



**Bilateral and Regional Agreements of Cooperation of
South Eastern European (SEE) Countries in the Field of
Scientific Research and Higher Education**

- An Assessment Study -

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EXECUTIVE SUMMARY

Bilateral, intergovernmental cooperation between old and new EU member states has a long history, but since 2001 the development of relationships with SEE countries has also accelerated. It is only possible to integrate the strengths of these diverse relationships, overcome their weaknesses, use the opportunities they provide in a country or in the European Union in order to achieve the objectives such as:

- enhance research and higher cooperation in Europe by fostering integration of South Eastern Europe into the growing European Research Era;
- add value to existing bilateral agreements through multilateral coordination;
- improve interregional research and higher cooperation following the principles of the stabilisation and accession process in South Eastern Europe;
- and avoid risks, if we assess the political motivations of each partner countries and the motives for developing relationships.

Bilateral relationships constitute a small but significant part of the Research and Higher system of the individual countries. The science / technology policy and higher education of the partner countries, their commitment to research and development as well as their already existing international relationships reveal a lot about the development perspectives of these bilateral relationships.

Though the political motivations and strategic orientation of the countries are different, all of the countries agreed that extending the bilateral RTD relationships by either concluding new intergovernmental agreements, or by special programmes targeting the region – besides achieving the above objectives - significantly contributes to the pacification in the region.

Usually, South Eastern European (SEE) countries give special attention to life sciences, information and communication technologies, environment, energy, sustainable development and material research on both national and bilateral level. The social sciences and humanities are generally underrepresented in the cooperation at the moment.

Managing bilateral S&T and higher Education programmes today is based on competitive approach similarly to any other EU programmes though these programmes are much smaller considering both their length and extent of support. Joint research projects are usually 2-3 years long and are traditionally provided only additional support to finance the exchange of researchers needed to achieve project objectives. Countries supporting their own researchers for carrying out research activities, acquiring new small research infrastructure and publishing results (Bulgaria, Greece, Germany, Former Yugoslav Republic of Macedonia and Montenegro) serve as good models.

The Ministries of Foreign Affairs and / or the ministries in charge of research manage the bilateral RTD programmes. In Austria, France and Germany the operative implementation is carried out by agencies appointed by the ministries. These operative tasks include the publication of the calls for proposals, its collection, evaluation and preparation for the meetings of the bilateral Joint Committees for S&T Cooperation.

Public research institutions and universities can apply for support in every country, while research units of industrial or commercial companies and small and medium sized enterprises (SME-s) can apply in most of the countries. The participants of a bilateral project have to elaborate a joint application, which contains the data of the project team, information about their institutions, motivation and added value of the cooperation, the comprehensive description of the project, cooperation and utilisation perspectives, as well as detailed financial contribution asked for co-funding.

The procedure of selection of the project-proposal is different from other application procedure in that the applications prepared together have to be submitted by both project leaders in their own countries. Applications are evaluated and ranked in the two countries completely independently of each other. The bilateral Joint Committee on S&T cooperation makes the decision. A contract is signed with the project leaders in both countries and payments are made where the contracts are signed.

Evaluation in most of the countries takes place in the form of traditional peer-review. In some countries this task is undertaken by experts of the ministries, in other countries thematic committees select and appoint scientists experienced in the relevant field. Evaluation criteria are similar to those of EU projects: scientific criteria, feasibility, significance of the cooperation, expected results, budgetary aspects and other criteria, participation of young / female researchers, regional dimension, participation of SME, supplemented by special criteria e.g. national or bilateral priorities.

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The annual expenditure of bilateral RTD programmes look small compared to the research expenditure of a country, but their role as catalysts is much more significant. The old EU member states – due to their bigger size and research capacity – invest more into bilateral relationships than the new member states and candidate countries, but the other SEE countries are also making efforts to catch up as far as their economic situation allows.

1. INTRODUCTION

The Assessment study puts a special emphasis on bilateral intergovernmental RTD and higher Education co-operation programs. In fact, almost all member States exercise different bilateral intergovernmental programmes with other European and third countries encompassing a broad range of rather different programmatic approaches and designs with distinctive regional foci.

The objective of the Comparative Summary is to compare these individual approaches, procedures of the partners by analysing the operational environment of the existing bilateral programmes, as well as the strengths and weaknesses of the co-operations, and on this basis to make recommendations on the strategies and methods of developing bilateral and regional co-operation, which promote new initiatives needed in order to boost national research capacities and competitiveness.

This Study constitutes a Background Paper for the Expert meeting and Ministerial Round Table ‘Strengthening Science and Higher Education in South Eastern Europe – From Bilateral to Pan-European Cooperation’, held in Tirana, Albania, 21-22 May 2010, and co-organized by the Ministry of Education and Science of Albania and UNESCO Regional Bureau for Science and Culture in Europe.

2 METHODOLOGY

It was felt necessary to provide the actual comprehensive Assessment Study on Bilateral Agreements of cooperation of South Eastern European (SEE) countries including Albania, Bosnia and Herzegovina, Bulgaria, Croatia, Former Yugoslav Republic of Macedonia, Greece, Montenegro, Republic of Moldova, Romania, Serbia, Slovenia, Turkey in the field of scientific research and higher education, within a broader context also covering Regional (SEE) funding in order to ensure that all funding fostering regional cooperation would be covered from the beginning.

The role of scientific research and higher education funding and its technical implementation through Institutions depends greatly upon the purpose for which it is sought, and the functions that it fulfils. Consequently, a diversity of approaches has been developed for its delivery in different countries for different settings. This diversity has been further broadened by the disciplinary areas which it addresses and by the national and cultural contexts in which it operates. Bilateral Science Funding in SEE is highly determined by this complexity.

Faced with this diversity, this summary seeks to identify the main characteristics of the various types of bilateral funding agreements currently in existence or in preparation, with its core focus on SEE countries including selected other Europeans countries (Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Hungary, Ireland, Italy, Latvia, Lithuania, Luxemburg, Malta, The Netherlands, Poland, Portugal, Slovakia, Spain, Sweden and United Kingdom).

All information included in this Report was either collected “Bottom Up” from the SEE States through e-mail interviews or other sources mostly web based publications. In this respect the information found on internet pages of national ministries was very helpful. The analysis of the information supplied through e-mail interviews and desk research represents a Status Quo Report (dated May 2010). The country specific information presented in this report serves two main purposes: it provides an inventory of the most relevant bilateral scientific research and higher education funding agreements covering the types of activities (exchange of scientist, joint research projects etc.); and it provides a unique picture of the nature of bilateral science funding across SEE including selected other Countries.

As this represents a complementary exercise of this kind the study should provide a valuable resource to those involved with, or interested in, the funding of bilateral scientific research and higher education in SEE, and offer opportunities for further development and analysis.

E-Mail enquiries were sent to the following SEE partners: Albania, Bosnia and Herzegovina, Bulgaria, Montenegro, Romania, Serbia, Slovenia and Turkey.

Not all partners answered to the E-Mail enquiries. The clarity of the answers and the level of supplied details varied considerably between the Partners. Based on these answers and information available on the web-pages (if in English or a local language spoken by the Authors) of the ministries a description of each country was written as well as a table comparing and summarizing the practices of each State. Based on the answers and comments the descriptions and table were completed. The above mentioned material was used as a basis of the comparison at hand.

Finally a critical analysis of the state-of- the art underlining trends observed in bilateral and regional scientific cooperation was included followed by a series of conclusions and

recommendations concerning new initiatives needed in order to further strengthen bilateral and regional cooperation in order to boost national research capacities and competitiveness.

3 SCIENTIFIC RESEARCH AND HIGHER EDUCATION IN SEE

One of the basic principles of establishing the European Research Area (ERA) is to increase and improve the research capacities of the participating countries, as only a team of researchers above the critical mass is able to create the new knowledge that can establish a knowledge based society. Other important criteria are the willingness and ability of the countries to increase R&D expenditure (towards 3% of GDP). And last but not least, the reciprocal opening-up of national programs, establishment of the mechanism of reciprocal information and condition for eligibility and participation are also necessary. The trust needed to implement all this, however, can only be established through stable international relationships and references. This is why it is important to describe the environment of existing and ever-expanding bilateral S&T and higher Education relationships of SEE countries if we are to learn about the relationships themselves.

The name of the strategic document specifying the political framework of science and technology for a certain period is different in each SEE country. In some countries it is defined in the government programme, in others in national strategies extending through several terms. In the EU countries it is the National Development Plans that summarise political intentions and main priorities for all fields of economy including R&D for a given period. In some of the countries there are few, in others there are numerous laws regulating activities and programmes in some preferential areas. Below, we are going to summarise these for easier comparison.

Usually, all of the countries give special attention to *life sciences, information and communication technologies, environment, energy and sustainable development and material research* on both national and bilateral level. In addition, partners can agree on special priorities in fields of mutual interest.

Bilateral co-operation had undergone long development, until in some countries – mainly as a result of the thematic priorities of EU framework programmes – *social sciences* appeared in the cooperation priorities. It is not by chance that it is mainly the old EU member states (especially France and recently Germany) that included this area in their bilateral S&T co-operation. From the new member states Slovenia is outstanding in this field, as it gives priority to social sciences and humanities in both its national and bilateral relationships. The Bulgarian-Romanian cooperation is an exceptional case, because social sciences and humanities are the only fields of bilateral joint activities.

3.1 Albania

The Ministry of Foreign Affairs has the right to sign new intergovernmental S&T agreements. The MOES is, together with the DSR (The Directorate of Scientific Research), responsible for the implementation.

According to the Law on Science, Ministry of Education and Science can sign agreements with other countries in the field of scientific research and technological development.

The policies of the Government of Albania in the realm of activities in S&T development are an integral part of the generic policies on the economic and social development of the country, expressing the positive attitude of the state towards such activities. Albania now wants to further intensify bilateral co-operation in scientific and technological activities.

