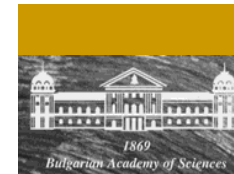




# Bulgarian Academy of Sciences

*Science, technology and innovations  
for society*

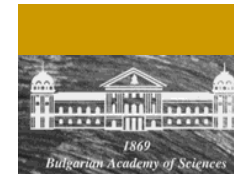
2013



# ***Bulgarian Academy of Sciences***

## ***Mission***

- ☐ **Bulgarian Academy of Sciences is the leading scientific and cultural center of Bulgaria with 143 years of tradition**
- ☐ **Bulgarian Academy of Sciences perform research, education and activities of national importance**
- ☐ **Bulgarian Academy of Sciences solve problems related to the development of Bulgarian society and state**



# ***Bulgarian Academy of Sciences***

## ***Structure***

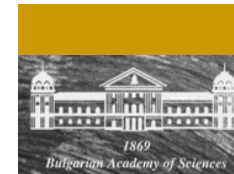
### **□ Governing bodies**

- **Board**
- **Executive Council**
- **Consultative Scientific Councils**

### **□ General assembly**

### **□ Board of Trustees**

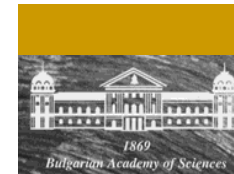
### **□ Assembly of the academicians and the corresponding members**



# ***Bulgarian Academy of Sciences***

## ***Research fields***

- ☐ **Information and Communication Sciences and Technologies (1)**
- ☐ **Energy Resources and Energy Efficiency (2)**
- ☐ **Nanosciences, New Materials and Technologies (3)**
- ☐ **Biomedicine and Quality of Life (4)**
- ☐ **Biodiversity, Bioresources and Ecology (5)**
- ☐ **Climate Changes, Risks and Natural Resources (6)**
- ☐ **Astronomy, Space Research and Technologies (7)**
- ☐ **Cultural-Historical Heritage and National Identity (8)**
- ☐ **Man and Society (9)**



# ***Bulgarian Academy of Sciences***

## ***Research field 1***

- ☐ Institute of Mathematics and Informatics
- ☐ Institute of Mechanics
- ☐ Institute of System Engineering and Robotics
- ☐ Institute of Information and Communication Technologies
- ☐ National Laboratory of Computer Virology

## ***Research field 2***

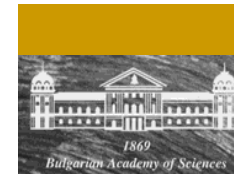
- ☐ Institute for Nuclear Research and Nuclear Energy
- ☐ Institute for Electrochemistry and Energy Systems
- ☐ Institute for Engineering Chemistry
- ☐ Central Laboratory for Solar Energy and New Energy Sources



# ***Bulgarian Academy of Sciences***

## ***Research field 3***

- ☐ Institute for Solid-State Physics
- ☐ Institute of Electronics
- ☐ Institute for Optical Materials and Technologies
- ☐ Institute for Mineralogy and Crystallography
- ☐ Institute of Metal Science, Equipment and Technologies with Center for Hydro and Aerodynamics
- ☐ Institute of General and Inorganic Chemistry
- ☐ Institute of Organic Chemistry with Center for Phytochemistry
- ☐ Institute of Physical Chemistry
- ☐ Institute for Polymers
- ☐ Institute for Catalysis
- ☐ Central Laboratory for Applied Physics, Plovdiv



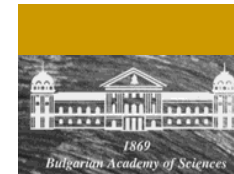
# ***Bulgarian Academy of Sciences***

## ***Research field 4***

- ☐ Institute for Molecular Biology
- ☐ Institute for Neurobiology
- ☐ Institute for Microbiology
- ☐ Institute for Biophysics and Biomedical Engineering
- ☐ Institute for Biology and Immunology of Reproduction
- ☐ Institute for Experimental Morphology, Pathology and Anthropology with Museum

