

STRATEGY FOR
DEVELOPMENT OF
HIGHER EDUCATION
IN THE REPUBLIC OF
BULGARIA
FOR THE
2014 - 2020 PERIOD

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STRATEGY FOR DEVELOPMENT OF HIGHER EDUCATION
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List of Abbreviations

ASDRBA	Academic Staff Development in the Republic of Bulgaria Act
AA	Agricultural Academy
BAS	Bulgarian Academy of Sciences
BURS	Bulgarian University Ranking System
CM	Council of Ministers
EQD	Educational and qualification degree
EC	European Commission
ECTS	European Credit Transfer System
EHEA	European Higher Education Area
EP	European Parliament
ESIF	European Structural and Investment Funds
EU	European Union
GDP	Gross Domestic Product
HE	Higher Education
HEA	Higher Education Act
HEI	Higher Education Institution
ISCED	International Standard Classification of Education
LLL	Lifelong Learning
MAF	Ministry of Agriculture and Food
MEE	Ministry of Economy and Energy
MES	Ministry of Education and Science
MEW	Ministry of Environment and Water
MoF	Ministry of Finance
MLSP	Ministry of Labour and Social Policy
MRD	Ministry of Regional Development
NAVET	National Agency for Vocational Education and Training
NA	National Assembly
NEAA	National Evaluation and Accreditation Agency
NGOs	Non-Governmental Organizations
OP RD	Operational Program "Regional Development"
OP SESG	Operational Programme "Science and Education for Smart Growth"

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R&D	Research and Development
SO	Scientific Organization
SME	Small and Medium Enterprises
SWOT-analysis	Analysis of Strengths, Weaknesses, Opportunities and Threats
VTC	Vocational Training Centres

I. INTRODUCTION

1.1 Motivation

This Strategy was developed following a detailed study of the Bulgarian and European documents on higher education progress for the 2014 - 2020 period. Leading among them are:

Documents at European level

- *Strategy for Smart, Sustainable and Inclusive Growth "Europe 2020"*;
- *Bucharest Communiqué (2012): "Making the Most of Our Potential: Consolidating the European Higher Education Area"*;
- *Communication from the European Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions on "European higher education in the world"* (July, 2013);
- Materials from the regular meeting of the Education Committee, held on 3 and 4 October 2013.

Documents from the Republic of Bulgaria

- *National Reform Programme of the Republic of Bulgaria* (including European Commission Recommendation);
- *National Development Programme: Bulgaria 2020*;
- *National Scientific Research Strategy – 2020*;
- *Innovation Strategy for Smart Specialisation* – a precondition for the programming period 2014-2020 under operational programs "Science and Education for Smart Growth" and "Innovation and Competitiveness".

Documents of the Bologna Process and World Bank developments of independent analytical and information centres regarding the status and prospects of higher education (HE) in Bulgaria have also been used. A comprehensive review has been made of the changes in the structure of students enrolled, studying at and graduating Bulgarian higher education institutions (HEI) for the 2009 - 2013 period, and SWOT analysis of the situation at the moment.

Priority guidelines and urgent measures for **accelerated modernization and internationalization of the Bulgarian higher education** have been formulated on this basis.

A detailed **Action Plan** for 2014-2020 is enclosed to the Strategy, which proposes specific measures for the implementation of the reforms planned.

The Strategy for Higher Education Development is coordinated with the project of Operational Programme "Science and Education for Smart Growth – 2020", and with *Partnership Agreement between the Republic of Bulgaria and EC* for the new programming period 2014-2020.

The Strategy also takes into account the horizontal links with other key strategies and programmes of the Bulgarian government – for employment and overcoming youth unemployment, poverty reduction, Roma integration, etc.

1.2 Strategy Objectives

Today the higher education system in Bulgaria is facing a double challenge: by one hand, to accelerate and complete the ongoing process of structural reforms, catching up with leading European countries; by other hand – to implement a successful process of strategic transformation of higher education: from an additional service area into a factor for making advantage in the European and global race for knowledge, skills, economic and material prosperity and spiritual progress.

The Strategy outlines the path and priority areas for the development of higher education in Bulgaria in two dimensions:

a/ as a public and individual good contributing to the overall development of the individual and society and preparing students both for their professional realization and for their social and civic role;

b/ as an engine for dynamic development of the economy and building a society based on knowledge and technological progress.

As a result of the analysis of the current situation, the challenges and needs of higher education, the *Strategy* outlines the key priorities, which will be linked to the specific policies and management measures in the field of higher education in the 2014-2020 period .

The Strategy describes the medium- and long-term goals to achieve effective long-term results. The objective assessment of the current situation of the higher education system in Bulgaria shows that only consistent application of the elected model for modernization and management is a guarantee for success. It is particularly important that decisions about changes are taken without interruption and delay, in line with the European development and taking into account the global trends.

1.3 II. ANALYSIS OF THE HIGHER EDUCATION SYSTEM STATE

With the rapid development of science and technology, especially IT, the increasing demand for more qualified staff is becoming a worldwide trend in the labour market. For the last decades, there was a trend of massification of higher education, which in many countries, including Bulgaria, has led to a multiple increase in the number of students. On the one hand, this process has ensured a wider access to higher education, but on the other hand, it has created challenges for maintaining the quality.

The increasing global competition and the backwardness of the European countries in some ways has led to the adoption of a series of measures at European level, aimed at improving the competitiveness and the development of a society and economy based on knowledge. In the field of higher education and science, this has been translated into goals, such as achieving interoperability and harmonization of the European higher education systems; increased mobility of students, lecturers and researchers; creation of a European Higher Education Area and European Research Area; development of lifelong learning forms.

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These and other trends in the global and European development affected Bulgaria after 1990 and especially after its accession to the EU in 2007. In addition, the higher education in Bulgaria also faces some country-specific problems.

The higher education system in Bulgaria comprises 51 higher education institutions (37 state and 14 private), including 44 universities and specialized higher schools and 7 independent colleges. **This network significantly exceeds the average indicators of a number of EU member states comparable in population and territory (Figure 1).**

Figure 1: Number of universities and number of population in the EU member states

STATE	NUMBER OF HIGHER EDUCATION INSTITUTIONS (Source: International Association of Universities – IAU, 2014)	NUMBER OF POPULATION (in thous.) (Source: Eurostat, 2014)
Austria	53	8,507.786
Belgium	68	11,203.992
Bulgaria	51	7,245.677
UK	256	64,308.261
Germany	340	80,780.000
Greece	39	10,992.589
Denmark	24	5,627.235
Estonia	13	1,315.819
Ireland	60	4,604.029
Spain	105	46,507.760
Italy	97	60,782.668
Cyprus	18	858.000
Latvia	31	2,001.468
Lithuania	17	2,943.472
Luxembourg	2	549.680
Malta	2	425.384
Poland	414	38,495.659
Portugal	121	10,427.301
Romania	82	19,942.642
Slovakia	31	5,415.949
Slovenia	29	2,061.085
Hungary	56	9,879.000
Finland	40	5,451.270
France	371	65,856.609
Netherlands	63	16,829.289
Croatia	18	4,246.700
Czech Republic	47	10,512.419
Sweden	40	9,644.864
Total for EU-28	2,482	507,416.607

The expansion of the higher educational institutions, however, has not influenced favourably the quality and efficiency of education; the system slowly reacts to the dynamically changing requirements for qualification, motivation and professional career of higher education specialists. The educational infrastructure of the HEI – buildings, specialized rooms and labs, centers for practical training, etc. – is developing with a comparatively slow pace.

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The HE system is characterized by poor state control on the quantitative growth of the higher education institutions network at the expense of education quality and efficiency of investment in the sector.