The Government of Albania is responsible for creating the legal and organisational framework for the European activities. The Ministry of Education and Science (MOES) is responsible to manage them by supporting the activities of the relevant state institutions. But MOES encourages also the development of S&T activities outside the state institutions, e.g. in private entities (organisations and individuals), NGOs and agencies, which are specifically concerned with scientific research.

The S&T policies are developed by the MOES in close co-operation with the Academy of Science (AS), the line ministries and the other central institutions with the full participation of scientific institutions and higher schools. Subsequently, the policies are submitted to the Council of Higher Education and Science. Alongside the opinion expressed thereof, the policies are brought to the attention of the Council of Ministers in order to be included in the governmental programmes concerning the social and economic development of the country.

The Directorate of Scientific Research (DSR), part of the MOES, programmes and organises its own work in developing national and international programmes for research and development. In this framework, bilateral co-operation is very important for the scientific community. Three of main important documents reflecting national strategies for research, technological development and innovation in South East Europe are:

- National Education strategy 2004-2015: it provides a credible roadmap to help strengthen the sector's performance and could serve as a basis for concerted efforts to achieve better learning outcomes in a more equitable and efficient manner
- Action plan for the implementation of European Partnership Priorities (2004): it discusses legislative and institutional measures in the science, also focuses mainly on agricultural research and its restructuring.
- National Strategy of Science, Technology and Innovation 2009–2015.

Albania is aiming to raise the Albanian universities standards and to enlarge the students' access to universities, they have adopted the new Law 'On Higher Education' and the strategy for this sector development.

The new legislation creates very optimal conditions to develop and strengthen the university autonomy in order to reform our higher education system based on positive experiences of other European countries, to approximate their standards to European standards in the framework of Bologna process, taking into consideration that quality education is the guarantee and the key of creativity and innovation for young people who embark on the road of science.

In particular they have restructured the former scientific research system transferring the former research institutes to research centers inside the universities.

3.1.1 Bilateral agreements with other SEE countries

Republic of Albania up today has 8 Bilateral Agreements in the field of Research and Higher Education with Bosnia and Herzegovina, Bulgaria, the Former Yugoslav Republic of Macedonia, Greece, Montenegro, Romania, Slovenia and Turkey. In the near future, Albania will intensify its bilateral co-operation and is in discussion with Croatia and UNMIK-Kosovo (UN resol 1244).

During the period 2005 to 2007 Albania had 32 common research projects with Greece, 6 common research projects with Former Yugoslav Republic of Macedonia and 6 common research projects with Slovenia.

3.1.2 Bilateral agreements with other European countries

Republic of Albania up today has 4 Bilateral Agreements in the field of Research and Higher Education with Austria, Germany, Italy and with Poland that are active.

In the near future, Albania will intensify its bilateral co-operation and is in discussion with France.

During the period 2005 to 2007 Albania had 25 common research projects and 40 mobility projects with Italy.

Table 1: Bilateral Agreements between Albania and other SEE countries and between Albania and other European Countries

Albania		
SEE Country	Agreement/Programme	Signature/Ratification/Date of effect
Bosnia and Herzegovina	Treaty between the Council of Ministers of Bosnia and Herzegovina and the Council of Ministers of Albania on educational and scientific co-operation	15.04.2003/22.12.2003
Bulgaria	Agreement for scientific collaboration between the Academy of Sciences of the Republic of Albania and the Academy of Sciences of the Republic of Bulgaria, signed in Sofia on October 12, 1999. Program for Cooperation in the fields of education, science and culture between the Council of Ministers of the Republic of Albania and the Republic of Bulgaria for the period 2007-2009	12.10.1999 29.01.2007
Croatia	Agreement	In preparation

<p>Former Yugoslav Republic of Macedonia</p>	<p>Agreement between the Government of the Republic of Albania and the Government of Former Yugoslav Republic of Macedonia for cooperation in education and science</p> <p>There are two signed protocols of scientific and technological cooperation:</p> <p>a) Protocol of the First Meeting of Joint Commission for Scientific and technological cooperation between Republic of Albania and the Former Yugoslav Republic of Macedonia</p> <p>b) Protocol of Second Meeting of Joint Commission for Scientific and technological cooperation between Republic of Albania and the Former Yugoslav Republic of Macedonia</p>	<p>23.02.2001/30.01.2002/18.02.2003</p> <p>12.12.2005</p> <p>28.07.2006</p>
<p>Greece</p>	<p>Agreement for Scientific and Technical Cooperation between the Government of the Republic of Albania and the Republic of Greece</p> <p>Economic, Industrial, Technical and Scientific Cooperation Agreement</p> <p>Agreement between the Government of the Republic of Albania and the Republic of Greece on cooperation in the fields of education, science and culture</p>	<p>04.10.1984</p> <p>19.11.1987/20.11.1991</p> <p>04.11.1998</p>
<p>Montenegro</p>	<p>The agreement between the Council of Ministers of the Republic of Albania and Council of Ministers of Montenegro on scientific and technological cooperation</p>	<p>16.12.2008</p>
<p>Romania</p>	<p>na</p>	<p>na</p>
<p>Slovenia</p>	<p>Agreement between the Government of the Republic of Slovenia and the Government of the Republic of Albania on Cooperation in the Fields of Education, Culture and Science</p> <p>Agreement on Scientific and Technological Cooperation between the Council of Ministers</p>	<p>1994</p> <p>23.02.2005</p>

	of the Republic of Albania and the Republic of Slovenia and under the second protocol of joint committee for scientific and technological cooperation between Republic of Albania and the Republic of Slovenia, joint research cooperation of both countries for the period 2010-2011	
Turkey	Agreement on scientific and technological cooperation between the Ministry of Education and Science of the Republic of Albania and the Council of Scientific and Technological Research of Turkey (TUBITAK)	07.02.2007
UNMIK-Kosovo (UN resol 1244)	Agreement on scientific and technological cooperation between the Ministry of Education and Science of the Republic of Albania and the Ministry of Education, Science and Technology - UNMIK-Kosovo (UN resol 1244)	In preparation
Other European countries	Agreement/Programme	Signature/Ratification/Date of effect
Austria	The agreement between the Government of Albania and the Government of the Republic of Austria in the fields of Science, Education and Culture	31.10.2005/01.11.2006
France		In preparation
Germany	na	na
Hungary	The agreement between the Ministry of Education and Science of the Republic of Albania and the Ministry of Education and Culture of the Republic of Hungary on cooperation in the fields of education, science and culture for the years 2008-2010	01.2008
Italy	Cooperation Agreement between the Government Science and Technology of the Republic of Albania and the Government of the Republic of Italy The third Executive Program for scientific and technological cooperation between Republic of Albania and the Republic of Italy for the years 2008-2010”	18.12.1997 03.12.2008

Poland	Programme of Cooperation between the Ministry of Education and Science of the Republic of Albania and the Ministry of Science and Higher Education of the Republic of Poland in the field of science and higher education, signed in Tirana on 14 June 2006	14.06.2006
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3.1.3 *Type of activities and Scientific fields of cooperation*

The actions financed in the framework of bilateral agreements are:

1. Joint Research Projects (JRP) in priority areas. These may include mobility grants, aiming at permitting individual young researchers from both countries to stay for a short period of time, up to three months, to be trained or participate in research activities at institutes, laboratories and enterprises of the other country.
2. Technical Assistance Projects (TAP) aiming at providing assistance by exchanging equipment, scientific material, documentation, publications and various S&T information, visits of specialists and the mutual demonstration of new technologies.
3. Networking Projects (NP) aiming at the establishment of S&T networks between the institutions and companies of both countries. This may also include contacts between scientists and engineers, facilitating the exchange of S&T information and supporting the organisation of and the participation at conferences, workshops and training seminars of mutual interest.

Furthermore, those projects should promote joint publications of the research results and presentations of these results at international conferences in the two countries.

Albania's policies on bilateral as well as multilateral co-operation are based on competitive funding of joint research projects. They are focused on the establishment of the European Research Area.

At the level of clustering analysis, Albania has critical mass and strong research experience in thematic sub areas "Earth and related environmental sciences" and "Agriculture, forestry, fisheries and allied sciences".

Generally what can be summarized that Albania is not internationally attractive country in terms of S&T collaboration. This is due to the urgent need for overall reform of the R&D system. The system reform will require introducing new legislative package oriented towards promotion of scientific research in the country; reorganization of research institution based on modern evaluation practices; improving of allocation of limited financial resources; modernization of scientific base and last but not least strong political engagement in S&T policies as a key element for the social and economic development of the country.

Below is an overview of granted projects *Albania – Former Yugoslav Republic of Macedonia* for the period (2006-2008):

- Studies on preparation and quality control radio-pharmaceutics for diagnostic and therapeutic purposes (Institute of Nuclear Physics, Tirana / Faculty of Medicine, Skopje);
- Management of recycling plastic materials: choice of most appropriate model for the Western Balkan countries (University of Tirana, Faculty of Natural Sciences / European University, Skopje);

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- Bio-monitoring of physic-chemical parameters, bacteriological and ecological water sweetness and salty in the Republic of Albania and Former Yugoslav Republic of Macedonia (Technological University, Vlora, Albania / University of Tetova);
 - Water pollution of Lake Ohrid and its surrounding lands from the discharge of mining waters and their deposits (Geological Service, Civil Engineering Center, Tirana / Faculty of Geology and Mining, Stip);
 - Studies on water balance of Lake Prespa (Institute of Hydrometeorology, Tirana / Faculty of Technology and Metallurgy, Uni. "St. Cyril and Methodius" Skopje);
 - Cooperation between Albania and Former Yugoslav Republic of Macedonia in the field of seismic safety (Faculty of Civil Engineering, Tirana/Institute of shocks and seismology).

In the framework of their bilateral agreement *Albania and Greece* have decided to focus mainly on the following scientific fields: Medical Sciences, Environment, Agriculture, Veterinary and Food, Cultural Heritage and Information Systems and Technologies.

