

Researchers' Report 2013

Country Profile: Bulgaria



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1. Key data

National R&D intensity target

"In June 2010, the Bulgarian government adopted a national R&D investment target of 1.5 % of GDP by 2020. R&D intensity has not changed significantly over time: it was 0.51% in 2000 and was 0.57% in 2011. Moreover, the 2011 public budget for science remained at 0.3% of GDP, despite a planned increase in absolute terms. Therefore, although R&D expenditure in Bulgaria has been increasing, a further dramatic increase would be required if Bulgaria is to reach its 2020 R&D intensity target. The public sector has historically been the main research funder and performer: in 2011 it provided 38.8% of total R&D funding, a substantial crisis-related drop from pre-2010 levels. For example, the Academy of Sciences saw a ~40% cut in its initially approved budget.

After slowly increasing from 0.09% of GDP in 2002 to 0.16% of GDP in 2009, business R&D intensity surged to reach 0.3% of GDP in 2011. Business expenditure on R&D more than doubled from EUR 55 million in 2009 to EUR 117 million in 2011 surpassing total public expenditure on R&D. In 2011 business enterprise expenditure on R&D accounted for 53% of total R&D expenditure in Bulgaria compared to an EU average of 62%. This encouraging sudden increase is attributable to investments by ICT and pharmaceutical companies, but there are doubts as to whether this extremely positive trend can be sustained. The low level of R&D intensity is due to the economic crisis and the lack of demand for development of innovation on the domestic market

Some general trans-national funding initiatives partially complement national R&I funding. The allocated Regional Development and Cohesion Funds support for the 2007-2013 period amount to EUR 310.6 million for Research and Innovation and related activities and EUR 292 million for support of innovation in SMEs. The level of Bulgarian participation in the Framework Programmes is low. As of February 2012 Bulgaria ranks 20th among EU Member States both in terms of number of applicants (0.91% of the EU total) and requested EC contribution (0.55 % of the EU total). The applicant success rate of 17.2 % is lower than the EU average (21.2%) as is the EC financial contribution success rate of 10.8 % (EU average 20.4%). Bulgaria received EUR 64.5 million of FP7 funding, of which EUR 16.3 million went to SMEs. Adjusted for population, this comes to eight euro per capita, a value comparable to those of Poland and Slovakia"¹.

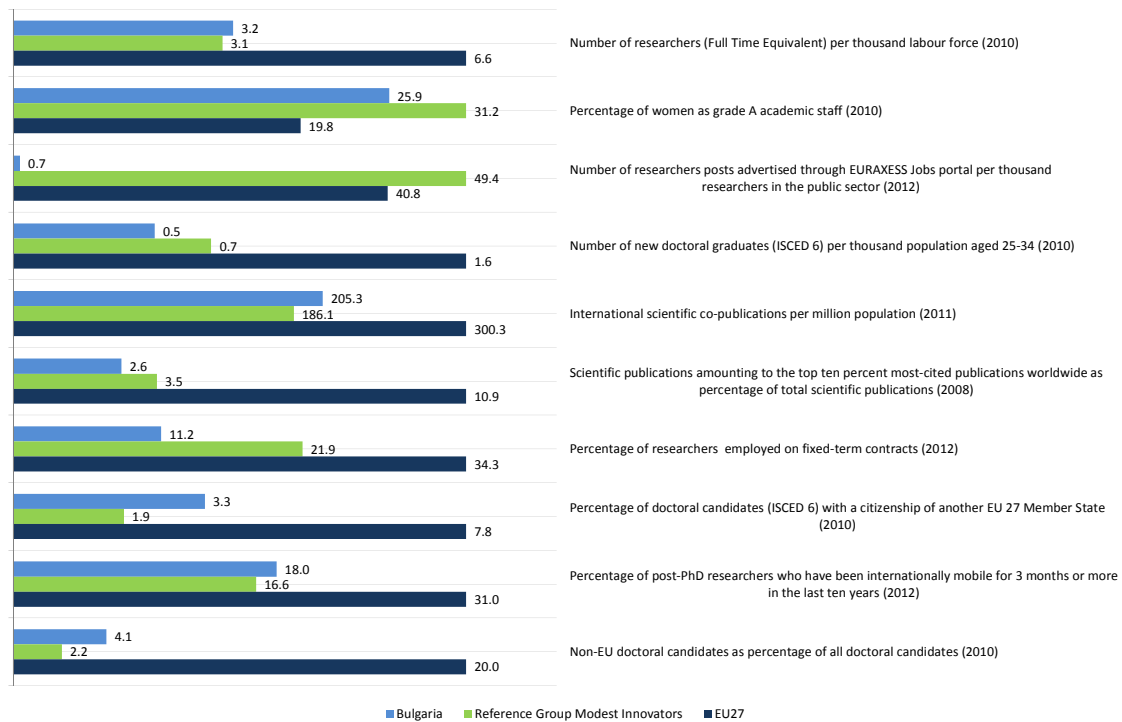
Key indicators measuring the country's research performance