All this detains the Bulgarian higher education system modernization and the development of the university science in accordance with the global criteria and European standards. The information on the most important quantitative indicators reveals **serious internal imbalances in the system, as well as growing disparities with the average degree of development in the EU and the leading countries in the community.**

Firstly, inadequate share of HE graduates: total of 26.9% of the population aged 30 to 34 years;

Secondly, growing preference among young people to receive higher education abroad. This trend generally positive, is not a result of the efforts of the government and is not subject to a clear strategy to promote international student mobility in both directions: outward and inward in the country. Supplemented by the growing outbound mobility of Bulgarian students, it is clear that the process of brain drain and young talent that Bulgaria experienced in the 90s of the 20th century, is repeating again.

Thirdly, great mismatch between the profile of specialists graduated from the higher education institutions and the actual demand on the labour market. It is significant that most of the graduates have not realized the respective specialty. At the same time, there is a sharp and sustained deficit of specialists in engineering and technical fields. Furthermore, there are no measures of quality of graduates and there is no sustainable system for receiving objective feedback from employers about the quality of the knowledge and skills acquired during the study at the higher school.

The reforms in the higher education system in Bulgaria have been held generally in the right direction, but started about a decade later compared with the leading European countries.

The country had to deal with double pressure:

- a/ external, to compensate for the delay at European level;
- b/ internal, to implement changes in legislation and management in short terms and in the absence of a national consensus.

Following Bulgaria's accession to the EU in 2007 and the global economic and financial crisis started in 2008, it was necessary, on the one hand, in a fixed time schedule to follow the priorities outlined in the Bologna Process and the Lisbon Strategy, and later on, in "Europe 2020" Strategy, and on the other hand, to respond to the financial and economic challenges of the crisis which interrupted the process of ascending growth and rising employment of the working population in the country /2001-2007/.

The financial and economic crisis has posed the state management of the higher education system to the dilemma:

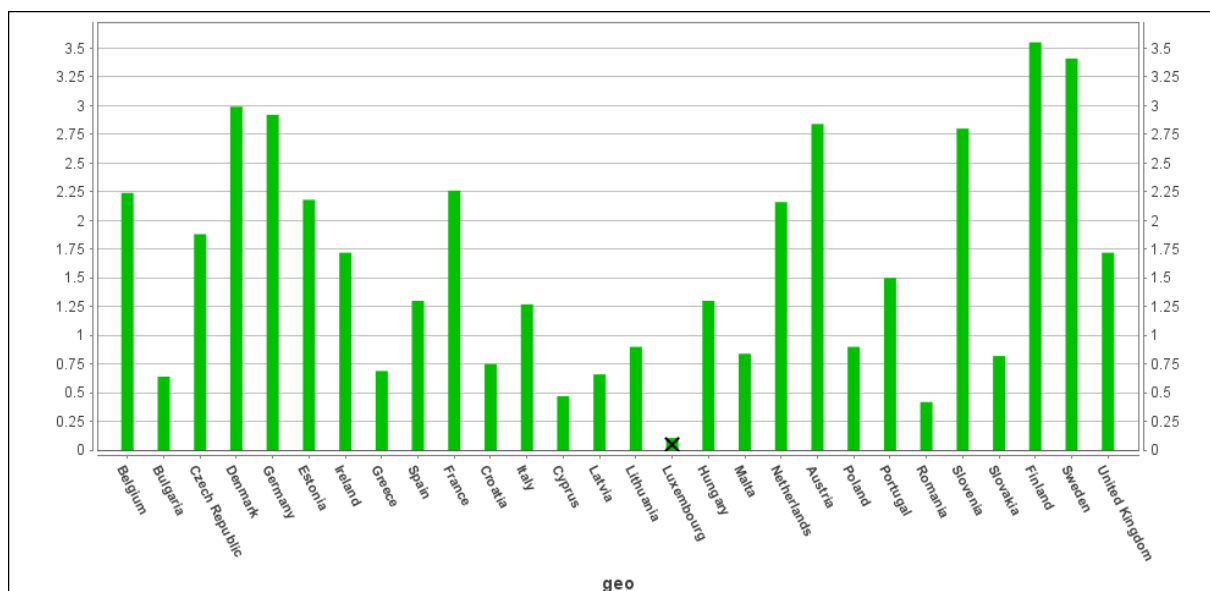
- to assigned the higher education and science to the group of sectors and activities with strict regime of financial savings – a policy, subject to the principle that the "fiscal consolidation is more important than modernization";
- to make radical reforms in higher education, by redirecting and increasing the investment therein (subject to the requirement of efficiency and return of

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investment); to put higher education, science and innovation at the center of the national strategy for overcoming the crisis and catching up with the average European level in the material and the spiritual sphere.

The strategic choices in the period 2009-2014 was made in favour of the policy of financial constraints. Following this course, Bulgaria was placed among the top countries strictly respecting the indicators of fiscal discipline adopted by the EU, but this strategic orientation strengthened the chronic shortage of funds for the ongoing functioning of the higher education system and for support of the reforms started. The indicators of the amount of investment in research increased in the 2008-2012 period, but could not reach the levels before the big fall 20 years ago. (Figure 2, Figure 3).

Figure 2: Percentage of population, engaged in research and development (Source: Eurostat, 2012)



During the period of membership in the EU, no overall vision and strategy for higher education development has been elaborated and adopted in terms of the EU membership and the intensifying competition in the global educational space. Two variants of such a strategy prepared in 2005 and 2006 were not accepted. The legislation was not renewed. It continues to be obsolete and inadequate, both in terms of the reforms applied and according to the European criteria and standards.

2.1 Difficult Access to HE for Some Social Groups and Low Share of Higher Education Graduates among People at Working Age

Despite the increase in the access to higher education after 1990, there are social and ethnic groups, where the share of graduates is low. However, even for the whole population, the share of graduates is low, which is contrary to the needs of the economy, which needs skilled personnel in order to develop.

The increase in the share of graduates makes it necessary to overcome two major challenges.

The first challenge is the systematic reduction in the number of young people completing their secondary education who apply for Bulgarian higher education institutions. This leads to a situation without precedent in the history of the higher education: insufficient number of students enrolled compared to the announced positions (for example, for 2013-2014 academic year, the actual admission was 63,045 people – by 8,000 less than the planned number). The reasons for the dramatic decline are complex – along with the deteriorated demographic situation, supplemented with the increasing educational emigration among young people, difficult access to Bulgarian higher education institutions due to geographical and social barriers, impaired social prestige of higher education.

The second challenge is of demographic character. Bulgaria is one step away of a demographic catastrophe due to unprecedented population ageing, low birth rates, etc.

The main challenges related to the access and the increase of the number of graduates are:

2.1.1 Reduction in the number of candidate students due to demographic problems.

2.1.2 Presence of social problems that do not allow some groups to continue their education, but instead require that they should start work immediately after completing their secondary education. Lack of effective connectivity between the development of higher education and the changing individual needs – HE does not provide opportunities for combining learning with work or family responsibilities.

2.1.3 Despite the extensive network of HEIs, there are whole areas (e.g. in the Northwest region) where there are no HEIs, and the social opportunities do not allow easy access to the HEIs located in the capital city and the other major cities.

2.2 Difficulties for the Quality and Compatibility of the Higher Education with the European HE Systems

One of the most important challenges that the higher education in Bulgaria is facing is the maintenance and improvement of the quality. Along with the insufficient financing of the HE system and the problems arising from its massification, the main reasons for the decline of quality in some HEIs and professional fields are:

The **teaching methods** lag behind the innovative trends in the practice and development of the abilities of students, there is a **lack of motivation of young lecturers and scholars, ageing academic staff** in the HEIs.