In the framework of their bilateral agreement *Albania and Slovenia* have decided to focus mainly on the following scientific fields: Communication and information technologies, Research in Biotechnology (Agriculture, Veterinary, zoo technical) and Pharmacy, managing complex systems and technological processes, Technologies for Sustainable Development, natural and cultural heritage, national identity.

In the framework of their bilateral agreement Albania and Slovenia have decided to focus mainly on the following areas of cooperation: Public Health Inter Hospital Organization, Agronomy, veterinary, zoo technical, Earth Sciences, Environment and Energy, City planning and territory development, Food, Information Systems and Telecommunications, Basic and Applied Research in infrastructure, Archaeology and Archaeological Assets Protection.

3.2 Bosnia and Herzegovina

The South Eastern European countries like Bosnia and Herzegovina (BiH) became completely isolated from the Western and Central European countries because of the war in the region. It is a matter of course that they wish to reintegrate in the scientific “mainstream” of European countries. An excellent way to achieve it is to exchange researchers, familiarise themselves with EU opportunities as well as to adopt best practices. Due to their apolitical nature, scientific relationships may support peace and pacification in the region.

The dissolution of the former Yugoslavia and the application of the Dayton Peace Agreement (1995) have contributed to the complexity of the governing system in BiH, which is also reflected in the distribution of competence regarding education as well as science and technology. In Bosnia and Herzegovina there are three levels of political and administrative competences in BiH: the State, the Federation (including the ten cantons of the BiH Federation) and the Republic of Srpska.

The importance of development of science and technology in Bosnia and Herzegovina is emphasised at all international forums, particularly since the adoption of the document "EU-Balkan countries Action Plan on Science and Technology in 2003 in Thessaloniki, and at all meetings or conferences involving policy makers in the field of science and technology from Western Balkan Countries.. Accordingly, BiH has recognized the development of science and technology as one of its priorities.

In summary, scientific research activities in Bosnia and Herzegovina today are characterized by: lack of accredited institutions for scientific research and a small number of researchers; low level and unfavourable structure of the sources of funding; small mobility of researchers and their high concentration of centers in the entity; low competitiveness of research papers in number and quality; the low level of transformation of scientific research in product innovation and very poor statistics on the relevant research results international standards and others.

The Ministry of Civil Affairs is responsible for establishing the basic principles of coordination of activities in scientific research in BiH, for coordinating activities between the two entities and for defining a strategy at the international level. MCA BH also participates in the drafting of international agreements / contracts in the fields of higher education and S&T and monitors the implementation of national agreements and strategic documents in those areas and suggested activities in this regard. An active monitoring of the European integration process and the implementation of European conventions and declarations in the field of science also belongs to its responsibilities.

3.2.1 *Bilateral agreements with other SEE countries*

Bosnia and Herzegovina signed bilateral agreements in the field of higher education with Bulgaria, Serbia, Croatia, Greece, Montenegro and Slovenia and has a bilateral programme with Turkey.

In the field of scientific research Bosnia and Herzegovina established the bilateral collaborations with Albania, Bulgaria, Greece, Croatia and Slovenia, whereas the implementation of the bilateral programme with Slovenia shows the most concrete results. All signed agreements however reflect the will of the signatories to a more intensive cooperation in the field of scientific research. In the near future, Bosnia and Herzegovina will intensify its bilateral cooperation and further bilateral programme with Montenegro and Greece are in preparation as well as bilateral agreement on scientific and technological cooperation with

Turkey. (Strategija razvoja i nauke u BiH 2010-2015, Council of Ministers of Bosnia and Herzegovina. novembar 2009, http://www.mcp.gov.ba/zakoni_akti/strategije/?id=1251)

3.2.2 *Bilateral agreements with other European countries*

Bosnia and Herzegovina signed bilateral agreements in the field of scientific research and higher education with France, Italy and Germany. For an overview see Tab.2 .

Table 2: Bilateral Agreements between BiH and other SEE countries and between BiH and other European Countries

Bosnia and Herzegovina		
SEE Country	Agreement/Programme	Signature/Ratification/Date of effect
Albania	Treaty between the Council of Ministers of Bosnia and Herzegovina and the Council of Ministers of Albania on educational and scientific co-operation	15.04.2003/22.12.2003
Bulgaria	Treaty between the Council of Ministers of Bosnia and Herzegovina and the Government of the Republic of Bulgaria on educational, scientific and cultural co-operation Programme for cultural, educational and scientific co-operation between the Council of Ministers of Bosnia and Herzegovina and the Republic of Bulgaria	10.06.2003/22.12.2003/01.09.2005 27.10.2009
Croatia	Treaty between the Council of Ministers of Bosnia and Herzegovina and the Government of the Republic of Croatia on scientific and technological co-operation	18.12.2002/19.12.2003
Greece	Treaty between the Council of Ministers of Bosnia and Herzegovina and the Government of the Hellenic Republic on cultural, educational and scientific co-operation Programme for cultural, educational and scientific co-operation between the Council of Ministers of Bosnia and Herzegovina and the Government of the Hellenic Republic	09.06.2003/22.12.2003/25.05.2005 In preparation

Montenegro	Agreement on Scientific and Technological Cooperation between the Council of Ministers of Bosnia and Herzegovina and Ministers of Serbia and Montenegro	13.11.2003/11.1.2005
Serbia	Agreement on Scientific and Technological Cooperation between the Council of Ministers of Bosnia and Herzegovina and Ministers of Serbia and Montenegro	13.11.2003/11.1.2005
Slovenia	Agreement on Scientific and Technological Cooperation between the Government of the Republic of Slovenia and the Government of the Republic of Bosnia and Herzegovina Agreement between the Council of Ministers of Bosnia and Herzegovina and the Government of the Republic of Slovenia on cultural, educational and scientific co-operation	04/1996 19.10.1999/30.03.2001/25.01.2002
Turkey	Programme of Co-operation in the Area of Science, Education and Culture between the Council of Ministers of Bosnia and Herzegovina and the Government of Turkey Agreement between the Council of Ministers of Bosnia and Herzegovina and the Government of Turkey on scientific and technological co-operation	29.01.2001 In preparation
Other European countries	Agreement/Programme	Signature/Ratification/Date of effect
France	Agreement between the Council of Ministers of Bosnia and Herzegovina and the Government of the Republic of France on cultural, scientific and technological co-operation	06.09.2002/22.12.2003
Italy	Programme for cultural, scientific and technological co-operation between the Council of Ministers of Bosnia and Herzegovina and the Government of the Republic of Italy for the period 2003-2005	28.04.2003
Germany	Agreement between the Council of Ministers of Bosnia and Herzegovina and the	21.07.2004/08.12.2005/04.01.2005

	Government of the Federal Republic of Germany on cultural, educational and scientific co-operation	
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Table 2 – Bilateral Agreements between BiH and other SEE countries

3.2.3 Type of activities and Scientific fields of cooperation

Bosnia and Herzegovina, similarly to Albania, is scientifically isolated country, characterized with destroyed, poor and outdated research infrastructure; brain-drain phenomena; lack of new your research generation and no sustainable and continuous S&T policy.

However, periodic and minor financial resources that are allocated for scientific research in the country require targeted funding in those areas that are of a national importance and that might have strong economic potential. Then, resources can be targeted in developing advanced research infrastructure in these priority areas, introducing attractive training schemes and intensifying S&T cooperation. Prioritizing of research is a necessary precondition for achieving greater competence and benefits from the performed scientific projects.

Some of the indicators for inferiority of S&T sector Bosnia and Herzegovina in relation to other countries from the region is a low presence of its scientists to international scientific conferences, their minor appearance in the periodical and the scientific literature (indexed), lack of international conferences on S&T in BiH, modest or almost no publicist activity, the lack of journals and periodicals in the libraries and above all very low interest of young personnel for postgraduate studies and doctoral research and scientific-research work.

Concerning the scientific and educational co-operation with other countries from the region as well as with other European countries, it can be said that Bosnia and Herzegovina only have an active ongoing bilateral programme in scientific research with Slovenia. All other forms of activities (joint workshops, conferences, scholarships, student exchanges) within the bilateral cooperation are focused on education and that mostly on the basis of direct inter-institutional agreements. In October 2010 a new Programme for cultural, educational and scientific co-operation between the Council of Ministers of Bosnia and Herzegovina and the Republic of Bulgaria was signed. The cooperation shall enable joint research projects and exchange of scientists.

Below you can find more details about cooperation between BiH and Croatia and Slovenia.

Croatia

The Ministry of Science, Education and Sports of the Republic of Croatia allocate funds every year for the costs of postgraduate and doctoral studies for the students from University in Mostar who are studying in Croatia as well as for the Programme of financial help for scientific and educational institutes in Bosnia and Herzegovina.

Programmes and protocols which are going to define the type of cooperation in scientific research and higher education between Croatia and BiH are in preparation.

Slovenia

Bosnia and Herzegovina has an ongoing bilateral programme with Slovenia in the field of scientific research. For the next two years (dated 2009) 14 joint research projects shall be founded and thus primarily in the following fields: information and telecommunication technologies, medicine, biochemistry, veterinary medicine and mechanical and machinery engineering.

3.3 Bulgaria

Bulgaria has been developed a Macroeconomics Framework for Bulgaria's Technological Development. In the Pre-Accession Economic Program detailed economic tools and macroeconomic scenarios have been elaborated. Besides, the most important framework of science and technology policy of the country is the National Strategy for Scientific Research, the Innovation Strategy and the National Strategy on Regional Development. The Decree No 208 of the Council of Ministers of 22 November 1999 adopted the *National Regional Development Plan* for the period 2000-2006.