The figure below presents key indicators measuring Bulgaria's performance on aspects of an open labour market for researchers against a reference group and the EU-27 average².

¹ European Commission (2013), "Research and Innovation performance in EU Member States and Associated countries. Innovation Union progress at country level 2013"

² The values refer to 2012 or the latest year available

Figure 1: Key indicators – Bulgaria



Source: Deloitte

Data: Eurostat, SHE Figures, EURAXESS Jobs Portal, UNESCO OECD Eurostat education survey, Innovation Union Scoreboard 2013, MORE2

Notes: Based on their average innovation performance across 25 indicators, Bulgaria, Latvia, Poland and Romania show a performance well below that of the EU27. These countries are the Modest Innovators³.

Stock of researchers

The table below presents the stock of researchers by Head Count (HC) and Full Time Equivalent (FTE) and in relation to the active labour force.

Table 1: Human resources – Stock of researchers

Indicator	Bulgaria	EU Average/Total
Head Count per 1 000 active labour force (2010)	4.15	10.17
Head Count (2010)	14 138	2 435 487
FTE per 1 000 active labour force (2010)	3.23	6.64
Full time equivalent (FTE) (2010)	10 979	1 589 140

Source: Deloitte

Data: Eurostat

2. National strategies

The main challenge for Bulgaria, as well as for many other EU Member States, is to increase the average level of investment in R&D. Following an update for 2020, the Bulgarian target has been set at 1.5% of GDP (compared to 3% of GDP for the EU as a whole). In 2010, Bulgarian investment in R&D amounted to 0.55% of GDP, making it difficult to guarantee the necessary quality of research and maintenance of a minimum educational and scientific standard.

The reasons for Bulgaria's low level of R&D spending include:

- An archaic model of governance characterised by inefficient human resource management;
- Highly unfavourable age distribution and lack of a vision for renewal of academic staff;
- Lack of continuous exchange of young staff between universities and other organisations;

³ European Commission (2013), "Innovation Union Scoreboard 2013"

- Excessive numbers of administrative staff and burdensome administrative procedures;
- Insufficient exploitation of modern online technologies in support of administrative work;
- Lack of a strategic vision and a strong fiscal policy in support of science development;
- An imbalance in sectoral funding of science between public expenditure (70%) and low levels of private funding;
- An unfavourable structure of public sector expenditure and a lack of resource concentration;
- An artificial separation of science and higher education, resulting from the science and innovation system which existed in Bulgaria until the 1990's and a vision of universities' role purely as educational bodies;
- A lack of financial instruments for science, coupled with a lack of sectoral research programmes; and
- Inefficient use of different funding sources to solve specific scientific tasks or a significant social problem.

In order to address these challenges, the Bulgarian Government has taken measures aimed at initiating and promoting an all-embracing modernisation of its R&D structures. The table below provides an overview of key measures in support of Bulgaria's R&D targets and attractive employment conditions in public research institutions.