There is an urgent need for **modernization of academic programmes**. Some funding has been provided in recent years to stimulate their renovation. It is necessary to continue and extend this practice, as well as to promote the integration of Bulgarian and foreign higher education institutions for transfer of proven effective academic programmes in modern and popular specialties.

Academic plans and programmes are often not in line with the needs of the labour market and practice. **The low level of scientific results** in some HEIs and professional fields does not allow for the use of the relationship education-science-economy.

A number of HEIs announce **unusual specialties** solely in order to attract students to the respective higher educational institution.

Despite the fact that in recent years, all the higher education institutions in Bulgaria have adopted internal quality management systems, the control on their application and the exchange of best practices are still insufficient. In the course of implementation of the new systems other weaknesses, which are listed below have emerged and should be overcome in the beginning of the 2014-2020 period

The procedures of the National Evaluation and Accreditation Agency (NEAA) for evaluation and accreditation of higher education institutions are complicated. Most of the HEIs are constantly in the process of accreditation. This artificially complicates the process, overloads human resources, creates more bureaucracy and ultimately hampers the normal work of higher education institutions. However, some of the accreditation criteria are subjective and do not allow for effective evaluation. It is necessary to assign greater weighting in the evaluation to important objectively measurable criteria, such as the realization of students and the starting salary of graduates. At the same time, the current legislation creates a monopoly of NEAA since the recognition of accreditation by foreign agencies is practically impossible.

Mobility in education and science from other parts of the world to the European space has risen considerably (today the EU member states attract about 30% of mobile students worldwide). However, this trend is not evident in Bulgaria. Insofar as there is some incoming educational mobility, it is not a product of a national policy and intergovernmental agreements, but is mostly a product of individual initiative of foreign students. The difficulties in the efforts to promote cross-border academic mobility are primarily financial and lingual, but are also related to the misapplication of the Credit Accumulation and Transfer System. The internal mobility is also hindered, both within universities and between them.

The number of **attracted foreign lecturers and scholars** at university is insufficient. This form of cooperation could facilitate the majority of students who are now prevented from participating in the forms of external mobility, so that they will be able to learn about international innovative practices; make universities more efficient and improve the quality of the education they provide.

The main challenges related to the quality and compatibility of Bulgarian higher education are:

2.2.1 Retradation of teaching methods, lack of motivation of young lecturers and scholars, ageing academic staff.

2.2.2 Low motivation of students to turn to science and research careers, and to acquire fundamental knowledge (especially in natural science) and their application in practice.

2.2.3 Obsolete academic programmes.

2.2.4 Low level of scientific results in some HEIs.

2.2.5 Presence of uncharacteristic specialties in some universities.

2.2.6 Weaknesses in the implementation of the internal quality management systems.

2.2.7 Complicated and inefficient procedures for accreditation and presence of subjective criteria.

2.2.8 Insufficient outgoing and weak incoming mobility of students and lecturers and a formal application of the Credits Accumulation and Transfer System.

2.3 Weak links between the Higher Education and the Needs of Businesses and Public Institutions

A major weakness of HE system is the failure to build an effective mechanism for communication between higher education institutions as a place for training and source of recruitment of skilled professionals on the one hand, and businesses and public institutions as users of highly educated, proactive and motivated staff, adaptable to structural qualification changes in the employment system, on the other.

There is a significant **mismatch between the structure and profile of graduates** with the educational and qualification degrees "Bachelor" and "Master" and "Doctor" degree **and the dynamics of the labour market** in Bulgaria and the EU. The urgency of reforms in this direction is also reinforced by the internal disproportions in the national and the regional labour markets in Bulgaria. The following main problems to solve can be outlined:

- serious/growing shortage of personnel in the field of engineering and technical, pedagogical and natural sciences;
- lag in education in new jobs needed for the green economy, high-tech and innovative activities;
- technology gap in services and manufacturing, since a large number of SMEs mainly operate as subcontractors of large European and multinational companies (dominant search for personnel for low-skilled and routine activities);
- mismatch between the expected competence and the actual competence manifested in practice.

Urgent decisions are needed for the problem with **the practical training of students in real working environment**. Young professionals lack adequate practicable knowledge, skills and habits.

Along with the need of businesses, the role of the state and the public sector in determining the HE policies and the need for staff is very important. Besides businesses (business sector) there are many users of staff belonging to the sectors related to non-material values – state and municipal institutions and the non-governmental sector in the areas state government, regional development, justice, medicine, education, healthcare, security, sports, culture (museum and art gallery network, theatre, cinema, music industry, cultural tourism, etc.).

The main challenges related to the link between higher education and the needs of the labour market are as follows:

2.3.1 Mismatch between the competencies of the graduates and the needs of the labour market.

2.3.2 Shortage of personnel in the field of engineering technical, environmental, educational and other fields.

2.3.3 Lack of connection between the training content (academic plans and programmes), the labour market and the practice.

2.3.4 Need for practical training of students in real working environment.

2.3.5 Insufficient carrier guidance of graduates.

2.4 Insufficient Link Between Training and Research

Higher educational institutions are called to be the main science development centers, considered the creation of new scientific knowledge. It's not just knowledge that have immediate practical application, but primarily fundamental knowledge relating to the understanding of the world and man, and knowledge which practical application is delayed in time. Fundamental research is necessary basis for the development of applied research and creates the most highly qualified specialists for the development and implementation of new technology. **The unity of studies and research**, i.e. basing the training on current research projects and active involvement of students in research, is the guiding principle in all prestigious HEIs in the world.

In recent years, the link between studies and research – activities that traditionally are institutionally separated in Bulgaria has not been transformed and modernized. Thus the action of the key knowledge triangle: education – research – innovation, was in practice hindered.

The contribution of innovations in the creation of added value is low (in this respect, Bulgaria lags seriously: the level achieved is 26% compared to 45% average for the EU – according to data from the Ministry of Economy and Energy and Eurostat). The public prestige of scientists is low.

The fundamental and applied research and experimental development have their specific role in the knowledge society and their insufficient funding leads to delays and has a negative effect on the development of society and economy.

There is a reduction in the Bulgarian publications in scientific journals included in the global system of referencing, indexing and evaluation. While the number of such publications in the field of natural science, mathematics and medicine, despite the reduction, is good, their number in the field of public science and humanities is extremely low. The reasons are historical: lack of tradition, and until recently: lack of access to the journals themselves.

In all scientific fields **the publications in scientific journals included in the global system of referencing, indexing and evaluation** are insufficient. These publications make research and researchers recognized, leading both to the verifiability of the achievements and to the enhancement of the prestige of the HEIs with larger number of publications, higher impact factor and impact rank and larger number of quotes.

The HE system consists of HEIs with rich research activity and other HEIs with modest scientific results, but the funds intended for science are distributed among all. Eligible

for funding the scientific research from the national budget should only be HEIs with strong scientific results and the amount of funds for science should depend on these results. The HEIs should report to the state and society on the effectiveness of the funds spent on science and will have an obligation to ensure the participation of students and postgraduate students in research.

The main challenges related to the link between studies and research are:

2.4.1 Insufficient funding of fundamental and applied research and experimental development.

2.4.2 Outdated and insufficient scientific infrastructure.

2.4.3 The funds for science are distributed among all HEIs regardless of their scientific results.

2.4.4 Insufficient number of publications in scientific journals included in the global system of referencing, indexing and evaluation.