In **Bulgaria** National Strategies have been elaborated and adopted for the main priorities:

- Development of Small and Medium Sized Enterprises
- Development of Energy and Energy Efficiency
- Electronic Government
- Development of Information society
- Development of High Technologies

Bulgaria is aware that into the framework of bilateral agreements they can obtain significant expertise, technology, research capacity and useful relationships by participating in international cooperation. It is obvious that the political motivation behind strengthening and increasing bilateral S&T and higher co-operations is to use the added value gained by co-operations for developing a coherent R&D and higher Education policy in the country, and raising awareness about the importance of S&T in the whole society. Besides it should also enhance mutually advantageous regional relationships with neighbouring countries.

3.3.1 *Bilateral agreements with other SEE countries*

Bulgaria up today has 9 Bilateral Agreements in the field of Research and Higher Education with Albania, Bosnia and Herzegovina, Croatia, the Former Yugoslav Republic of Macedonia, Greece, The Republic of Moldova, Romania, Slovenia and Turkey.

In the near future, Bulgaria will intensify its bilateral co-operation and is in discussion with Serbia.

3.3.2 *Bilateral agreements with other European countries*

Bulgaria up today has 2 Bilateral Agreements in the field of Research and Higher Education with Germany and Slovakia.

Table 3: Bilateral Agreements between Bulgaria and other SEE countries and between Bulgaria and other European Countries

Bulgaria		
SEE Country	Agreement/Programme	Signature/Ratification/Date of effect
Albania	Agreement for scientific collaboration between the Academy of Sciences of the Republic of Albania and the Academy of Sciences of the Republic of Bulgaria, signed in Sofia on October 12, 1999.	12.10.1999

	Program for Cooperation in the fields of education, science and culture between the Council of Ministers of the Republic of Albania and the Republic of Bulgaria for the period 2007-2009	29.01.2007
Bosnia and Herzegovina	Treaty between the Council of Ministers of Bosnia and Herzegovina and the Government of the Republic of Bulgaria on educational, scientific and cultural co-operation Programme for cultural, educational and scientific co-operation between the Council of Ministers of Bosnia and Herzegovina and the Republic of Bulgaria	10.06.2003/22.12.2003/01.09.2005 27.10.2009
Croatia	Treaty between the Government of the Republic of Croatia and the Government of the Republic of Bulgaria on cultural, educational and scientific co-operation Programme of Co-operation in the Area of Science, Education, and Culture between the Government of the Republic of Croatia and the Government of the Republic of Bulgaria for the period from 2006 to 2008	13.06.1995/28.05.1998 11.12.2007
Former Yugoslav Republic of Macedonia	Agreement	2005
Greece	Agreement	2005
Republic of Moldova	Scientific cooperation agreement between the Academy of Sciences and Bulgarian Academy of Sciences	29.05.2002
Romania	Agreement	2007
Serbia	Agreement	In preparation
Slovenia	Agreement between the Government of the Republic of Slovenia and the Government of the Republic of Bulgaria on Cooperation in the Fields of Education, Culture and Science	1996
Turkey	Agreement on Science and Technology between TUBITAK	29 May 2002

	and Bulgarian Academy of Sciences	
Other European countries	Agreement/Programme	Signature/Ratification/Date of effect
Germany	Agreement	2004
Slovakia	Agreement	2007

3.3.3 Type of activities and Scientific fields of cooperation

Burdens from the past years placed the Bulgarian research system at the pipe line of the on-going advances in the EU arena. It was not only the question of keeping the track with the progress in EU research landscape, but also a matter of adjusting the old fashioned structures and mentalities to a entirely new operational framework and conditions.

The institutional landscape, not surprisingly, reveals the picture common for all post-communist countries in transition, i.e. huge academy of sciences, comprising of large number of research institutes and laboratories failing to utilize efficiently the limited governmental funding allocated and what is more – this annual lump sum practically cover the maintenance of the buildings, personnel and overheads rather than research activities; and large number of Universities providing traditionally education and qualification only and not concentrating on research component of academic matter.

A breakthrough in this conservative environment was t introduced in early 2001. Since then, tireless efforts and endeavours are indispensable part from the ambitious agenda to show competitive spirit and excellence, having flexible and sound bilateral and multilateral.

Bulgaria is getting more active in bilateral cooperation. The lack of achievements was due to the above-mentioned running processes of reinvigorating national research agenda. Insufficient funding and focus of the bilateral modalities of cooperation require targeting financial resources in those areas that are likely to contribute to solving significant national and regional economic and social problems and have potential to add value to European research area. This will ensure attracting international funding resulting in shared utilization of modern research infrastructure and transfer of knowledge and expertise.

Generally Bulgaria has critical mass in thematic sub areas “Chemical sciences”; “Physical sciences” “Biological sciences”; “Civil engineering” and “Agriculture”.

3.4 Croatia

Croatia is in the group of countries which are increasing investments into research and development, together with Luxembourg, Czech Republic, Slovenia, Ireland and Spain. The overall aim of the national strategy for development of science and technology “Croatia in the 21st Century – Science” is to stimulate scientific excellence and enable the transfer of knowledge and results of scientific discoveries to industry and business in order to increase competitiveness and generate sustainable growth and productivity. Some of the key objectives of this policy are to increase funding for excellent science and technology projects, to encourage research partnerships and strengthen support schemes for quality young researchers in order to facilitate mobility, interdisciplinary and cross-sector cooperation and build more flexible research and education system and to invest in science research infrastructure and knowledge transfer institutions in order to build research capacity and provide access to business solutions.

An important step in the process of connecting higher education and science and research with the private sector has been the creation of the National Foundation for Science, Higher Education and Technological Development of the Republic of Croatia in October 2003.

Scientific research in Croatia is monitored and conducted in six fields of science: natural sciences, technical, biomedical, biotechnical and social sciences, and humanities. Some of Croatia’s priority areas in the field of scientific research are biotechnologies, new synthetic materials and nanotechnologies.

As Tab. 4 shows Croatia established bilateral cooperation in the fields of scientific research and/or higher education with the most of countries from the South East Europe but with many other European countries as well.

The Cooperation with a number of countries and foreign partners with which the Government of the Republic of Croatia has not concluded international legal acts, is realized exclusively on the basis of direct inter-institutional agreements.

(Source: Ministry of Science, Education and Sports – Croatia (<http://www.mzos.hr>) Information available in Croatian and partly in English)

3.4.1 *Bilateral agreements with other SEE countries*

Bilateral cooperation between the Government of the Republic of Croatia, i.e. the Ministry of Science, Education and Sports in the fields of scientific research and higher education and following SEE countries was established: Bosnia and Herzegovina, Bulgaria, Former Yugoslav Republic of Macedonia, Greece, Montenegro, Romania, Serbia, Slovenia and Turkey. In the near future, Croatia will intensify its bilateral co-operation and is in negotiations with Albania.

For more information about agreements in the field of bilateral educational, scientific and technological cooperation with each country see Tab. 4.

Table 4: Bilateral Agreements between Croatia and other SEE countries and between Croatia and other European Countries

Croatia		
SEE Country	Agreement/Programme	Signature/Ratification/Date of effect
Bosnia and Herzegovina	Treaty between the Government of the Republic of Croatia and the Council of Ministers of Bosnia and Herzegovina on cultural, educational and sport co-operation	18.12.2002/19.12.2003
	Treaty between the Government of the Republic of Croatia and the Council of Ministers of Bosnia and Herzegovina on scientific and technological co-operation	18.12.2002/19.12.2003
Bulgaria	Treaty between the Government of the Republic of Croatia and the Government of the Republic of Bulgaria on cultural, educational and scientific co-operation	13.06.1995/28.05.1998
	Programme of Co-operation in the Area of Science, Education, and Culture between the Government of the Republic of Croatia and the Government of the Republic of Bulgaria for the period from 2006 to 2008	11.12.2007
Former Yugoslav Republic of Macedonia	Treaty on cultural and educational cooperation between the Government of the Republic of Croatia and the Government of the FYR of Macedonia	04.12.1995
	Treaty on scientific and technological cooperation between the Government of the Republic of Croatia and the Government of the FYR of Macedonia	14.01.1997
	2009-2012 Cooperation Program between the Ministry of Science, Education and Sports of the Republic of Croatia and the Ministry of Education and Science of the FYR of Macedonia in the Field of Science,	02.02.2009

	<p>Technology and Education</p> <p>Protocol on Project selection in the field of scientific and technological cooperation between the Republic of Croatia and the FYR of Macedonia for the years 2010 and 2011.</p>	
Greece	<p>Agreement between the Government of the Republic of Croatia and the Government of the Hellenic Republic on cooperation in the fields of culture, education and science (10.03.1995)</p> <p>Programme for Educational, Scientific and Cultural Co-operation between the Government of the Republic of Croatia and the Government of the Hellenic Republic for the years 2004, 2005 and 2006 (07.10.2004)</p>	<p>10.03.1995</p> <p>07.10.2004</p>
Montenegro	<p>Memorandum of Understanding between the Ministry of Science, Education and Sports of the Republic of Croatia and the Ministry of Education and Science of Montenegro on Cooperation in Education</p> <p>Agreement between the Government of the Republic of Croatia and the Government of Montenegro on Scientific and Technological Cooperation</p> <p>Program of Cooperation between the Ministry of Science, Education and Sports of the Republic of Croatia and the Ministry of Education and Science of Montenegro in Science, Technology and Education for the 2009-2012 Period</p>	<p>18.06.2008</p> <p>26.01.2009</p> <p>09.07.2009</p>
Romania	<p>Agreement on co-operation in the fields of culture, education and science between the Government of the Republic of Croatia and the Government of Romania</p> <p>Protocol on scientific and technological cooperation between the Ministry of Science and Technology of the Republic of Croatia and the Ministry of Research and Technology of Romania</p>	<p>19.05.1993</p> <p>19.04.1994</p>