Table 2: National strategies

Measure	Description
A new Operational Programme (OP), called "Science and Education for Smart Growth 2014-2020" (2013)	On January 10th, 2013 the Council of the Ministers proposed a new Operational Programme (OP), called "Science and Education for Smart Growth 2014-2020". Its five priority axes are dedicated to: a) scientific research and technological development; b) linkages between education, business and employment; c) education as a social inclusion factor; d) lifelong learning; and e) improvement of the educational infrastructure. In the long-term, the new operational programme aims to boost the innovation infrastructure of the national economy and encourage development of national science and education. Its main goals are: to build a competitive environment for carrying out quality research and innovation activities, gradually increase the funding of R&D and innovation up to 1.5% of GDP by 2020, modernise the research infrastructure (including ICT and digital activities), improve the research capacity of higher education institutions and research organisations and increase the number of researchers, develop high-technology laboratories and encourage networking between the universities and R&D centres and institutions. The governing body of the programme is the Ministry of Education, Youth and Science (MEYS).
Career Development Centres (ongoing)	Operational at national and regional level, Career Development Centres assist young students in choosing a study discipline as well as finding a vocational training place.
Law on Development of Academic Staff (2010)	The Law on Development of Academic Staff grants universities autonomy in defining policies for their staff.
Law on Innovation (planned for 2013)	The planned Law on Innovation will address issues related to human resources in the research profession. In particular, it will stimulate researchers to work for and in small and medium-sized enterprises (SMEs).
Law on Scientific Research Promotion (2003)	The Law on Scientific Research Promotion regulates the management and application of state policy in the field of scientific research by supporting a range of strategic activities, among which: – Stimulating the participation of scientific organisations and universities in international programmes and projects; and – Providing awards for research excellence and 'chair competence', according acknowledgement and enhancement of the prestige of researchers in society and attracting young people to become researchers.
National Strategy for Development of Scientific Research 2020 (2010)	Adopted in 2010, the National Research Strategy aims to: – Formulate a national science policy which puts in place conditions and defines prospects for attaining the Europe 2020 targets; – Initiate and promote a process of modernisation of current R&D structures as a necessary condition for increasing public funds for science; and – Contribute to the transformation of Bulgarian society into a knowledge society. The Strategy envisages achieving this in three ways: 1. Increase the intensity, effectiveness and efficiency of R&D activity, including: – Develop Bulgaria's research potential by creating attractive conditions for pursuing a scientific career, professional growth, qualifications and specialisation of scientists; and

Measure	Description
	– Integrate Bulgarian science into the European Research and University Areas. 2. Establish a sustainable education-science-business relationship as a basis for the development of a knowledge-based economy: – Stimulate the private sector's involvement in scientific activity; and – Strengthen the integration of the knowledge-triangle elements. 3. Create an environment conducive to scientific activity.
National Roadmap for Research Infrastructure (2010)	The National Roadmap for Research Infrastructure identifies significant national scientific complexes and/or facilities with the potential to compete at national, regional and European level. The strategic objectives of the National Roadmap are: – Concentrate effort and resources, focusing on priority research areas with a potential for strategic and dynamic competitive development; – Internationalise research and innovation by developing regional partnerships between regional facilities and pan-European infrastructure complexes and networks; – Provide an open-access policy towards research infrastructures, securing access to different groups of researchers and other stakeholders; – Support networking and cooperation between academia and business by providing expertise; – Create conditions for quick commercialisation of scientific products and services to enhance the dynamics of economic development; and – Create conditions for the application of new training methods with a view to attracting and retaining young people.
National Development Programme: Bulgaria 2020 (2012)	The National Development Programme: Bulgaria 2020 (NDP BG2020) was adopted by the Council of Ministers on August 14th, 2012. One of the five main priorities of the NDP is to support the development of a highly productive economy, and a modern and innovative R&D infrastructure.
Sciex Programme (2009-2016)	Sciex is a promotion tool for research teams from all disciplines, consisting of team members from the new Member States and Switzerland. Sciex fellows (no age restrictions) from new Member States pursue research in cooperation with Swiss researchers in Swiss research institutions. Ideal working and framework conditions support the success of their research.