2.4.5 Insufficient participation of students, postgraduate students, postdoctoral students and graduates in research.

2.4.6 Insufficient commercialization of research results.

2.4.7 Challenges to the project activity – financing, information provision, complicated accounting rules.

2.4.8 Insufficient research mobility.

2.5 Improvement of the Higher Education Institutions Management System and the HEIs Network. Clarification of HEIs types and the Educational and Qualification degrees

Over the past decade, efforts have been made to modernize the management system of higher education in Bulgaria, in line with the European models and the recommendations of the Commission. The changes imposed in the legislative and partly in the institutional practice have yielded positive results that can be improved in the future within the academic autonomy. It is necessary **the autonomy to be combined with mechanisms for institutional accountability** – transparency, public control, academic competition. The aim is to achieve a higher education system that is able to regulate itself according to the social processes dynamics and to maintain the quality of higher education, i.e. a system capable of sustainable development.

It is important to choose an effective option for monitoring and control by the state and society in a situation of increased autonomy and self-management of HEIs. As a result of an extensive academic debate to find the right formula for change that combines national traditions with international trends and best practices.

An important task is **to optimize the higher education institutions network** – not through administrative pressure, but through well considered financial mechanisms and through transfer of European best practices to promote the integration and unification of higher education institutions on a regional and subjective basis.

There is duplication and fragmentation of professional fields in the different higher education institutions. In the last 10 years, the changes in HEA have gradually closed the gap between universities and specialized higher educational institutions, where the latter were

entitled to call themselves universities in a given area. There is lack of clear distinction between **universities and specialized higher schools** that only train students in one or several related professional fields (e.g. technical, medical, arts, etc.).

At the same time, the HE system consists of higher education institutions with rich research activity and higher education institutions with no research at all. Therefore, two types of HEI should be introduced distinguished according to their research activity. The research HEIs will be entitled to funding for research from the national budget, but they also will be required to report to the state and society on the effectiveness of the funds spent on science (e.g. this will be part of their accreditation assessment). The research universities will be allowed to train doctoral students. On the other hand, the other universities will not be able to train doctoral students and will have no obligations to conduct research, whereas this requirement will not prevent their academic staff from conducting research or participating in research teams.

Along with the three levels of higher education in the Bulgarian higher education system, there is the **educational and qualification degree "Professional Bachelor in ..."**, which is not clearly recognizable within the three-level cycle.

The main challenges related to the management system of higher education institutions with the HEIs network, the types of HEIs and the educational and qualification degrees are as follows:

2.5.1 Need for greater participation of business representatives, public institutions and students in the management of HEIs.

2.5.2. Need to combine the autonomy with mechanisms for institutional accountability – transparency, public control, academic competition.

2.5.3 Need to optimize the higher education institutions network.

2.5.4 Need to clarify the statute of the different types of HEIs.

2.5.5 Unclear statute of the educational and qualification degree "Professional Bachelor in..." within the three cycled system.

2.5.6 Overcoming the duplication and fragmentation of professional fields between the different higher education institutions.

2.6 Disadvantages of the Current Funding Model

Now **the current model of funding** is the weak point of the whole higher education system. On one hand, this is due to the chronic lack of resources set in the national budgets and crisis policies. On the other hand, however, even the available resources are not used efficiently (some of them are lost because of the high external educational migration – of students, lecturers and talented scientists).

Along with the inefficient use of the available resources, the **insufficient transparency and public control** over the method of use of the material (including financial) resources is a problem as well. There are no options and targeted efforts to provide a variety of extra-budgetary sources of financing, including from business and commercialization of the research results.

Until recently, the state subsidy was distributed based on the number of students enrolled only and although for the last three years statutory requirements have been observed stating that funding should take into account the quality of education, over 90% of the amount

of the subsidy continues to depend on the number of students. This generally leads to equality and **the method of distribution of funding does not encourage the achievement of a higher quality** of the education offered.

The development of strategically important for the country professional fields and specialties is not stimulated. Such are both the professional fields that are of high priority for the needs of the economy and the labour market, and the specialties, which should be protected because they are not attractive for candidate students, but are necessary for the country.

The current regulations do not allow the HEIs to conduct business, which is an obstacle to the creation of spin-off companies and the implementation of technology transfer.

There is also a lack of sufficient financial incentives for students to achieve excellence. It is necessary to introduce such incentives through differentiated rates of scholarships or by introducing incentives for the payment of student loans.

The main challenges related to the current model of funding are as follows:

2.6.1 Insufficient effectiveness and transparency of the method of use of financial resources.

2.6.2 Insufficient funding of the higher education system.

2.6.3 Lack of incentives to improve the quality and to achieve high results, as well as to develop professional fields and specialties that are strategic for the state.

2.6.4 Lack of sufficient financial incentives for students to achieve excellence.

2.7 Problems Associated with Attracting and Career Advancement of Lecturers

In recent years, problems have arisen with the implementation of the Development of the Academic Staff in the Republic of Bulgaria Act. Certain gaps allowed for awarding academic degrees and academic appointment of persons without the necessary scientific achievements and qualities. Especially pressing is the lack of national uniform minimum requirements by professional fields and scientific fields and a control mechanism for the compliance with the regulations and requirements.

The inadequate remuneration of lecturers and the lack of incentives for the best lecturers according to their contribution to the teaching and research detains their career development and fix the equalization traditions, typical for the Bulgarian academic institutions. The weak interest in an academic career is linked to the lack of opportunities for training of lecturers, which negatively affects the quality of their work.

The main challenges associated with attracting and career advancement of lecturers are as follows:

2.7.1 Imperfections of the Development of the Academic Staff in the Republic of Bulgaria Act, leading to an imbalance between habilitated and non-habilitated lecturers.

2.7.2 Lack of differentiation of the remuneration of lecturers according to their results.

2.7.3 Need to provide qualification opportunities for lecturers.

2.8 Inadequate Opportunities for Lifelong Learning

In most of the higher educational institutions, there are units for continuous, ongoing or post-graduate training, as well as career development centres. They foster the links between universities and business, between trainees and labour market. In addition, there are certain good practices for joint development of academic plans and programmes with representatives of the business in order to increase employment suitability.

Yet these practices are not widespread. The required flexibility in creating various opportunities and forms for lifelong learning has not been achieved, as well as the innovation of the programmes, consistent with the age characteristics of the students. There is inadequate pedagogical preparedness of university professors in the field of andragogy, as well as insufficient public awareness of the proposed effective options for lifelong learning.

To overcome these difficulties, and to apply consistently the criteria defined by the EC, Bulgaria adopted a *National Strategy for Lifelong Learning for the period 2014-2020*. The strategy foresees **strengthening the role of higher educational institutions as institutions for lifelong learning** and stimulating the potential trainees for further training in the higher education system, as well as the **harmonization of the programmes offered by higher education institutions and the qualifications demanded by the labour market**.

The electronic forms of distance learning have established themselves as modern and leading forms of education globally, but at this stage in Bulgaria, they are additional and therefore should be further developed.

This unfavourable situation should be radically changed by Bulgarian higher education comply with European criteria and objectives outlined in the *EC Communication on "European higher education in the world"* dated July 2013.

The main challenges related to providing more and better options for lifelong learning in HEIs are as follows:

2.8.1 Lack of enough options and various forms of lifelong learning.

2.8.2 Lack of links between HE and the businesses with respect to the needs of the labour market and the training content.

2.8.3 Low development of electronic forms for distance learning.

2.9 Changes in the Higher Education System

Despite the difficulties, in the period after 1995 Bulgaria implemented (though with slow steps, fluctuations, and breaks) a series of positive changes in the system of higher education.