	<p>Programme of cooperation between the Ministry of Science, Education and Sports of the Republic of Croatia and the Ministry of Education, Research, Youth and Sport of Romania in the field of education for the period 2010-2013</p>	<p>30.04.2010</p>
<p>Serbia</p>	<p>Treaty between the Government of the Republic of Croatia and the Federal Government of the Federal Republic of Yugoslavia on cooperation in the areas of culture and education</p> <p>Memorandum on launching the program of scientific and technological co-operation between the Republic of Croatia and the Republic of Serbia</p> <p>Protocol from the second session of the Joint Commission for Scientific and Technological Cooperation between the Ministry of Science, Education, and Sports of the Republic of Croatia and the Ministry of Science and Technological Development of the Republic of Serbia</p> <p>Protocol from the Third Session of the Joint Commission for Scientific and Technological Cooperation between the Ministry of Science, Education and Sports of the Republic of Croatia and the Ministry of Science and Technological Development of the Republic of Serbia</p>	<p>23.04.2002</p> <p>23.11.2005</p> <p>28.10.2008</p> <p>14.12.2009</p>
<p>Slovenia</p>	<p>Agreement between the Government of the Republic of Croatia and the Government of the Republic of Slovenia on cultural and educational cooperation</p> <p>Agreement between the Government of the Republic of Croatia and the Government of the Republic of Slovenia on scientific and technological cooperation</p> <p>Protocol from the 11th session of the Joint Commission for Scientific and Technological Cooperation between the Republic of Croatia and the Republic of Slovenia</p> <p>Protocol from the 12th session of</p>	<p>07.02.1994/25.08.1994</p> <p>08.07.1994/05.03.1997</p> <p>05.12.2008</p>

	<p>the Joint Commission for Scientific and Technological Cooperation between the Republic of Croatia and the Republic of Slovenia</p> <p>Protocol between the Ministry of Science, Education and Sport of the Republic of Croatia and the Ministry of Higher Education, Science and Technology of the Republic of Slovenia, the Ministry of Education and Sport of the Republic of Slovenia on Cooperation in Education</p>	<p>03.02.2010</p> <p>23.03.2010</p>
Turkey	<p>Agreement between the Government of the Republic of Croatia and the Government of the Republic of Turkey in the field of education and culture</p> <p>Protocol between the Ministry of Science and Technology of Croatia and the Council for Scientific and technical research of Turkey (TÜBITAC) on Cooperation in the field of science and technology</p> <p>Memorandum of Understanding on Cooperation in Higher Education between the Ministry of Science and Technology of the Republic of Croatia and the Council of Higher Education of the Republic of Turkey</p> <p>Programme between the Government of the Republic of Croatia and the Government of the Republic of Turkey on Cooperation in the Fields of Education, Science, Culture and Arts, Youth and Sport</p>	<p>19.06.1996</p> <p>19.04.1998</p> <p>10.02.1999</p> <p>05.12.2006/12.12.2008</p>
Other European countries	Agreement/Programme	Signature/Ratification/Date of effect
Austria	<p>Memorandum of Understanding between the Ministry of Science and Technology of Croatia and the Federal Ministry of Education, Science and Culture of the Republic of Austria</p> <p>Treaty between the Government of the Republic of Croatia and the Austrian Federal Government on scientific-technical co-operation</p> <p>Agreement between the Government of the Republic of Croatia and the Government of the Republic of Austria on Co-</p>	<p>02.04.2001</p> <p>12.03.2003/01.08.2003</p> <p>05.10.2004/01.10.2005</p>

	<p>operation in Culture and Education</p> <p>Protocol from the 4th session of the Joint Commission for Scientific and Technical Cooperation on the implementation of the Agreement on the Scientific and Technical Cooperation between the Government of the Republic of Croatia and the Federal Government of the Republic of Austria</p> <p>Program of Cultural and Educational Cooperation for 2010-2012 pursuant to Article 13 Section 1 of the Agreement between the Government of the Republic of Croatia and the Government of the Republic of Austria on Cultural and Educational Cooperation</p>	<p>20.10.2009</p> <p>17.12.2009</p>
Belgium	<p>Co-operation Agreement between the Government of the Republic of Croatia and the Government of Flanders</p> <p>Co-operation Programme for the years 2009-2010 between the Government of the Republic of Croatia and the Government of Flanders in Implementation of the Co-operation Agreement between the Government of the Republic of Croatia and the Government of Flanders</p>	<p>13.11.2006/01.02.2008</p> <p>23.10.2008</p>
Czech Republic	<p>Agreement between the Government of the Republic of Croatia and the Government of the Czech Republic on cooperation in the area of culture, education and science</p>	<p>06.06.2001/18.10.2001</p>
France	<p>Treaty on cultural, educational, technical, scientific and technological cooperation between the Government of the Republic of Croatia and the Government of the Republic of France</p> <p>Memorandum on co-operation in the implementation of the French-Croatian Integrated Actions Program</p> <p>Memorandum on Scientific Cooperation between the Ministry of Science, Education and Sports and the National</p>	<p>24.10.1994/01.06.1995</p> <p>10.10.2002</p> <p>30.11.2006</p>

	<p>Center for Scientific Research of French Republic</p> <p>Programme of Cultural, Educational, University, Scientific, and Institutional Co-operation between the Government of the Republic of Croatia and the Government of the French Republic for 2007, 2008, and 2009</p> <p>Minutes from the IV. Joint meeting of the Croatian-French committee for the selection of projects under the Integrated Action Programme of Integrated Action "Cogito" for the period 2009-2010</p>	<p>22.03.2007</p> <p>13.11.2008</p>
Germany	<p>Treaty on cultural cooperation between the Government of the Republic of Croatia and the Government of the Federal Republic of Germany with the Protocol</p> <p>Treaty between the Government of the Republic of Croatia and the Government of the Federal Republic of Germany on technical cooperation with the Protocol</p> <p>Protocol from the 4th session of the Mixed Croatian-German Expert Commission for education of the Croatian students in the Federal Republic of Germany 15-17 November 2005 in Bonn</p> <p>Program on joint incentive in the exchange of project participants between the Ministry of Education and Sports of the Republic of Croatia and German Academic Exchange Service (DAAD)</p>	<p>26.08.1994/23.01.1998</p> <p>15.01.1999/21.07.2000</p> <p>17.11.2005</p> <p>23.05.2005</p>
Hungary	<p>Agreement on cultural, educational and scientific cooperation between the Government of the Republic of Croatia and the Government of the Republic of Hungary</p> <p>Agreement between the Government of the Republic of Croatia and the Government of the Republic of Hungary on the recognition of educational certificates, diplomas and university degrees earned in the Republic of Croatia and the Republic of Hungary</p>	<p>16.03.1994/05.03.1999</p> <p>16.06.1997/01.01.1998</p>

	<p>Agreement between the Government of the Republic of Croatia and the Government of the Republic of Hungary on scientific and technological co-operation</p> <p>Protocol of the Third Session of the Joint Committee for Scientific and Technological Co-operation between the Republic of Croatia and the Republic of Hungary</p> <p>Programme of Cooperation in Education between the Ministry of Science, Education and Sports of the Republic of Croatia and the Ministry of Education and Culture for 2009-2011</p>	<p>25.01.2002/03.12.2002</p> <p>26.05.2009</p> <p>17.09.2009</p>
Italy	<p>Treaty on scientific and technological cooperation between the Government of the Republic of Croatia and the Government of the Republic of Italy</p> <p>Protocol on co-operation in the area of culture and education between the Government of the Republic of Croatia and the Government of the Italian Republic for the period between 2003-2007</p> <p>Agreement between the Government of the Republic of Croatia and the Government of the Italian Republic on Cultural and Education Co-operation</p> <p>The program of scientific and technological cooperation between the Republic of Croatia and the Republic of Italy for the period 2009- 2010</p>	<p>29.10.2009/03.11.2003</p> <p>26.02.2003</p> <p>16.10.2008</p> <p>06.04.2009</p>
Poland	<p>Treaty between the Government of the Republic of Croatia and the Government of the Republic of Poland on cultural and educational cooperation</p>	<p>14.09.1995/20.11.1997</p>
Portugal	<p>Agreement between the Republic of Croatia and the Portuguese Republic on cooperation in the fields of culture, education and science</p> <p>Agreement on economic, industrial, technical and scientific cooperation between the Republic of Croatia and the Portuguese Republic</p>	<p>14.04.1998/22.10.1998</p> <p>12.05.1999</p>

Slovakia	Treaty on the cultural, educational, scientific and sports cooperation between the Government of the Republic of Croatia and the Government of the Slovak Republic	05.05.1995/25.08.1997
	Agreement between the Government of the Republic of Croatia and the Government of the Slovak Republic on the recognition of equivalence of credentials issued in the Republic of Croatia and the Slovak Republic	16.02.1999/01.02.2000
	Programme of Cooperation between the Ministry of Science, Education and Sports of the Republic of Croatia and the Ministry of Education of the Slovak Republic for the period 2010-2013	19.04.2010/19.05.2010
Spain	Treaty on cultural, educational and scientific cooperation between the Republic of Croatia and the Kingdom of Spain	21.07.1997/11.03.1998
United Kingdom	Agreement between the Government of the Republic of Croatia and the Government of the United Kingdom of Great Britain and Northern Ireland on cooperation in the fields of culture, educational and science	21.02.1996/27.03.1997

3.4.2 Bilateral agreements with other European countries

Croatia signed bilateral agreements in the field of science and technology and/or in the field of cooperation in higher education and/or in the field of scientific, educational and cultural cooperation with the following countries: Austria, Belgium, Czech Republic, France, Germany, Hungary, Italy, Poland, Portugal, Slovakia, Spain and UK. Croatia has ongoing active bilateral programmes with: Austria, Belgium, France, Germany, Hungary, Italy and Slovakia. In the near future, Croatia will intensify its bilateral co-operation with Albania.

3.4.3 Type of activities and scientific fields of cooperation

The entire international educational, academic and scientific cooperation include the exchange of different forms of scholarship in all categories, the implementation of joint projects and organizing international conferences and seminars.