Source: Deloitte & Bulgarian Government web site

3. Women in the research profession

Measures supporting women researchers in top-level positions

In 2010, the percentage of women grade A academic staff was 25.9% in Bulgaria compared with 31.2% among the Innovation Union reference group and an EU average of 19.8%⁴.

The Bulgarian Government has not taken any specific measures designed to increase the number of women taking science to an advanced level. In Bulgaria, there are more women than men in the research profession. It is quite difficult to attract men into research careers since low salaries are a disincentive. Men are more likely to pursue a career in the private sector where the chances of getting a higher salary are better.

Objective 3 of the National Strategy for Promotion of Gender Equality for the period 2009-2015 clearly states the importance of the promotion of gender equality in governance and decision-making bodies in the development of science.

Maternity leave

Under the Bulgarian Labour Code, PhD students receive fixed grants (incorporating social security provisions) for three years. The Labour Code grants women researchers the right to interrupt and extend their contract during maternity leave. However, other contracts (stipends, fellowships, or equivalent) do not guarantee the right to maternity leave. The right depends on the contractual conditions and on the researcher's level of income in the previous 18 months.

The right to maternity leave (up to 2 years) can be transferred to the father or to a grandparent, thus facilitating the scientific career development of the mother.

⁴ See Figure 1 "Key indicators – Bulgaria"

4. Open, transparent and merit-based recruitment

Recruitment system

According to the guidance on implementation of the Law on Development of Academic Staff, all open research positions must be published in the Bulgarian Official Journal and on the institutional web sites (though they are mainly published in Bulgarian). The new law eliminates the age criterion formerly applied to applicants for scientific positions, including post-doctorate positions, provides defined evaluation criteria which become available to the candidates, and it also provides feedback on the decisions taken by the scientific commission.

Job vacancies are also published on other platforms (e.g. the labour agency) and the EURAXESS jobs portal, but these are not statutory requirements.

Open recruitment in institutions

Table 3: Open recruitment in higher education and public research institutions

Do institutions in the country currently have policies to ...?	Yes/No	Description
– publish job vacancies on relevant national online platforms	Yes	The only obligation for State institutions is to publish in the Bulgarian Official Journal ⁵ . However, all institutions publish their job vacancies on national websites and journals
– publish job vacancies on relevant Europe-wide online platforms (e.g. EURAXESS)	Yes	The leading institutions have started to publish job vacancies on the EURAXESS platform. EURAXESS BG publishes all job offers from the Bulgarian Official Journal on the national EURAXESS portal.
– publish job vacancies in English	No	Some institutions also publish their job vacancies in English on the EU online platforms, but this is not yet a common practice.
– systematically establish selection panels	Yes	Procedures for the establishment of selection panels within the institutions are set out internally.
– establish clear rules for the composition of selection panels (e.g. number and role of members, inclusion of foreign experts, gender balance, etc.)	Yes	Usually there are internal rules of the institutions for the composition of selection panels.
– publish the composition of a selection panel (obliging the recruiting institution)	No	It is still not common practice to publish the composition of a selection panel.
– publish the selection criteria together with job advert	Yes	Some leading institutions publish the selection criteria together with the job advert.
– regulate a minimum time period between vacancy publication and the deadline for applying	Yes	Institutions set a minimum time period between vacancy publication and the deadline for applying, usually between 1 and 3 months.
– place the burden of proof on the employer to prove that the recruitment procedure was open and transparent	Yes	The employer has to prove that the recruitment procedure was open and transparent
– offer applicants the right to receive adequate feedback	Yes	Institutions offer applicants the right to receive adequate feedback.
– offer applicants the right to appeal	Yes	Usually the institutions offer applicants the right to appeal.

Source: Deloitte

EURAXESS Services Network

In 2012, the number of researchers posts advertised through the EURAXESS Jobs portal per thousand researchers in the public sector was 0.7 in Bulgaria compared with 49.4 among the Innovation Union reference group and an EU average of 40.8⁶.