Bulgaria was one of the first countries introduced **the three cycled system of higher education**. The training for acquisition of any degree is carried out in accordance with the adopted *Classifier of the areas of higher education and the professional fields. An Credits Accumulation and Transfer System* based on the European ECTS was introduced. The European Qualifications Framework is an important tool for transparency and facilitating the understanding of the qualifications to help learners and workers. In 2012, the Council of Ministers adopted *The National Qualifications Framework of the Republic of Bulgaria*. It defines nine levels of qualifications based on the learning outcomes, and covers the full cycle of acquisition of qualifications. The degrees of higher education are located in the last three

levels of the framework. In 2014, *the National Strategy for Lifelong Learning* for the period 2014 - 2020 was also adopted.

With the *Development of Academic Staff in the Republic of Bulgaria Act* passed in 2010 the system for career advancement of lecturers in higher educational institutions was modernised under the conditions of extended academic autonomy although the described difficulties in its application. Main task of the adopted *National Strategy for Scientific Research Development 2020* is development and creation of a new-generation of scientists and transformation of higher education institutions into science centres.

Specific measures are taken for improving the quality of education and research. A **National Evaluation and Accreditation Agency** was established under the Council of Ministers as a specialized state authority for evaluation, accreditation, and quality control in the system of higher education. NEEA is a member of the European Association for Quality Assurance (ENQA) and is entered in the register of the European Quality Assurance Register for Higher Education (EQAR). **Internal systems for evaluation and maintenance of the quality of training and academic staff** are built and operate in the institutions of higher education, including a student opinion survey.

The Bulgarian University Ranking System established in 2010 within a project funded under the Operational Program "Human Resources Development" of the European Social Fund, is based on objective criteria and indicators and represents a real base for comparability of higher educational institutions. In order to ensure transparency in the system of higher education the Ministry of Education and Science supports **specialized information system**, which contains: *Register of higher education institutions, Register of the academic staff of the higher education institutions, Register of current and discontinued students and postgraduate students, Register of graduate and postgraduate students, Register of lending banks under the Loans of Students and Doctoral Students Act.*

In higher education institutions operate **units for continuous, ongoing or post-graduate training**, as well as **career development centres**. They foster the links between universities and business, between trainees and labour market. There are good practices for **joint development of academic plans and programmes with representatives of the business** in order to increase employment. In a number of higher education institutions **double training programs** with leading foreign universities are implemented ending by the issuance of double diplomas.

Since 2008, MES has been providing **national license for access to the scientific databases** to reputable publishing houses and information platforms, and thus to high-ranking scientific journals in different fields of knowledge.

In 2010, the system for students and doctoral students' loans with state guarantee was launched under the *Loans of Students and Doctoral Students Act*.

In 2011, the differentiated funding of higher education was introduced which promotes the higher quality in any professional field. Based on key performance indicators a change in the model of funding state higher education institutions was made - the best professional fields receive additional funds from the budget on the subsidy for training.

In the period 2012-2014, a centralized system for provision of practical training of students in higher education institutions was successfully approved, which for more than 1 year has provided for over 60 000 items for practical training in more than 14,000 Bulgarian employers. A web platform has been created covering all regular students and lecturers from

the Academic Staff Register, and higher educational institutions have a total of over 800 trained experts who participate daily in the implementation of the project.

The initiatives and measures listed have been applied at intervals without the necessary coherence between them, and without sufficient coordination between the institutions responsible for implementation of the changes. This led to fragmentation of the policies for development of higher education, to demotivation and in some cases - even resistance among some of the academics and dissatisfaction by the students.

The system of higher education and science as a whole has not functioned successfully, which caused reasonable criticism of the society and by the EC - for lack of political will for reform, understatement of the industry on the part of the state, disinterest on the part of the business, self-closing and self-sufficiency of academic institutions, etc.

2.10 Risks and Barriers to the Strategic Reforms

The success of the elaborated *Strategy for the development* of higher education in Bulgaria, and especially the completion of the accelerated reforms in the first time horizon (2014-2020) will depend to a crucial degree on the timely identification of risks, and barriers of national and international nature, and on the identification of adequate policies and taking steps to soften and overcome them.

It should be stressed that here it is not about the traditional concepts for the so-called objective/external factors and influences, which could risk the attainment of the objectives set. It is about the accumulated throughout the years crisis situations in key areas of the society, in which higher education and science are in organic interaction. In the course of development of the *Strategy* the following macro-social and macroeconomic risks of that nature were identified:

2.10.1 Demographic crisis

Bulgarian experts have alerted for the high risk, difficult reversible nature of the approaching crisis at the very beginning of the 21st century. Recently, the Bulgarian demographic phenomenon attracts attention and international organizations (UN, WB, etc.). The most dangerous signs of crisis are:

- Drastic reduction in the population of the country: From 8.8 million in 1990 to 7.35 million in 2011. This decline is unprecedented given that in the previous historical period (1950- 1989) the country's population has grown double;
- Record pace of population aging - here the decline is the highest in the world, and by share of adult population Bulgaria is third in the EU;
- Extremely low sustainable levels of birth rates.

These trends taken together outline **a sinister scenario, whose peak is expected to occur in 35-38 years** (See WB Report 2013, p. 14-15). However, the first negative consequences to the higher education system are experienced now:

- sharply reduced inflow of prospective students, including for promising and wanted specialities (the trend of partially vacant places in the higher education institutions will most likely continue in the upcoming years);
- Increasing the number of school dropouts (mostly of the Roma community), of intermittent and undergraduate students;

- Limiting the opportunities for employment due to busy work places of elderly population;
- Growing youth emigration, etc.

Government institutions have responded to these negative trends with passive policies of a common nature: findings in documents, adoption of strategies, etc. **If Bulgaria wants to avoid the worst scenario, it needs to switch from conventional to risk/crisis management of demographic processes.**

2.10.2 Imbalances on the labour market

In the period of financial and economic crisis, configuration and structure of the labour market in Bulgaria have changed in extremely adverse direction.

On the one hand, there is contraction of labour force demand, which is with alarmingly dimensions, due to sharp decline of business activity - mainly in the real sector. While most of the small and medium-sized enterprises (SME) dominating the Bulgarian economy have no high-tech profile and are not looking for an active young professionals with academic education.

On the other hand, there are long-lasting internal imbalances in the national and regional labour markets. Unemployment has turned from cyclic to **sustainable structural phenomenon**, which overcoming requires special effort, and sufficient technological time for changes. In particular:

- **Youth unemployment** has emerged as the most urgent problem as it reduced prospects for a successful start in the professional career of graduated students and alumni of the professional high schools. The problem lies not only in the disturbing quantitative reduction of young Bulgarians located in their home country, but in the broad demotivation among the younger generation in terms of employment in important areas of the state economy;
- **The secondary, labour market is not and may not be substitute for the primary.**
- **Tertiary, labour market** - in the so-called informal economy attracts many young people, some of them even from the universities. However, employment in this segment creates unconventional employment culture and motivation of realization based on variations of the legal norms and social standards featuring Europe and the social states.

All the above shows that the problem of divergence between educating staff in the higher education system and the demand of labour force is not unilateral. A significant share of the jobs in the crisis Bulgarian labour market are mostly of low quality and highly underestimated in terms of payment.

2.10.3 Devaluation of labour and chronic financial deficits

For two decades in Bulgaria the doctrine of artificial/centralised maintenance of a low level of wages have been imposed - as a prerequisite for financial stability in the conditions of a Currency board and as a factor in attracting foreign investment. The potential inherent in this concept has been already exhausted. Its preservation as a milestone of the Bulgarian policy on income and public finances has a counter-productive impact:

- **Chronic underfunding of higher education and science.** In Bulgaria, this policy has become an ideology, a stereotype for estimation and formation of the attitude of the governing authorities towards this sector.
- **The low salary** disincentives young specialists as it automatically turns them into working poor, with very limited prospects for advancement in the business and income hierarchy;
- Chronic financial deficits of higher educational institutions and research organizations kept **the salary to academic staff** for more than a decade at a level, which goes beyond international standards, and competitive practices. Bulgarian scientists, de facto, are placed in a disadvantaged position compared to their European counterparts, they are not motivated and became low-paid assistants in the implementation of promising international projects. Paradoxically, Bulgaria is competing with countries, which hold strongly the last positions in the European charts by payment of academic personnel, i.e. it participates in the so-called Racing to the bottom.