Bilateral educational and scientific cooperation of the Republic of Croatia is based on bilateral agreements and programmes and is structured as follows: field of higher educational and scientific cooperation and the field of elementary and secondary education. The higher educational and scientific cooperation includes an exchange of various forms of scholarships in all categories, implementation of joint (scientific-research) projects, and organization of international conferences and seminars.

Based on bilateral programmes on average about 500 months of scholarship per year are realized for Croatian citizens abroad and over 400 months of scholarships for foreign students and researchers in the Croatian higher education and scientific research institutions.

On the basis of bilateral cooperation programs in accordance with common interests and priority areas, the Ministry supports two-year international scientific research projects with the following countries: Albania, Austria, France, India, China, Hungary, former Yugoslav Republic of Macedonia, Germany, USA and Slovenia.

Around 200 bilateral projects of scientific research in all fields of science are actually in the implementation phase. The most common projects are in the field of natural, biomedical, technical and biotechnical sciences.

Croatia has very intensive bilateral cooperation, however entirely based on joint R&D projects with old and new Member states. In its position of acceding country this is in line with its strive for creating an efficient and encouraging research system based on EU good practices and gaining expertise and competence.

The strongest cooperation thematic sub areas are “Chemical sciences” and “Physical sciences” as well as “Biological sciences”.

Bosnia and Herzegovina

Programmes and protocols which are going to define the type of cooperation in scientific research and higher education are in preparation.

By bilateral agreement following types of activities are envisaged: exchange of scientists and other experts in order to transfer scientific and technological knowledge and experience; exchange of experts in order to inform the development of science and technology in both countries; organize research seminars, symposia and other meetings in Science and Technology; support scientific and technological and development projects in jointly agreed areas; exchange scientific and technological information and documentation; encourage other forms of science and technology cooperation on which the Contracting Parties reach an agreement.

The Ministry of Science, Education and Sports of the Republic of Croatia allocates funds every year for the costs of postgraduate and doctoral studies for the students from University in Mostar who are studying in Croatia as well as for the Programme of financial help for scientific and educational institutes in Bosnia and Herzegovina.

Bulgaria

A new program of cooperation in the field of science, education and culture between the Croatian Government and the Government of the Republic of Bulgaria for the period 2009 - 2011 is in preparation. (no detailed information available)

The Government of the Republic of Bulgaria awards scholarships for the citizens of the Republic of Croatia for postgraduate studies / specialisation / scientific research for the period of 35 months for candidates under the age of 35.

Former Yugoslav Republic of Macedonia

Bilateral educational, scientific and technological cooperation with the former Yugoslav Republic of Macedonia is based on the bilateral Treaty and on the Cooperation Programme between two countries as shown in Tab 2.

Based on the Cooperation Programme annually one scholarship is awarded for pre-graduates/graduates in the field of Macedonian language and literature as well as scholarships for study visits from all fields of science for duration from one to two months.

Based on the Cooperation Programme for the period from 2009 to 2012, project based scientific research cooperation between the two countries will be continued. Since 2005 cooperation in the field of scientific research was achieved on 29 joint projects.

For the period 2010 and 2011, 7 joint research projects were selected. Each country pays the costs of mobility of researchers: on Croatian side 1500 Euro per year/per project will be payed for the travel expenses of Croatian scientists in the former Yugoslav Republic of Macedonia, and for the accommodation of Macedonian scientists in Croatia. The former Yugoslav Republic of Macedonia also supports the research activities of their own researchers within the bilateral co-operation.

The priority areas of the cooperation in the joint research projects between the two countries are Farming, Seismology, Medicine, Veterinary Medicine, Mathematics, IT, and Croatian /Macedonian language and literature.

Greece

A new Programme for Educational, Scientific and Cultural Co-operation for the period 2009-2011 is in preparation. (no detailed information available)

The Government of the Hellenic Republic awards annually a scholarship to citizens of the Republic of Croatia for postgraduate studies (10 months) or scientific advancement (up to 10 months) and 2 scholarships for summer course in Greek language and culture.

Hellenic Republic State Scholarships Foundation awards scholarships to citizens of the South East, Central and Eastern Europe, Asia, Africa and Latin America for postgraduate / postdoctoral studies, improvement of the Greek language, literature, philosophy, history and arts of the Greek language teachers in foreign universities, specialized seminars in the field of applied arts, scientific research and for training courses and seminars of the modern Greek language and culture in Greece.

Alexander S. Onassis Public Benefit Foundation awards scholarships to foreign citizens, members of the National Academy of Sciences, university professors, researchers with a PhD in Science, artists, teachers in primary and secondary schools who teach Greek as a foreign language and students of postgraduate and doctoral studies. Scholarships are divided into several categories, and assigned to the areas of humanities and political sciences and arts.

Montenegro

The activities to be financed in the framework of bilateral agreements are Joint Research Projects in priority areas. These may include mobility grants, aiming at permitting individual young researchers from both countries to stay for a short period of time, to be trained or participate in research activities at institutes etc.). In the field of higher education 6 scholarships for pre-graduate, graduate and post graduate studies in both countries will be offered and up to 8 months for study visits.

The priority areas of the cooperation in the joint research projects between the two countries are Biology (marine science), Neurobiology of marine organisms, Agriculture, Seismology, Food Technology, Chemical Technology, Computing, ICT, Ecology, Tourism, Energetic

Serbia

The activities to be financed in the framework of bilateral agreements are Joint Research Projects in priority areas. Each country pays the costs of mobility of researchers to the amount of 1500 euro per project, per country (travel expenses, accommodation etc.)

The priority areas of the cooperation in the joint research projects between the two countries are Biomedicine, food, agriculture, biotechnology, Environmental protection, Building the Information Society, renewable energy and energy efficiency, New materials, social sciences and humanities

Slovenia

The activities to be financed in the framework of bilateral programme are Joint Research Projects in priority areas and 3 bilateral thematic conferences. Croatia pays the costs of researchers' mobility up to 1100 €, and Slovenia up to 1600 € per project. The costs of organising the conferences are born by the country where it is held.

The educational, academic and scientific cooperation include also the exchange of different forms of scholarship in all categories.

The priority areas of the cooperation in the joint research projects between the two countries are Biotechnology and Biomedicine, Nanoscience and nanotechnology, Energy and Transport, Informatics and Telecommunications, ecology and environment protection, social sciences and humanities.

Turkey

The Government of the Republic of Turkey awards to Croatian citizens every year two scholarships for a research stay for a period of 2-8 months, 1 scholarship for postgraduate studies (scholarship for specialization in the field of medicine excluded).

By bilateral agreement following types of activities are envisaged: implementation of scientific research projects, exchange of scientists and experts on the basis of reciprocity, organizing and participating in joint scientific meetings, conferences, symposia, workshops, courses, exhibitions, etc. exchange of scientific and technical information as well as any other form of cooperation where the parties reach agreement.

The priority areas of the cooperation in the joint research projects between the two countries are information technology, telecommunications, sea biology and related technologies, environmental protection and ecology of the Mediterranean Sea, Biomedicine and health.

Other European countries

Austria

The following types of activities and initiatives are to be supported in the framework of bilateral cooperation: Initiatives that serve to strengthen cultural cooperation in both countries, particularly in the field of literature, art, photography, film, theater, dance, music, and protection of cultural heritage, archives, libraries and museums; the implementation and promotion of bilateral meetings (workshops, seminars, days of science, etc) of the Croatian and Austrian group of researchers; Informational presentation on the state of scientific development in both countries; The intensification of regional and multilateral cooperation, especially cooperation in the EU Framework programmes for research and development; Exchange of scientific and technical information, documentation and published papers; The exchange of scientists and experts; Implementation and support of joint scientific and

technical conferences and other research programs; exchange of research materials, equipment and scientific equipment.

For the period 2010-2011, short-term study visits up to 10 days stay of university teachers, scientists and experts who participate in co-operation and long-term research stays (up to 3 months) are to be financed.

The priority areas of the cooperation in the joint research projects between the two countries are Molecular biology, electrical engineering, physical chemistry, biochemistry, medicine, Physics, Philosophy and Sociology.

Belgium

The Cooperation Programme for the years 2009-2010 between the Government of Flanders and the Government of the Republic of Croatia envisage the following activities in the Field of Education: Exchange of information and documentation, Exchange of professors/teachers/experts/policymakers, Specialisation scholarships and Research Scholarships.

Croatia and Belgium agree to align their cooperation in science and technology with the European Framework Programme for Research and Development.

Czech Republic

In the Field of Education both countries will support the following: direct cooperation of schools of all levels, exchange information, and educational and methodological literature and other educational materials, the establishment of lectorship for Croatian Language and Literature in the Czech Republic and lectorship for Czech language and literature in the Republic of Croatia, the exchange of high school students, exchange of academic teachers and research workers and the exchange of persons for the purpose of their participation in summer schools.

Both countries shall facilitate and encourage cooperation in the field of scientific research, primarily: scientific cooperation between institutions, research departments and higher education institutions, cooperation on joint scientific research projects, the exchange of scientific and technological information and materials, organization of joint seminars and other actions that allow the exchange of scientific knowledge and information.

Cooperation in science and technology can be regulated by a separate agreement.

France

Bilateral scholarships

Scholarships are awarded for postgraduate and doctoral studies, professional training and improvement of the French language.

Scientific research

Scientific cooperation of the Republic of Croatia and the French Republic has been intensified by starting Croatian-French programme of integrated action “Cogito” in 2002. In 2008, 15 new projects were granted for the period 2009-2010. Exchange of young researchers is one of the main aims of the supported bilateral cooperation. Within the Integration Programme Cognito the cooperation in all scientific fields is supported.

Germany

The cooperation of the Republic of Croatia and the Federal Republic of Germany is realized on several levels. At the federal level, the cooperation is realized in the area of project cooperation through the German Academic Exchange Service (DAAD).

The activities to be financed in the framework of bilateral programme are Joint Research Projects in all thematic fields and exchange of scientists and young researchers. The costs of mobility of researchers (e.g. travel expenses, accommodation) during the project are covered.