## ***Research field 5***

- ☐ Institute for Biodiversity and Ecosystem Research
- ☐ Institute for Forestry
- ☐ Institute of Plant Physiology and Genetics
- ☐ National Museum for Natural History
- ☐ Botanical Garden



# ***Bulgarian Academy of Sciences***

## ***Research field 6***

- ☐ Institute for Geology
- ☐ National Institute for Geophysics, Geodesy and Geography
- ☐ National Institute for Meteorology and Hydrology
- ☐ Institute for Oceanology

## ***Research field 7***

- ☐ Institute of Astronomy with National Astronomical Observatory
- ☐ Institute for Space and Solar-Terrestrial Research





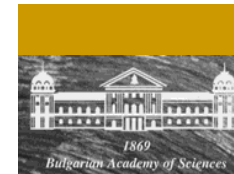
# ***Bulgarian Academy of Sciences***

## ***Research field 8***

- ☐ Institute for Bulgarian Language
- ☐ Institute for Literature
- ☐ Institute for Balkan Studies with Center for Thracology
- ☐ Institute for History Studies
- ☐ Institute for Ethnology and Folklore Studies with Ethnographic Museum
- ☐ Institute for Arts Studies
- ☐ National Archeological Institute with Museum
- ☐ Scientific Center for Cyrillo-Methodian Studies

## ***Research field 9***

- ☐ Institute for Economic Studies
- ☐ Institute for the State and Law
- ☐ Institute for Population and Human Studies
- ☐ Institute for the Study of Societies and Knowledge



# ***Bulgarian Academy of Sciences***

## ***Assembly of the academicians and the corresponding members***

- ☐ **Natural and Mathematical Sciences**
- ☐ **Engineering Sciences**
- ☐ **Biological Sciences**
- ☐ **Medical Sciences**
- ☐ **Humanities and Social Sciences**
- ☐ **Art and Art History**



# National Development Programme: Bulgaria 2020

*The National Development Programme: Bulgaria 2020 (NDP BG2020) is the leading strategic and programming document detailing the objectives of the development policies of the country to 2020.*

## ***Conceptual framework***

- ❑ The main purpose of the NDP BG2020 is to achieve quality and balanced long-term economic growth
- ❑ The economic growth is determined by the following factors
  - human capital and employment
  - physical capital (production facilities, equipment, etc.)
  - infrastructure (road, water, energy, communications, etc.)
  - technological expertise (research and innovation, information and communication technologies)
  - total (common) performance of the listed factors

## ***Vision***

- ❑ **As of 2020, Bulgaria is a country with a competitive economy, providing conditions for the complete social, creative and professional realization of the individual through intelligent, sustainable, inclusive and territorially balanced economic growth**

## ***Goals***

- ❑ **Raising the standard of living through competitive education and training, creating conditions for quality employment and social inclusion and ensuring accessible and quality health care**
- ❑ **Building of infrastructure networks, providing optimal conditions for the development of the economy and quality and healthy environment for the population**
- ❑ **Enhancing the competitiveness of the economy by ensuring a favourable business environment, promotion of investments, application of innovative solutions and improving resource efficiency**

## **Priorities**

- ☐ Improving the access to and enhancing the quality of education and training and the quality characteristics of the workforce
- ☐ Reducing poverty and promoting social inclusion
- ☐ Achieving of sustainable integrated regional development and use of local potential
- ☐ Development of the agricultural sector to ensure food security and production of products with high value added through sustainable management of natural resources
- ☐ Support of innovation and investment activities to increase the competitiveness of the economy
- ☐ Strengthening of the institutional environment for higher efficiency of the public services for citizens and businesses
- ☐ Energy security and increasing resource efficiency.
- ☐ Improving transport connectivity and access to markets