Arguments in favour of the financial savings are in one direction: The quality and contribution of higher education and scientific research are not yet at a high European level - hence the sector does not deserve priority funding. Meanwhile it is apparent that upon final low resource provision with chronically underfunding and depreciation of intellectual work high quality and contribution could not be expected.

An explicit reevaluation of the idea of idle savings should be made. **The Strategy for Higher Education Development** can be successfully implemented only if it's resource provided. Objectives set out in the *European Strategy for Smart, Sustainable and Inclusive growth "Europe 2020"* won't be fulfilled in Bulgaria if the policy on reducing or keeping the same level of HEI's and research units' budgets maintains in the next period.

2.11 SWOT Analysis of the State of the Higher Education System

STRENGTHS:	WEAKNESSES:
<p>The introduced three-cycled training system: Bachelor – Master – Doctor (Bologna process). <i>Adopted Classification of the areas of higher education and professional fields.</i></p> <p>Introduced Credit Accumulation and Transfer System.</p> <p>Introduced internal quality management and maintenance systems.</p> <p>An information system introduced and maintained by the Ministry of Education and Science, which contains: A register of higher education institutions, A register of the academic staff of higher education institutions, A register of active and suspended undergraduates and doctoral students, A register of graduating undergraduates and doctoral students, A register of banks granting loans under the Lending to Undergraduates and Doctoral Students Act.</p> <p>Elaborated and operating Bulgarian Universities Ranking System.</p> <p>The National Evaluation and Accreditation Agency (NEAA) which is established as an independent agency to the Council of Ministers.</p> <p><i>Adopted National Qualifications Framework for Lifelong Learning.</i></p> <p><i>Adopted National Strategy for Research Development.</i></p> <p><i>Adopted Development of Academic Staff in Republic of Bulgaria Act</i></p> <p>The national license procured, allowing access to scientific databases of esteemed publishing houses and information platforms.</p> <p>The introduced training under joint curricula with leading European universities, which results in issuance of joint diplomas by two universities.</p> <p>Units for continued, continuing or post-graduate training, as well as career</p>	<p>Fragmentation of the system, lack of comprehensive vision (strategy) for development of higher education.</p> <p>Lack of balance between the autonomy of universities and the degree of control exercised by the government.</p> <p>Lack of legal preconditions for exercise of effective control and sanctions in the event of inefficient governance and illegitimate activities of HEI's.</p> <p>Mismatch between the education offered and the needs of the labor market; planning of student enrollment is not aligned to the economy's needs.</p> <p>Complicated accreditation procedures and existence of biased criteria. Funding is not bound to the outcomes from the accreditation assessment and the Ranking System, lack of incentives for quality improvement.</p> <p>Obsolete legislation.</p> <p>Problems in the application of DASRBA, difficulties in recruitment of teachers/lecturers and promotion of their career growth.</p> <p>Aging academic staff; poor motivation and low social esteem of academic staff; lack of interest in academic careers.</p> <p>Lack of diverse funding sources for the higher education; inefficient funding system and allocation of the government subsidy.</p> <p>Funding for science is not bound to the outputs, inadequate link between higher schools and science, poor involvement of students in research activities, lack of innovations.</p> <p>Inadequate lifelong learning opportunities.</p> <p>Inadequate internal and external academic mobility.</p> <p>Matters relating to the issuance of the</p>

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<p>development centers established at HEI's.</p> <p>Developed and operating information system for promoting achievements of students through scholarships for advancement and special scholarships (http://eurostipendii.mon.bg).</p> <p>Developed and operating information system for offering practical training in a real working environment (http://praktiki.mon.bg/sp).</p>	<p>European Diploma Supplement and formalistic application of the Credit Accumulation and Transfer System.</p>
<p>OPPORTUNITIES:</p>	<p>THREATS:</p>
<p>Update and harmonize the legislation.</p> <p>Solidify the role of the “knowledge triangle” in the higher schools and their assertion as major scientific hubs.</p> <p>Assert the higher schools as lifelong learning hubs.</p> <p>Intensify partnerships with businesses and commercialize the research outputs.</p> <p>Intensify the practical focus of training in the higher schools; employability – provide up-to-date knowledge, skills, and competences.</p> <p>Update the syllabi and curricula; introduce new teaching methods.</p> <p>Optimize the accreditation procedure.</p> <p>Create conditions and a system for motivation and the skill upgrading of the academic staff.</p> <p>Intensify the mobility of students and academic staff</p> <p>Ensure real autonomy and responsibility of the higher schools –establish tools for effective control and self-regulation.</p> <p>Increase the efficiency of governance of the higher schools.</p> <p>Introduce a new, results-oriented funding model for the higher education and research</p>	<p>The demographic crisis and the reduced number of future students.</p> <p>Disproportions on the labor market.</p> <p>Chronic underfunding of higher education and science.</p> <p>Lower interest in the Bulgarian higher education.</p> <p>Lack of well-trained specialists in priority areas.</p> <p>Deficit of academic staff. Lack of interest among young people to pursue academic careers.</p>

III. VISION FOR THE DEVELOPMENT OF HIGHER EDUCATION

The desired direction for development of higher education is **Bulgaria to become strong and attractive regional centre of modern higher education with European profile, attractive to students from Europe and the world.**

Up to 2020, the modernised higher education system shall guarantee:

- Transformation of higher education institutions into scientific and spiritual centre with general cultural mission, which creates and disseminates new knowledge, contributes to the understanding of the world, and to the enrichment of its material and spiritual culture.
- High-quality education contributing to the overall development of the personality and preparing students both for their professional realization, and social and civic role in an open, dynamic and democratic society.
- Opportunities for everyone to receive education that promotes and develops its capabilities and personal qualities to the highest extent.
- Preparation of proactive, innovative, and motivated specialists;
- High fundamental and economically applicable research outcomes;
- Growing competitiveness of higher education and economy of knowledge in European and global context.

IV. GUIDING PRINCIPLES IN THE STRATEGY IMPLEMENTATION

The guiding principles in the preparation and implementation of the Strategy are as follows:

- Storage of national tradition.
- Inclusion;
- Effectiveness and sustainability;
- Growth based on continuity and ability for development;
- Transparency and fairness;
- Openness of the system towards the social and economic environment.

V. STRATEGY OBJECTIVES

Long-term strategic goal of the Strategy is the creation of a modern, efficient, and constantly developing higher education system, in the centre of which stays the individual with their personal qualities and intellectual potential, and which provides quality, accessible, based on scientific outcomes, and market-oriented higher education.

Specific objectives of the Strategy are as follows:

5.1 Improved access and increased share of graduates (reaching the level of 36% graduated between the age of 30 and 34 in 2020).

5.2 Significantly increased quality of higher education and the compatibility with European HE systems in order to occupy a worthy place in EHEA.

5.3 Built up a sustainable and effective link between higher education and the labour market, and achieved a dynamic compliance of demand and supply of specialists with higher education.

5.4 Promoted research activities in HEI and the development of innovation oriented towards the market economy.

5.5 Upgraded system for management of the higher education institutions and clear definition of the HEI types and the educational and qualification degrees.