The scholarships for postgraduate and doctoral studies in Bavaria are awarded for the candidates from Croatia for one year.

Of the twelve projects selected for the period 2009-2010, three are in physics, two in the field of biochemistry and one each from the fields of chemistry, biology, molecular biology, zoology, pharmacology, informatics and cultural sciences.

Hungary

Bilateral scholarships

Government of the Republic of Hungary awards scholarships for Croatian citizens for graduate and doctoral studies, a short study visits and the summer language courses for students of Hungarian Language and Literature.

Scientific research

The activities to be financed in the framework of bilateral programme are Joint Research Projects in priority areas, bilateral thematic conferences and exchange of scientific information and documentation.

For the period 2009-2011 30 joint scientific research projects are selected in the field of biotechnical, natural sciences and engineering, and biomedicine and health care.

Italy

Bilateral scholarships

The Government of the Italian Republic awards scholarships for graduate studies, research and doctoral specializations and for courses of Italian language and culture for teachers of Italian language, (minimum of 3 to a maximum of 12 months).

Scientific research

Within this programme of scientific and technological cooperation between the Republic of Croatia and Republic of Italy for the period 2009 – 2010, a new Call for joint scientific research projects in the following priority areas was carried out: life sciences, basic sciences, computer science and informatics, medicine, energy and environment. Seven joint scientific research projects were selected: two projects in the field of life sciences, three in the field of basic sciences, one in the field of ICT and one in the area of energy and environment.

Poland

Activities envisaged by the Agreement on cultural and educational cooperation between Croatia and Poland, signed in 1995 are the following: exchange of professors and other experts, Exchange of students and youth, awarding of scholarships for graduate and doctoral studies and promoting direct cooperation between educational institutions at all levels in both countries. No ongoing joint research programmes.

Portugal

A new program of cultural, educational and scientific cooperation between the Croatian Government and the Government of the Republic of Portugal is in preparation. No ongoing joint research programmes.

Slovakia

The Cooperation Programme for the years 2010-2013 between the Government of Croatia and the Government of the Republic of Slovakia envisage the following activities: bilateral scholarships, exchange of students, exchange of professors for Croatian or Slovakian language and supporting experts for participation on bilateral conferences and workshops.

Spain

A new program of cultural, educational and scientific cooperation between the Croatian Government and the Government of the Republic of Spain is in preparation.

United Kingdom

The bilateral cooperation is based on the Agreement on cultural, educational and scientific cooperation signed in 1996. There is no active bilateral programme between two countries. Scholarships are awarded by The British Scholarship Trust to Croatian citizens for scientific research on Universities in UK, as well as within 3 scholarship programmes: OSI/FCO Chevening Scholarships - University Of Cambridge, OSI/FCO Chevening Scholarships - Universities of Oxford & York, and OSI/Staffordshire University MPhil/PhD in Economics.

3.5 Former Yugoslav Republic of Macedonia

The governmental body responsible for organisation, financing, developing and promotion of scientific research, technological development, technical culture, information technology and information systems as well as the international cooperation related to these issues is the Ministry of Education and Science. Another important national institution to promote the development of science, research, innovation and new technologies is the Macedonian Academy of Sciences and Arts (MASA).

Macedonia suffers as well from “common post-communist disease” of insufficient research funding; difficult political, economic and social conditions; underdeveloped R&D infrastructure facilities; decrease presence of industry on the domain of S&T and mounting brain-drain phenomena.

In terms of bilateral cooperation development, Macedonia can be satisfied with the results achieved, in terms of targeted research collaboration and attracting and allocation of funds in priority areas. The density of joint research projects is in thematic sub areas “Other engineering sciences” and “Agriculture, fisheries, forestry and allied sciences” and “Chemical sciences”.

Again, there are discrepancies in terms of already stated thematic priorities, which endanger the process of creating more favorable environment for coordinated approach for R&D activities.

In the field of research and defelopment, the main priorities for Macedonia are as follows: further development of the academic research network, renovation of the research equipment, stimulation of the promoting new research and development units within the economy,

systematic and continuous supply of foreign reference literature and providing access to electronic scientific data bases, strengthening the present technology development capacities and establishment of new technology transfer centres in a view of more efficient integration of research and business entities.

3.5.1 *Bilateral agreements with other SEE countries*

Former Yugoslav Republic of Macedonia signed bilateral agreements in the field educational and scientific cooperation with the following countries: Albania, Bulgaria, Croatia, Montenegro, Serbia, Slovenia and Turkey and has an ongoing active programme with Croatia in the Field of Science, Technology and Education. Further bilateral agreement on cooperation with UNMIK-Kosovo (UN resol 1244) is in preparation or negotiation. For an overview see Tab. 5.

3.5.2 *Bilateral agreements with other European countries*

Former Yugoslav Republic of Macedonia established cooperation on education and science with Austria, France, Italy, Spain and UK. In the near future, Macedonia will intensify its cooperation and new agreements and programmes with Bosnia and Herzegovina, Montenegro and Serbia are envisaged.

Table 5: Bilateral Agreements between Former Yugoslav Republic of Macedonia and other SEE countries and between Former Yugoslav Republic of Macedonia and other European Countries

Former Yugoslav Republic of Macedonia		
SEE Country	Agreement/Programme	Signature/Ratification/Date of effect
Albania	Agreement between the Government of the Republic of Albania and the Government of Macedonia for cooperation in education and science	23.02.2001/30.01.2002/18.02.2003
	There are two signed protocols of scientific and technological cooperation:	
	a) Protocol of the First Meeting of Joint Commission for Scientific and technological cooperation between Republic of Albania and the Republic of Macedonia	12.12.2005
	b) Protocol of Second Meeting of Joint Commission for Scientific and technological cooperation between Republic of Albania and the Republic of Macedonia	28.07.2006
Bulgaria	Agreement signed in 2005 (exchange of scientists)	
	Agreement between the	15.05.2000/23.01.2002 /08.03.2002

	Government of Republic of Macedonia and Republic of Bulgaria in the field of education and science	
Croatia	<p>Treaty on cultural and educational cooperation between the Government of the Republic of Croatia and the Government of the FYR of Macedonia</p> <p>Treaty on scientific and technological cooperation between the Government of the Republic of Croatia and the Government of the FYR of Macedonia</p> <p>2009-2012 Cooperation Program between the Ministry of Science, Education and Sports of the Republic of Croatia and the Ministry of Education and Science of the FYR of Macedonia in the Field of Science, Technology and Education</p> <p>Protocol on Project selection in the field of scientific and technological cooperation between the Republic of Croatia and the FYR of Macedonia for the years 2010 and 2011.</p>	<p>04.12.1995</p> <p>14.01.1997</p> <p>02.02.2009</p>
Montenegro	<p>Co-operation Agreement between the FYR of Macedonia and the Government of FR of Yugoslavia in the field of education, culture and sports</p> <p>Agreement on scientific and technological cooperation between the Government of the FYR of Macedonia and the Government of FR of Yugoslavia</p>	<p>03.07.199725.09.1997 10.04.1998</p> <p>03.07.199725.09.1997 09.03.1998</p>
Serbia	<p>Agreement of scientific and technological cooperation between Government of Federal Republic of Yugoslavia and Government of Republic of Macedonia, Ministry of Science and environmental protection</p> <p>Agreement between the Federal Government of the Federal Republic of Yugoslavia and the Government of the Republic of Macedonia cultural, educational and sport co-operation</p>	<p>03.07.1997/03.03.1998/10.03.</p> <p>03.07.1997/03.03.1998/10.03.</p>
Slovenia	Agreement of scientific and	24.12.199329.03.1995 28.08.1995

	technological cooperation between the Government of the Republic of Macedonia and the Government of the Republic of Slovenia	
Turkey	Agreement on Cooperation in Science and Technology between TUBITAK and the Ministry of Education and Science of Macedonia	17.05.1994
Other European countries	Agreement/Programme	Signature/Ratification/Date of effect
Austria	Agreement between the FYR of Macedonia and the Republic of Austria on scientific and technological co-operation	23.07.2007/01.11.2008
France	Agreement on cultural, scientific and technical cooperation between FYR of Macedonia and France	01/1998
Italy	Agreement on cultural, educational and scientific cooperation between FYR of Macedonia and the Government of the Republic of Italy	21.01.1998/28.04.1998/04.05.2001
Spain	Agreement on cultural, educational and scientific cooperation between FYR of Macedonia and the Government of Spain	20.06.2005/06.12.2005/30.01.2007
UK	Agreement on cultural, educational and scientific cooperation between FYR of Macedonia and the Government of UK	10.03.2000/16.05.2000/21.07.2003

3.5.3 Type of activities and Scientific fields of cooperation

Currently the former Yugoslav Republic of Macedonia is involved in about 100 bilateral projects with the countries from the Region, but also with other countries. The strongest project cooperation is with Slovenia, Serbia, Croatia, Bulgaria, Albania, Austria, France and Germany.

In the cooperation the former Yugoslav Republic of Macedonia with Slovenia – besides the priority fields of research of the country like life sciences, information and communication technologies, environment, energy and sustainable development and material research – the focus is on the issues of economics, law and business, while the issues of civil engineering, natural hazards reduction and management are given priority in their cooperation with Albania and Bulgaria. Obviously the former Yugoslav Republic of Macedonia does not only focus on the fields of technical and natural sciences as well as medicine but would also like to obtain knowledge and experience necessary to develop the economy.

3.6 Greece

Greece's research and technology policy is mainly expressed through the Operational Programs "Competitiveness" (EPAn) and "Information society" (EPKtP) and a series of institutional interventions looking to support various actions and more efficient operation and management of R&D organisations. Synergy and complementarities are guaranteed by the Regional Operational Programs of the 13 regions in Greece. There are many implementation tools, e.g. Program for the Exploitation of Research Results (PRAXE), Program for the creation of S&T parks and incubators (ELEFTHO), Program for the support intermediary technology transfer organisations (Technology Brokerage), Program for the development of research centres with the participation of users (AKMON).