## ***Outline the clear focus of the state's policies on:***

- ☐ Improving the quality of human capital and strengthening its relationship with the labour market
- ☐ Promoting innovation and enhancing the competitiveness of Bulgarian economy
- ☐ Improving the physical and institutional infrastructure

## ***Factors of Economic Growth***

- ☐ Workforce and Human Capital
- ☐ Infrastructure
- ☐ Information and communication technologies
- ☐ Research and innovations
- ☐ Institutional environment and administrative capacity

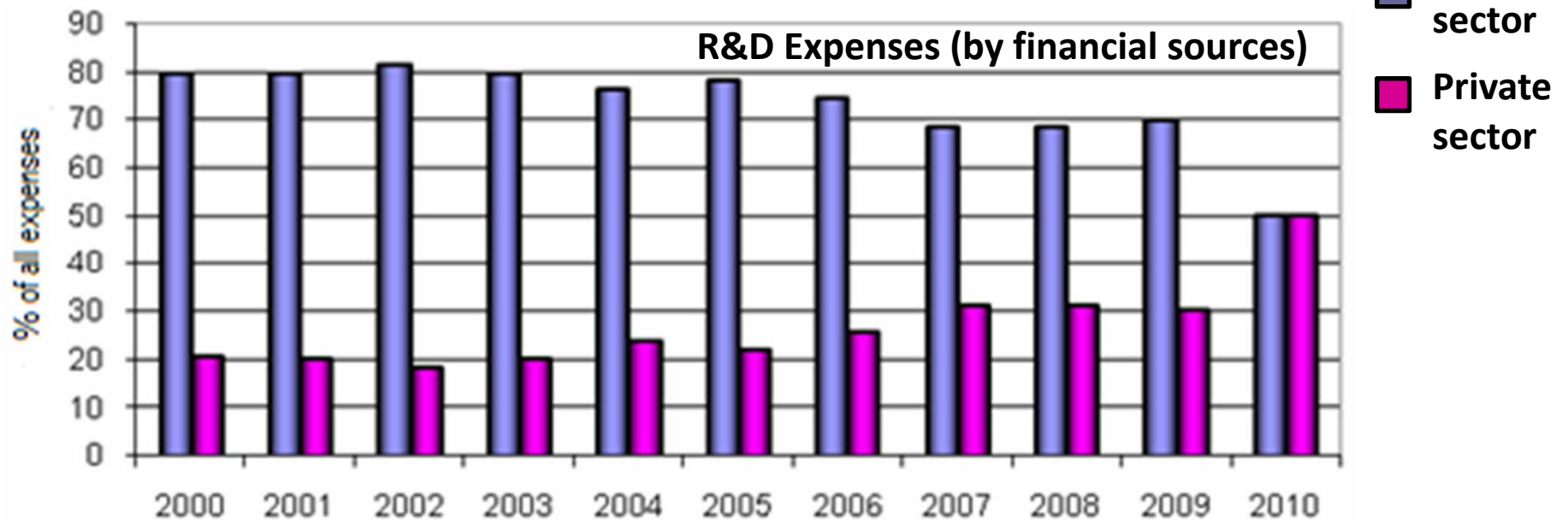
## **Scientific Research**

□ In terms of number of referenced articles, reflected in Essential Science Indicators, Bulgaria is *in the first half of the ranking of countries worldwide* in the following areas:

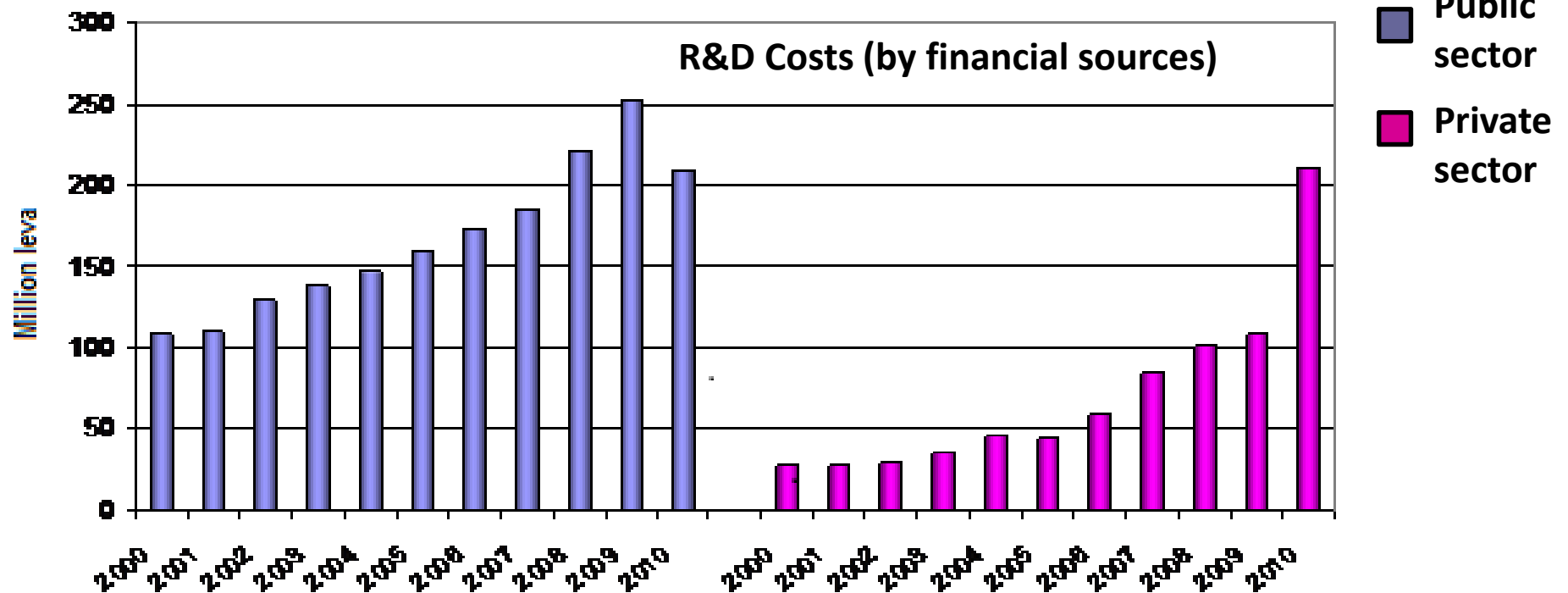
- Biology and Biochemistry
- Chemistry
- Earth Sciences
- Physics
- Material science
- Engineering sciences
- Botany and Zoology
- Pharmacology and Toxicology



- ❑ R&D in the country is financed primarily by the public sector. This situation started to gradually change in the last decade and in 2010 R&D expenditure of the public and private sectors are practically equal - 0.30% of GDP for the private sector and 0.29% of GDP for the public sector (including education).



- Despite the low share of R&D investments (as percentage of GDP) there is an upward trend in the values both for the public and the private sectors. In 2000-2010, R&D expenditures in the public sector increased twice, and those in the private sector grew 7.5 times, i.e. there is serious activity in the private sector in monetary terms.





## Ministry of Economy, Energy and Tourism

*Operational Programme Competitiveness and Innovation 2014-2020 will contribute to smart, sustainable and inclusive growth. The main priorities of the strategy are subject to a fundamental objective, namely more jobs and better lives by the achievement of economic, social and territorial cohesion.*

# ***OP Competitiveness and Innovation***

## ***Main objectives***

- ☐ Increasing participation in the labor market by improving employment, social inclusion and education policies
- ☐ An innovation-friendly business environment
- ☐ Modern infrastructure for growth and jobs
- ☐ Environmentally friendly (“*Green*”) economy and an economy with efficient use of resources
- ☐ Strengthening the capacity of public administration, governance and judicial system