5.6 Increased funds for higher education, science and effectiveness of their use by an advanced model of funding.

5.7 Overcome negative trends in career advancement of lecturers in HEI, and promotion of the best ones.

5.8 Expanded and strengthened network for lifelong learning; broad application of the various electronic forms for distance learning.

VI. ACTIVITIES AND MEASURES FOR ACHIEVING THE SPECIFIC OBJECTIVES

6.1 Improved Access and Increased the Share of Graduates

For achieving this objective the following activities and measures will be performed:

1. Improving the model for students and postgraduates loans for the purpose of creating financial incentives for higher achievements by creating incentives in the payments of student loans.
2. Improving the system for the provision of scholarships by differentiation of the method of provision and the size of student scholarships - e.g. social scholarships, scholarships for excellence, and scholarships for advancement; as well as through the provision of higher scholarships in directions that are strategic for the country.
3. Expanding the access to HEI through forms of lifelong learning and of electronic forms for distance learning.

6.2 Significantly Improving the Quality of Higher Education and the Compatibility with the European HE Systems in Order to Occupy a Dignified Place in EHEA

For achieving this objective the following activities and measures will be performed:

1. Introducing strong control mechanisms by the state ensuring supply of quality higher education by all higher education institutions and real application of the criteria for obtaining Bachelor, Master and Doctor Degrees.
2. Improving the accreditation model and the Bulgarian University Ranking System in order to provide an objective evaluation of the quality of training in respect to the level of training (basic, specialized, practical, soft skills, participation in scientific activities) and the realization of graduates.
3. Differentiating the funding according to the quality and realisation of the graduates in any professional field regardless of its ratio to the standard for student allowance.
4. Differentiated provision of the subsidy for scientific activities in HEI on the basis of scientific outcomes.
5. Providing opportunities for training of lecturers and post-doctoral students, particularly in foreign languages, new methods of teaching and ICT, by continuing the measures funded during the previous programming period.
6. Intensifying the quality assessment forms for teaching on the part of students and academic staff.
7. Reforming the academic programmes and the training content:
 - A. Promoting the update of curricula and programmes;
 - B. Promoting the internationalisation of academic programs and the e-learning;
 - C. Promoting the creation of more joint/double programs;

D. Promoting the increase of academic programmes in a foreign language.

8. Improving the system of admission to HEI in accordance with the evaluation outcomes of the professional fields.

9. Merging the institutional and program accreditation.

10. Further development of the practice of external evaluation of the quality of higher education, including participation of foreign experts.

11. Regulating the possibility of an alternative assessment by authoritative European accreditation institutions, e.g. Agencies - ENQA members and those entered in EQAR with the final accreditation given by NEAA.

12. For the purposes of accreditation the acceptance of every lecturer as a member of the academic staff for one HEI only.

13. Drafting and adoption of a new Classifier of the areas of higher education and the professional fields, which to be completely consistent with the international standard classification of education - areas of education (ISCED F-2013), and the international classification of the fields of science and technology in order to synchronize the professional directions and doctoral programs, and to determine the relations with the National Classification of Occupations.

14. Enhancing the control for the presence of an operating Credits Accumulation and Transfer System and mobility for accreditation.

15. Ensuring a complete portability of national grants and student loans within EHEA.

16. Optimizing the procedures for recognition of comparable periods of education and degrees.

6.3 Building a Sustainable and Effective Link between Higher Education and the Labour Market, and Achieving Dynamic Compliance of Demand and Supply of Specialists with Higher Education.

For achieving this objective the following activities and measures will be performed:

1. Using the forecasts in order to supply and demand of labour force in Bulgaria developed by the MLSP for determination of the needs of specialists with higher education and the planning of admission in higher educational institutions.

2. Creating a profile of competencies for each specialty.

3. Promoting the dialogue between the higher education institutions and the business concerning the training content, by continuing and expanding the measures funded during the previous programming period.

4. Targeted funding of fields strategic for the country (priority professional fields and protected specialties defined on the basis of adopted criteria), for example, by increasing the allowance standard by a certain factor, by reducing or eliminating student fees, through higher scholarships, through practical training in a real working environment, and by building a modern academic base in these fields.

5. Establishing a program for reintegration of young academic staff and researchers (masters, doctoral students, doctoral graduates, graduate students)

6. Financial incentives for building scientific infrastructure in partnerships with business regarding specialties wanted.

7. Funding student internships and practices during the training through the web system of MES - <http://praktiki.mon.bg/sp>, and other similar systems for connection between higher education, students and employers, and the creation of additional incentives for employers providing conditions for practical training and experience after education completion.

8. Developing operative and effective mechanism for evaluation of professional realization of graduated students.

9. Creating a common information network of career centres, associations of graduates, alumni centres, and increase of their capacity.

6.4 Promoting the Research Activities in HEIs and the Development of Innovations Oriented towards the Market Economy

For achieving this objective the following activities and measures will be performed:

1. Strengthening the potential for research and innovative developments in higher education and based thereupon - integration between them.

2. Promoting and optimizing the integration of research work in BAS and AA with universities and regions (will strengthen and encourage the *National network of regional and academic centres for applied science* established in 2012-2013 in partnership with HEI and with local business and according to the specificity and potential of the relevant region).

3. Stimulating the integration of research and innovative activities of higher education in Bulgaria with the national and European business.

4. Increasing the funding of HEI to conduct all types of scientific research.

5. Upgrading the existing scientific infrastructure and educational-research laboratories and the creation and development of regional research infrastructures and national units - partners of European scientific complexes.

6. Creating and development of centres of excellence and centres of competence.

7. Differentiating the subsidy for scientific activities in HEI on the basis of objective indicators of scientific outcomes - a number of published and referred scientific articles in international data bases, number of received abstracts from these bases, number of applications for international patents submitted, etc.

8. Introducing a restrictive limit in the provision of a subsidy for scientific research (cancellation of subsidy for scientific activities in HEI with low scientific outcomes).

9. Promoting the publication in scientific journals, included in the world system to reference, indexing and assessment.

10. Promoting the inclusion of students in research, design and consulting teams.

11. Regulating the status of post-doctoral students and promoting the inclusion of doctoral students, post-doctoral students and graduate students in researches.

12. Support for research projects, to which there is an interest from leading companies.
13. Regulation of the conduct of business activities in HEIs and removal of regulatory and administrative barriers to such activity, including the creation of the spin-off companies and implementation of technology transfer.
14. Developing a mechanism for co-financing of research teams funded under European and international projects.
15. Promoting the joint research projects with leading universities from Europe.
16. Supporting the access and participation of Bulgarian scientific organizations and universities in different European technology platforms, in joint technology initiatives, and in the European Institute of Innovation and Technology.
17. Attracting leading scientists from other countries and Bulgarian scientists employed in foreign research organizations and higher education institutions through the use of instruments of the common European Research Area

6.5 Upgrading the Higher Education Institutions Management System and Clear Definition of the HEIs Types and the Educational and Qualification Degrees

Toward a new, and more efficient management model

In further reforms, the possibility should be discussed for applying the management model which has proven its advantages in developed countries based on the more severe forms of accountability, control and transparency. With such a serious reform, a mechanism must be found for avoiding blurring of responsibilities.

The following measures should be taken:

1. Modifying and supplementing the functions and composition of the Board of Trustees, as regulated in the HEA, by including therein the rector (ex officio Chairman), the chair of the General Assembly, a finance expert, a jurist, representatives of businesses (up to three), representatives of the students, the doctoral students, and MES. The financier, jurist and business representatives are to be elected by the Academic Council. Supplementing the Board of Trustees' functions with: general development guidelines for the particular higher school and its strategy; giving opinions on the draft budget and annual statements; when establishing and taking interest in business companies; when using commercial loans; when taking up long-term debt in the case of infrastructure investment. At the proposal of the General Assembly of the Board of Trustees other functions may be assigned as well.