Sofia University, the Institute of Technology and Development Foundation (ITD) and the New Bulgarian University are the coordinators of EURAXESS Bulgaria (be it they are the Bridgehead organisations). The

⁵ Available at: www.lex.bg

⁶ See Figure 1 “Key indicators – Bulgaria”

EURAXESS portal contains practical information on professional and daily life, as well as information on job opportunities.

The Bulgarian EURAXESS network is made up of contact persons and local Contact Points based in universities and research organisations to serve researchers' mobility. The coordinating team (BHOs) publishes job vacancies on the national EURAXESS portal (on average 550 per year), prints promotional materials and disseminates information about EURAXESS activities through the EURAXESS Bulgaria portal, EURAXESS Bulgaria pages in social networks as well as via its participation in conferences and events.

5. Education and training

Measures to attract and train people to become researchers

The table below summarises key measures aimed at training and attracting young people to become interested in science and ultimately to pursue a research career.

Table 4: Human Resources – Key programmes and Initiatives

Measure	Description
Famelab Contest (ongoing)	Organised by the British Council and supported by the Ministry of Education, Youth and Science, the science communication contest, Famelab, aims to boost young people's interest in science. Young scientists are encouraged to present their research ideas in a competitive context.
Law on School Education (2012)	The new Law on School Education provides a framework for lifelong learning in the Bulgarian school system. More specifically, it introduces a reform of the Bulgarian school system by defining profiles for a broad spectrum of study disciplines. The reform will align the Bulgarian education system with market demands. The legislation does not envisage specific measures for increasing the number of students graduated in science, technology, engineering and mathematics (STEM). However, it provides an overview of different study disciplines and offers a description of possible career paths.
National Young Talents Contest (ongoing)	The National Young Talents Contest aims to attract young students (between 14 and 21) into drawing up competitive scientific projects. As part of the contest, students are expected to choose a scientific problem and prepare a scientific proposal with the help of an experienced researcher. Winners of the national competition are invited to compete at European level in the European Union Contest for Young Scientists.
Sofia Science Festival (ongoing)	As part of the Sofia Science Festival (organised by the British Council and supported by the Ministry of Education, Youth and Science), young students (including winners from the national science contests) present science and scientific results to a young audience (including kindergarten children) with the aim of raising young people's interest in science.
New University Ranking System (2010)	A new University Ranking System offers young students a comprehensive and transparent overview of the education system. The platform provides an overview of university programmes and a comparison of universities' within different professional fields. The new transparent ranking system has stimulated students' interest in science and encourages students to pursue a researcher career. This measure will increase students' competitiveness on the national and European labour markets.
Young Researchers Programme (National Science Fund) (ongoing)	The Young Researchers Programme supports PhD students in preparing a scientific project. Scientific teams must consist of young researchers (aged 35 or less).
Grant schemes⁷	
The Grant Scheme "Support for the Development of PhD students and PhD graduates, Post-doctoral students, and Young Scientists"	This scheme aims to: – Create better conditions and increase motivation for young people to solve scientific problems when embarking on PhD programmes; – Develop scientific capacity in research and innovation in universities and research institutions by creating opportunities for further training for post-doctoral students, graduate students and young scientists.
The Grant Scheme "Improvement of the management systems in	This scheme aims to: – Improve the management system in higher education institutions, e.g. quality control systems, process administration systems, information service systems

⁷ The Grant schemes fall under the Priority axis 3 "Improving the quality of education and training in correspondence with the labour market needs for building a knowledge-based economy" and the Priority axis 4 "Improving the access to education and training" of HRD OP (by the Bulgarian Ministry of Education, Youth and Science)

Measure	Description
higher education institutions"	for education activities, systems for the collection of information for scientific research activities etc.; – Develop criteria, methods and procedures for quality improvements to these activities for characterising higher education institutions and the results of these activities.
The Grant Scheme "A system for the qualification and career training of lecturers in higher education institutions"	This scheme aims to improve skills and the acquisition of new knowledge by developing a system for career guidance in the school education system and development of lifelong learning.
The Scheme "Creation of system for identification and recognition of informally obtained knowledge, skills and competences"	This scheme supports activities aimed at creating a modern system for the career development of universities' academic staff.
The Scheme "Development of electronic forms of distance learning in higher education"	This scheme aims to facilitate lifelong learning and to support the development of professional skills and competences.