# OP Competitiveness and Innovation

## Strategic priorities

- ❑ **Priority 1: Technological Development and Innovation**
- ❑ **Priority 2: Competitiveness and productivity of enterprises**
- ❑ **Priority 3: Green and energy-efficient economy**
- ❑ **Priority 4: Systems to support business and promote economic**

Intelligence

Growth

Efficiency

Support

Integration Synergy Leverage



## ***OP Competitiveness and Innovation***

### ***Priority 1: Technological Development and Innovation***

**Intelligence**

#### **□ Innovation capacity and infrastructure**

- Support for: innovative start-ups, development of innovative products, services and business models, investment companies for development, social innovation, service demand-oriented development of innovation (vouchers)
- Partnerships between business and universities, development of networks innovative platforms, international business cooperation and initiatives for *Research and Innovation*
- Infrastructure for *Innovation and Research* (Joint Research Centers, High-tech Incubators, Technology Parks, etc.).



## ***OP Competitiveness and Innovation***

### ***Priority 2: Competitiveness and productivity of enterprises***



**Growth**

- ☐ **Business development and enterprises**
  - **Support for start-ups enterprises with potential for development**
  - **Technological modernization of enterprises**
  - **Promotion and development of clusters**
  - **Promotion of cultural and creative industries**



## ***OP Competitiveness and Innovation***

### ***Priority 3: Green and energy-efficient economy***

**Efficiency**

- ☐ **Low-carbon technologies and energy efficiency in enterprises**
  - Introduction of renewable energy technologies in enterprises
  - Energy efficiency in industrial buildings, industrial processes and services (measures to reduce energy use and promote green technologies, services and eco-innovation)
- ☐ **Efficiency in the production and transmission of energy**
  - Improving the effectiveness of sustainable heating networks and installations
  - Development of "*SMART GRIDS*"





## ***OP Competitiveness and Innovation***

### ***Priority 4: Systems to support business and promote economic***

**Support**

- ☐ **Establishment and development of strong and sustainable support systems, administrative capacity and expertise in new/ existing agencies/ organizations that provide and promote:**
  - **Services to support the business and the business environment**
  - **Energy Efficiency and Renewable Energy**
  - **Promotion and marketing of tourism**

# OP Competitiveness and Innovation

## Horizontal priorities

- ❑ Participation in European and International networks, projects and programs (regional cooperation)
- ❑ Systems for monitoring and evaluation of the implemented policies (research and innovation, energy efficiency, etc.)
- ❑ Public awareness campaigns

*Innovation strategy developed in depth one of the priority directions of the NDP BG 2020 - supporting innovation and investment activities to increase the competitiveness of the economy*

Integration Synergy Leverage

## ***Final remarks***

- ❑ According to the Global Innovation Index in 2011 Bulgaria ranked 42<sup>nd</sup>, in 2010 – 49<sup>th</sup> and in 2009 – 74<sup>th</sup>. The formation of this trend indicates *tangible progress in the field of innovation* in Bulgaria. Poland (43), Romania (50) and Greece (63) of the EU-27 remain behind Bulgaria.
- ❑ In ranking based on innovation efficiency in 2011 Bulgaria occupies 55<sup>th</sup> place but was ahead of 12 EU Member States - Austria (60), Italy (63), Portugal (67), Belgium (71), Latvia (72), Spain (74), Ireland (83), Luxembourg (84), Poland (85), Lithuania (91), Slovakia (92) and Greece (95). This shows that the country is *able to make better use and obtain better results* under the relatively unfavorable conditions for innovation compared to many other Member States of EU-27.

## ***OP Competitiveness and Innovation***

### ***Final remarks***

- ❑ **Key role and importance to the success of this transition is given to *Research and Innovation*. They are an essential factor for economic growth based on more efficient use of resources for achieving competitive advantages of higher rank (i.e., based on factors such as specialized knowledge, technology, modern infrastructure, entrepreneurship and etc.) to provide employment through the development of activities that generate high added value.**

# НАЦИОНАЛНА АКАДЕМИЧНА МРЕЖА