Optimizing the higher education institutions system, their types, and educational and qualification degrees

1. Optimization of the higher education institutions network through well-considered financial mechanisms.
2. Regulating of comprehensive universities and specialized higher schools, which train students in one or several related professional fields only.
3. Regulating the status of a research university with the rights and obligations related thereto.

4. Cancelling the educational and qualification degree "Professional bachelor".

Overcoming the duplication and fragmentation of the professional directions between higher education institutions

1. Promoting the integration (including establishment of joint teams) in the training in directions, which coincide within the same region.
2. Applying financial tools and mechanism for determining the admission in order to close extrinsic professional fields and specializations.

6.6 Increasing the Funds for Higher Education and Science and the Efficiency of Their Use by Implementing an Advanced Model of Funding

For achieving this objective the following activities and measures will be performed:

1. Increasing the amount of financial resources for higher education and scientific research annually as a share of GDP (from public and private sources).
2. Terminating the validation of admission for professional fields with the lowest outcome.
3. Significant differentiation of the funding according to quality and achievement in any professional fields - the part of the subsidy, which is distributed according to the number of trained students to be gradually reduced to 40 percent, and the rest to be allocated on the basis of the quality of training factor related to the objective quantitative criteria as a successful realization of the students (employment rate, starting salary), scientific outcome and the ratio between the number of applicants and number of students admitted.
4. Introducing a new methodology for determination of differentiated regulations for student allowance based on the actual value of the training in professional fields.
5. Differentiating the method of provision and the size of student scholarships - e.g. social scholarships, scholarships for excellence, and scholarships for advancement; as well as through the provision of higher scholarships in directions that are strategic for the country, including through the web system of MES (<http://eurostipendii.mon.bg>).
6. Expanding the sources of HEI funding with opportunities for technology transfer, links to business, financial management and management of the property, including intellectual property rights (by amendment of HEA).

6.7 Overcoming the Negative Trends in Career Advancement of Lecturers in HEIs, and Promoting the Best Ones

For achieving this objective the following activities and measures will be performed:

1. Introduction of uniform national minimum criteria for the applicants for academic positions and scientific degrees in professional fields and scientific areas.
2. Introducing control mechanisms for compliance with the regulations and requirements of Development of Academic Staff in the Republic of Bulgaria Act.

3. Creating incentives for applying advanced model of funding HEI according to the outcomes and in determining the salaries in the higher education institution.

4. Providing opportunities for training of lecturers and post-doctoral students, particularly in foreign languages, new methods of teaching and ICT.

6.8 Expanding and Strengthening the Lifelong Learning Network; Broad Application of the Various Electronic Forms for Distance Learning

For achieving this objective the following activities and measures will be performed:

1. Promoting university units for continuous, ongoing or post-graduate training, as well as career development **centres**.

2. Promoting the joint development of academic plans and programmes with the business representatives.

3. Continuing the incentives for development of electronic forms for distance learning started in the previous programming period.

VII. EXPECTED RESULTS FROM THE STRATEGY IMPLEMENTATION

Expected results under Objective 1. Improving access and increasing the share of graduates

1. Increased number of graduates.
2. Increased number of HEI offering programs based on electronic forms for distance learning.
3. Significantly, increased number of distance learning programs, and persons admitted and completed such programs.
4. Increased number of students who have received scholarships.

Expected results under Objective 2. Significantly increased the quality of higher education and its compatibility with the European systems of HE in order to occupy a dignified place in the European Higher Education Area

1. Increased number of lecturers participated in forms of qualification training.
2. Adapted teaching methods to the needs of students.
3. Updated academic curricula.
4. Increased quantity and quality of scientific results of HEIs as a result of the competitive environment established.
5. Increased quality and improved realization of graduates as a result of the competitive environment established.
6. Identified weaknesses and best practices in the administration of the university systems of quality management.
7. Advanced model of accreditation.
8. Significantly increased incoming and outgoing mobility.
9. Actually implemented Accumulation and Transfer of Credits System.

Expected results under Objective 3. Establishing a sustainable and effective link between higher education and the labour market, and achieving a dynamic correlation between demand and supply of specialists with university degree.

1. Developed and validated model for admission in accordance with the needs of the labour market and the realization of graduates by universities and professional fields.
 2. Created profile of competencies for each specialty.
 3. Given strategic to the country professional fields and specialties.
 4. Increased number of curricula updated and modernized with the participation of the business.
 5. Increased number of completed training courses and practices in a real working environment.
 6. Enhanced operation of career centers.
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7. Increased number of students who have used the services of career guidance and counseling.

Expected results under Objective 4. Promoting the research activities in HEIs and the development of innovations

1. Improved link between training and research.
2. Increased quantity and quality of all types of research.
3. Increased number of applied scientific researches.
4. Increased capacity of HEIs with best research results and stimulated HEIs with weaker results in order to improve them.
5. Increased number of publications in scientific journals, included in the global system for referencing, indexing and evaluation, especially in the humanities and social sciences, where there is a delay.
6. Improved link between training and research, increased research results, attracting the best students to scientific careers, encouraging young scientists.
7. Increased number of partnerships between HEIs and the businesses.
8. Practice-oriented and innovation creating research.
9. Increased revenues from commercialization of scientific products.
10. Increased number of research projects, improved quality and increased number of international projects.
11. Provided incentives for technological research.
12. Created conditions for the internationalization of the Bulgarian science and increased scientific capacity of Bulgarian HEIs and Bulgarian scientists.

Expected results under Objective 5. Upgrading the system for higher education institutions management and clear definition of the HEI types and the academic degrees.

1. Established higher education system, capable of self-regulation in response to the social processes dynamics.
2. Increased efficiency and transparency in the management of HEIs.
3. Number of consolidated HEIs.
4. Clarified status of the HEIs. types
5. Clear and recognizable educational and qualification degrees.

Expected results under Objective 6. Increasing the funds for higher education and science and the effectiveness of their use by an advanced funding model.

1. 1.5% of GDP allocated to science until 2020, increased funding for higher education.
 2. Significantly increased share of private investment in education and science.
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3. Elaborated and endorsed new funding model for the higher education system, based on learning outcomes and the ability of undergraduates and doctoral students to find jobs in their specialties

4. A number of merged and/or discontinued professional fields, which are extrinsic for certain higher schools.

5. Improved academic performance of students as a result of the competitive environment created.

Expected results under Objective 7. Overcoming the negative trends in career advancement of lecturers in HEI, and promoting the best lecturers.

1. Enhanced quality of the procedures under the Development of Academic Staff in the Republic of Bulgaria Act and of the scientific works of the participating candidates.

2. Increased quantity and quality of the individual research results due to the established competitive environment.

3. Increased number of lecturers involved in qualification increasing programmes.

Expected results under Objective 8. Expanding and strengthening the network of lifelong learning; broad application of the various electronic forms for distance learning.

1. Developed network of units for ongoing and continuous training and lifelong learning in HEIs.

2. Proposed new services (consulting, validation of knowledge, certification).

3. Increased number of courses offered and other forms of lifelong learning in HEIs.

4. Increased number of persons who have graduated forms of lifelong learning in HEIs.

5. Developed new forms of partnership.

6. Increased employability of persons graduated in forms of lifelong learning in HEIs.

7. Expanded access to knowledge and skills through new technology.

8. Attracted new categories of students (students from distant and socially disadvantaged areas; nationals of other countries; persons who have subscribed for individual courses, but not for the whole program; various age groups).