Source: Deloitte

In order to increase the number of students taking science to an advanced level, the Bulgarian Government has introduced a new Law on Development of Academic Staff. The Law grants universities autonomy over their staffs' career development/progression and aims to encourage young students to pursue a career in research.

The National Youth Strategy 2010-2020 and the National Development Programme: Bulgaria 2020 envisages strengthening the links between education and the labour market. In accordance with these two documents, the Bulgarian Government aims to:

- Support the business sector in recruiting the right research personnel in the short and long term;
- Enhance the partnerships among university graduates – career centres, and employers;
- Create an efficient system at national and academic level for research in the labour market;
- Strengthen the links across higher education, the non-government sector and industry;
- Modernise the technological and research infrastructure; and
- Improve the selection process for the recruitment of new skilled staff.

In recent years, business entrepreneurship has been considered by the higher education institutions as one of the positive professional alternatives for young graduates. Universities tend to provide their students with in-depth knowledge about all forms of entrepreneurship, encouraging them, for instance, to establish their own companies and corporations.

Within the Student Scholarships and Awards Scheme, the existing system for providing student scholarships has been supplemented by using funding from the European Social Fund. The aim is to create a system for raising the motivation for better results in education and for ensuring equal access to education. There are various measures funded from the European Social Fund via the "Human Resources" Operational Programme (HRD OP) that aim to support the creation of a favourable educational environment and to support career guidance and development.

The Bulgarian Government has not introduced any specific measures to increase the number of doctoral graduates in science, technology, engineering and mathematics (STEM) in particular. However, a number of instruments have been put in place with the aim of increasing the number of students taking science to an advanced level and to ensure adequate links between higher education and the labour market.

Doctoral graduates by gender

The table below shows the number of doctoral graduates in Bulgaria by gender as a ratio of the total population.

Table 5: Doctoral graduates by gender

Indicator	Bulgaria	EU Average
New doctoral graduates (ISCED 6) per 1 000 population aged 25-34 (2010)	0.5	1.5
Graduates (ISCED 6) per 1 000 of the female population aged 25-34 (2010)	0.5	1.4
Graduates (ISCED 6) per 1 000 of the male population aged 25-34 (2010)	0.5	1.6

Source: Deloitte

Data: Eurostat

Funding of doctoral candidates

Under the Bulgarian Labour Code, all PhD students receive fixed grants (including social security cover) for three years. Universities and research institutes can apply for funding for their doctoral candidates from the state budget based on open competition.

In order to improve research funding opportunities, the National Science Fund (NSF) offers doctoral candidates the possibility of participating in competition-based science projects which can serve as an additional source of income. Approximately 30% of the resources of the NSF are dedicated to young researchers.

Bilateral research cooperation schemes with foreign partners provide the possibility for improving researchers' funding opportunities, such as:

- 'Joint National Science Fund - Bulgaria (NSF) and 'Deutscher Akademischer Austauschdienst in Germany' (DAAD) grants dedicated mostly to young researchers;
- Grants for PhD mobility schemes with Germany, the Netherlands and France; and
- Grants for young researchers from international organisations, such as: UNESCO, COST, NOW, CERN, JRC, EURATOM, etc.

Measures to increase the quality of doctoral training

In addition to (new) policies aimed at improving the research profession in Bulgaria (see chapter 2 "National strategies"), bilateral programmes, such as the Sciex Programme with Switzerland, are considered not only to be a means of improving researchers' funding opportunities, but also as instruments for increasing the quality of doctoral training in Bulgaria.

Thanks to the FP7 "Marie Curie Fellowships", doctoral students and young researchers are able to gain experience abroad and in the private sector, and to complete their training skills with competences or disciplines useful for their careers. In addition, the FP7 REGPOT Programme provides a number of instruments for increasing the quality of training of young researchers, including doctoral students. Finally, the Erasmus Lifelong Learning Programme provides several mobility schemes for students, including PhDs, such as: student mobility for studies, student mobility for placements (traineeships), intensive programmes, etc.

