation system on the basis of commitment at the highest political level. The establishment of such a structure should overcome the problems in the work of the existing innovation and research councils in Bulgaria.

## 4. Sustainable increase of research and innovation funding.

- **Formation of a sustainable financial framework for the implementation of the measures included in the innovation strategy** by setting a national objective for investment in R&D. On the basis of the studies of the sectors of investment in R&D by business it could be concluded that the achievement of 2.1 % of GDP investments in R&D by 2020 is a feasible objective. Participation of the state sector should remain within 0.8 – 0.9 % of GDP.
- **Integrating the institutional and project approaches to funding research and innovation activity**, including by synchronizing the existing financial instruments – National Innovation Fund and National Science Fund.
- **Providing a national co-funding instrument for projects funded by European framework programs** in the field of science, technology and innovation, with the objective of encouraging the investment of fresh money in the Bulgarian economy and of improving the management of innovation in the research and industry sectors.
- **Establishment of mechanisms of transparency and control of public expenditure.** Building the capacity and streamlining the operation of the public administration managing finances under the European Cohesion Fund and the structural funds supporting innovation.

The limited funding for innovation calls for a reconsideration of the measures under Operational Program Competitiveness for 2011 – innovation products,

processes and services, which should be supported under the Program, as well as the processes of technological modernization, development of clusters and technology transfer offices. Changes are also necessary in Operational Program Human Resources Development, which would turn it from a tool applied in areas of low added value and low starting qualifications into an instrument supporting human resources and business in high-tech and R&D-intensive industries. This can be done both by the transfer of more funds and responsibilities under the program from the Ministry of Labor and Social Policy to the Ministry of Education, Youth and Science and the Ministry of Economy, Energy and Tourism, and by raising the caps of costs per trainee adequate to the necessary training courses.

#### **5. Reform of the national innovation system.**

- The restructuring of scientific organizations in the country is a must. Regular international evaluations should be introduced for the operation of all state-funded scientific organizations against targets and policy objectives set in advance. The restructuring should establish more flexible structures where mobility of scientists between organizations and companies is possible; attract back Bulgarian scientists working abroad; combine education and research and connect them to business. The establishment of a platform for increasing the quality of the research and educational product is a fundamental problem which should be resolved in this respect.
- Support for the establishment of intermediary units between research organizations and business in the form of technology transfer offices, innovation and enterprise centers, etc., as well as funding organizations such as venture investment funds. The association of businesses for innovation ends by means of enhancing the functions of trade associations of industry branches or the formation of clusters would support the demand for innovations in the country.

#### **6. Study, dissemination and introduction of best innovation practices of Bulgarian and foreign companies and research organizations.**

Measures for **popularizing the role of innovation for the development of a knowledge-based economy** should be provided in the updated and integrated innovation strategy of Bulgaria. Best practices should be promoted, for example through annual innovation and enterprise awards and/or by the development of innovative journalism, particularly in national public media.