Skills agenda for researchers

The Bulgarian Government has not put in place a dedicated 'Skills Agenda' aiming to improve researchers' employment skills and competencies. However, the improvement of researchers' skills and competencies is addressed in different laws and regulations (see chapter 2 "National strategies") and forms part of national and international research projects.

6. Working conditions

Measures to improve researchers' funding opportunities

Based on the Student Loan Law (2008), the Bulgarian Ministry of Education, Youth and Science has signed an agreement with dedicated banks granting special loans to students (including PhD students). Loans are guaranteed by the ministry and can be used by students to finance their (PhD) studies or can function as financial support during maternity leave. Generally, the state-guaranteed loans aim at improving students' and researchers' working conditions.

It is anticipated that the new "Science and Education for Smart Growth 2014-2020" OP will substantially improve the funding opportunities for researchers since it aims to:

- Build a competitive environment for quality and innovative scientific research by gradually raising funds for research and innovation to 1.5% of GDP in 2020;

- Create a favorable environment for the development of scientific capacity;
- Improve the quality of higher education and increase the number of graduates in the 30-34 age group by 36% by 2020;
- Improve the quality of pre-school and school education and reduce the share of early school drop-outs to 11% by 2020;
- Create conditions for the development of personality and professional knowledge and skills throughout life; and
- Develop and modernise the scientific and educational infrastructure and increase the number of employees in the upgraded environment.

Remuneration

In Bulgaria, researchers' remuneration levels are lower than the EU average. However, researchers can improve their income by participating in competition-based funding schemes (e.g. projects supported by the National Science Fund – for more information, see chapter 5 “Education and training”). In addition, bilateral cooperation schemes (e.g. with Switzerland) offer researchers the possibility of improving their salaries. The Government has not introduced any additional (policy) measures to increase researchers' remuneration levels.

For further information, see the new country profile on remuneration of researchers from the MORE2 study (forthcoming, on the EURAXESS website).

Researchers' Statute

In Bulgaria, researchers are not recognised as a specific workforce and hence do not enjoy a special status. However, a number of laws and regulations define rights and obligations for workforces engaged in research-related activities. The Bulgarian Labour Code contains rules and regulations on salaries, maternity leave, social security, etc. In addition, the Law on the Bulgarian Academy of Sciences, the Higher Education Law and the Law on the Agricultural Academy contain rules and regulations on the functioning of the research system. More specifically, the legislative texts grant autonomy to universities and research institutes in defining (researchers') salaries, developing and implementing independent strategies, and ensuring freedom of research. Academies are obliged by law to report scientific results directly to the Bulgarian Parliament.

'European Charter for Researchers' & 'Code of Conduct for the Recruitment of Researchers'

Representatives of the Bulgarian Rectors Council (made up of the largest Bulgarian Universities) have signed the 'Charter & Code' in 2007.

Autonomy of institutions

Bulgarian universities and research institutes enjoy autonomy in defining their staffs' salaries and are autonomous in developing and implementing independent strategies. For more information on the institutions' autonomy, see the section on “Researchers' Statute” above.

Career development

The “Law on the Development of Academic Staff” enables universities to define their own staff policy. In addition, it provides a mechanism for regulating the careers of scientific personnel. The implementation of the new Law will result in a qualification and career development system for academic staff (planned for 2014).

Shift from core to project-based funding

According to “Regulation No. 9”, ten per cent of a university's budget should come from project-based funding. Universities and research institutes can apply for funding on a competitive basis. As a rule, money is to be invested in improving research infrastructures (EUR 4 million in 2012). Progress must be reported to the Ministry every six months. The improvement of research infrastructure resulting from additional funds is designed ultimately to improve researchers' working conditions in universities and research institutes.

7. Collaboration between academia and industry

The table below summarises measures put in place by the Bulgarian Government in order to boost collaboration between academia and industry and to foster doctoral training in cooperation with the private sector.

Table 6: Collaboration between academia and industry

Measure	Description
Innovation Fund (ongoing)	Supported by the Ministry of Economy, Energy, and Tourism, the Innovation Fund encourages industrial PhDs, and strengthens links between the research community and businesses.
Law on Innovation (planned for 2013)	The planned Law on Innovation will address issues related to human resources in the research profession. In particular, it will stimulate researchers to work for and in small and medium-sized enterprises (SMEs). It will also encourage Universities to offer education using innovative programmes. See also Chapter 2 “National Strategies”.
Operational Programme (OP), “Science and Education for Smart Growth 2014-2020” (2013)	One of the main goals of the programme is to strengthen the R&D activities, technological development and innovation, to strengthen the competitiveness of SME’s and a smooth transition to a low-carbon economy in all economic sectors in Bulgaria. See also Chapter 2 “National Strategies”.
Science + Business Project (2011-ongoing)	The Science + Business Project provides a platform for researchers to carry out projects in collaboration with industry. Supported by universities, research institutes and businesses, the scheme fosters skills and knowledge transfer between the different parties. Research projects must address societal challenges and provide solutions which are market-oriented.

Source: Deloitte

A significant example of the collaboration between research and the business sector is the official agreement for financial assistance with the first Bulgarian technology park, Sofia Tech Park (STP), signed between by the Director of the Chief Directorate for European Funds for Competitiveness and the STP Executive Director on 10th January 2013. The main goal of the Sofia Tech Park is to promote the science and business environment to maximise direct foreign and domestic investments in high-tech sectors and thus foster the economic development of Bulgaria as part of EU cohesion policy. In addition, the STP aims to improve the research, technology and innovation infrastructure and to establish efficient conditions for developing and offering new high-tech products, processes and services.

8. Mobility and international attractiveness

In 2010, the percentage of doctoral candidates (ISCED 6) who were citizens of another EU-27 Member State was 3.3% in Bulgaria compared to 1.9% among the Innovation Union reference group and an EU average of 7.8%⁸. In the same year, non-EU doctoral candidates were 4.1% of all doctoral candidates in Bulgaria compared with 2.2% among the Innovation Union reference group and an EU average of 20.0%⁹.

Non-competitive salaries, archaic research infrastructures, the administrative burden, a low level of R&D funding (0.55% of GDP in 2010) as well as a low level of funding from industry are the main obstacles to researchers’ mobility in Bulgaria (see chapter 2 “National strategies” for information on the Government measures aimed at addressing these problems).

Measures aimed at attracting and retaining ‘leading’ national, EU and third country researchers

As a result of the low attractiveness of the Bulgarian research system – low salaries, archaic research infrastructure, administrative burden, low level of (private) funding, etc., it is difficult to attract national researchers back home or to attract third-country researchers to work in Bulgaria. However, Bulgarian researchers nurture their networks with Bulgarian colleagues working on international projects abroad.

Generally, provisions allowing third-country researchers to work in Bulgaria do exist (such as the Foreign Nationals Act) but do not result in (leading) national and third-country researchers being attracted to Bulgaria.

Inward mobility (funding)

In the framework of the National Science Fund, a Re-integration Grant (2009/2010) was put in place to attract national researchers working abroad to return to Bulgaria. However, due to the comparative disadvantage of the Bulgarian research system, the grant was not able to attract sufficient numbers of researchers to return home. Consequently, it was stopped in 2011.

⁸ See Figure 1 “Key indicators – Bulgaria”

⁹ Ibid

Outbound mobility

The Sciex Programme with Switzerland and other bilateral research programmes support researchers' outbound mobility and foster knowledge transfer. There are more outbound researchers than those wishing to pursue a career in Bulgaria.

The Science + Business project supports young researchers in gaining practical (work) experience in foreign research institutions. As part of this initiative, young researchers receive short-term training abroad in foreign research infrastructures.

Promotion of 'dual careers'

Dual careers are not specifically promoted by institutions or by Government programmes/initiatives.