The strategic objective of Greece's economy is to converge with other European countries in terms of competitiveness. Greece's economy needs to reinforce its productive capabilities and base its competitiveness on three pillars: innovation/technological upgrading, business initiative and employment. The weaknesses of the productive system are reflected more intensely in the picture of the country's Research and Technology base. The research system is characterised by serious unbalances in relation to the contribution of various funding agencies. The public effort in the field of RTD is fragmented, the provision of technological services to companies are exceptionally inadequate. The level of recognition of the importance of new technology and the potential it offers for the reconstitution of the economy and society remains far below what is needed. Within that framework, a special objective of quality-orientated competitiveness in the R&D sector is to encourage the creation of new business activities and to assist the creation of new competitive advantages based on cohesive technical and economic networks.

3.6.1 Bilateral agreements with other SEE countries

Greece up today has 7 Bilateral Agreements in the field of Research and Higher Education with Albania, Bosnia and Herzegovina, Bulgaria, Croatia, Serbia, Slovenia and Turkey.

Greece, whose natural cooperation partners – due to its geographic position – are its northern neighbours, has determined to contribute to the maintaining of peace, development and cohesion of the region by all means, diplomatic, funding support and scientific cooperation. To this purpose, Greece intends to enhance scientific infrastructures at the Western Balkan Countries (Croatia, Montenegro, F.Y.R. of Macedonia and Bosnia-Herzegovina) by national funding sources in the framework of its relevant national, bilateral and multilateral programmes.

3.6.2 Bilateral agreements with other European countries

Greece up today has 2 Bilateral Agreements in the field of Research and Higher Education with Hungary and Italy that are active.

Table 6: Bilateral Agreements between Greece and other SEE countries and between Greece and other European Countries

Greece		
SEE Country	Agreement/Programme	Signature/Ratification/Date of effect
Albania	Agreement for Scientific and Technical Cooperation, between	04.10.1984

	<p>the Government of the Republic of Albania and the Republic of Greece</p> <p>Agreement between the Government of the Republic of Albania and the Republic of Greece on cooperation in the fields of education, science and culture</p>	04.11.1998
Bosnia and Herzegovina	<p>Treaty between the Council of Ministers of Bosnia and Herzegovina and the Government of the Hellenic Republic on cultural, educational and scientific co-operation</p> <p>Programme for cultural, educational and scientific co-operation between the Council of Ministers of Bosnia and Herzegovina and the Government of the Hellenic Republic</p>	09.06.2003/22.12.2003/25.05.2005 In preparation
Bulgaria	Agreement	2005
Croatia	<p>Agreement between the Government of the Republic of Croatia and the Government of the Hellenic Republic on cooperation in the fields of culture, education and science (10.03.1995)</p> <p>Programme for Educational, Scientific and Cultural Co-operation between the Government of the Republic of Croatia and the Government of the Hellenic Republic for the years 2004, 2005 and 2006</p>	10.03.1995 07.10.2004
Serbia	Programme of Cooperation in the Fields of Education and Culture between the Federal Government of the FR of Yugoslavia and the Government of the Hellenic Republic for 2002-2004	20.02.2002
Slovenia	<p>Agreement between the Government of the Republic of Slovenia and the Government of the Hellenic Republic on Cooperation in the Fields of Culture, Education and Science</p> <p>Agreement between the Government of the Republic of Slovenia and the Government of the Hellenic Republic on Scientific and Technological Cooperation</p>	1994 2002

Turkey	Agreement between the Republic of Turkey and the Hellenic Republic on Scientific and Technological Cooperation Executive Protocol between the Republic of Turkey and the Hellenic Republic on Scientific and Technological Cooperation	04.02.2000 20.07.2001
Other European countries	Agreement/Programme	Signature/Ratification/Date of effect
Hungary	Agreement between the Hungarian Ministry of Development and the Hellenic Republic on Scientific and Technological Cooperation	1979
Italy	na	Na

3.6.3 Type of activities and Scientific fields of cooperation

On the basis of the Agreement for Scientific and Technical Cooperation, signed in Tirana on 4 October 1984 between the Government of the Republic of Albania and the Republic of Greece the joint research cooperation of both countries for the period (2005 -2007) were:

1. Joint research projects (JRP) in priority areas. These included "moving grants, aimed at enabling young researchers from both countries to stay for a short period, up to a month, institutes, universities, laboratories and enterprises of the other country for training or participate in research activities.

2. Technical Assistance Projects (TAP), which aimed to offer assistance by sharing equipment, visits to specialists, research materials, documents and information in various technical and scientific presentation of new technologies.

3. Network projects (NP), aimed at creating networks between the scientific and technical institutions and companies of both countries, through the contacts between the scientific and technical communities, facilitating the exchange of technical and scientific information, supporting organization and / or participation conferences, "workshops" and training seminars bilateral interest and joint publications over the results and / or their presentation in international conferences in both countries.

Greece is very strong collaborator and supporter of SEE countries, maintaining and enhancing bilateral cooperation links with its northern neighbors.

Greece is very open partner and contributes significantly for creation, dissemination and utilization of scientific and technical knowledge.

There is no targeted thematic orientation of bilateral projects supported by Greece. Furthermore, Greece allocates significant grants to running joint projects. What is more, this is a continuous tendency and does not depend on project counterpart.

Having in regard the above-mentioned, we can state that Greece is targeting major financial resource to thematic sub areas "Physical sciences"; "Mathematics and computer sciences"; "Agriculture, fisheries, forestry and allied sciences" and "clinical medicine".

3.7 Montenegro

The Ministry of Education and Science is responsible for overall scientific policy in Montenegro, which was regulated by the Law on scientific Research Activities (1992). According to the new Law on Scientific-Research Activities prepared for adoption by the Parliament, the Government should prepare the strategy for creation of the knowledge based society and to define an annual budgetary increase for research and development until 2010.

The main priorities of the science policy in Montenegro are as follows: increasing and achieving stability in financing the existing research potential, paying special attention on University of Montenegro, professional assessment of research groups, modernisation of research equipment and other infrastructure, increase international cooperation in science, more people with higher education per capita, increasing post-graduate education of junior researchers with emphasis on PhD students and providing of scientific publications and participation on meetings.

As regards research, a special department dealing with science, research and technological development was established within the Ministry of Education and Science. Based on the strategy on scientific research activities for the period 2008-2016, Montenegro has taken a number of steps towards integration into the European Research Area, such as introduction of a young researcher programme. Overall, further progress has been made in the fields of education and culture. There has been good progress on research, particularly on strengthening the institutional framework and on participation in FP7.

The Montenegrin Academy of Sciences and Arts (MASA) was established in 1978 and encompasses departments of natural sciences, social sciences and arts. Some of the activities of the Academy are: makes initiatives, proposals and opinions to state authorities and other holders of economic, cultural and public life, cooperates with scientific, cultural, economic and professional organizations and institution in the country and abroad.

MASA has signed the agreements on cooperation with Academy of Sciences and Arts in many countries through out the Europe: Serbia, Macedonia, Albania, Bulgaria, Belarus, Russia, Slovenia, Hungary, Romania, Turkey, Moldova, Republika Srpska, Latvia, Estonia, Slovakia and some other countries.

3.7.1 *Bilateral agreements with other SEE countries*

Bilateral research cooperation of Montenegro can be characterized still as not highly recognized and supported mechanism for promotion of scientific research and exchange of knowledge. However, steps for increasing and revitalize bilateral links with other SEE countries are needed and are considered as a priority action line.

It is worth to mention that Montenegro has bilateral agreements in education and/or scientific research with Albania, Bosnia and Herzegovina, Croatia, FYR of Macedonia, Republic of Moldova, Slovenia and Turkey. In the near future, cooperation with Bulgaria and Romania will also be initiated. Montenegro will intensify its cooperation and agreement with Belgium is in preparation.

3.7.2 *Bilateral agreements with other European countries*

Montenegro signed bilateral agreement with Austria and a bilateral agreement with Belgium is in preparation. In the near future, cooperation with France, Germany, Hungary, Italy and Poland will also be initiated.

Table 7: Bilateral Agreements between Montenegro and other SEE countries and between Montenegro and other European Countries

Montenegro		
SEE Country	Agreement/Programme	Signature/Ratification/Date of effect
Albania	The agreement between the Council of Ministers of the Republic of Albania and Council of Ministers of Montenegro on scientific and technological co-operation	16.12.2008
BiH	Agreement on Scientific and Technological Cooperation between the Council of Ministers of Bosnia and Herzegovina and Ministers of Serbia and Montenegro	13.11.2003/11.1.2005
Croatia	Memorandum of Understanding between the Ministry of Science, Education and Sports of the Republic of Croatia and the Ministry of Education and Science of Montenegro on Cooperation in Education	18.06.2008
	Agreement between the Government of the Republic of Croatia and the Government of Montenegro on Scientific and Technological Cooperation	26.01.2009
	Program of Cooperation between the Ministry of Science, Education and Sports of the Republic of Croatia and the Ministry of Education and Science of Montenegro in Science, Technology and Education for the 2009-2012 Period	09.07.2009
former Yugoslav Republic of Macedonia	Co-operation Agreement between the FYR of Macedonia and the Government of FR of Yugoslavia in the field of education, culture and sports	03.07.1997 25.09.1997 10.04.1998
	Agreement on scientific and technological cooperation between the Government of the FYR of Macedonia and the	03.07.1997 25.09.1997 09.03.1998

	Government of FR of Jugoslavia	
Republic of Moldova	Cooperation agreement between ASM and Academy of Sciences and Arts of Montenegro.	01/27/2006
Slovenia	na	Na
Turkey	Agreement on Cooperation in Science and Technology between TUBITAK and the Ministry of Education and Science of Macedonia, which was signed on 17 May 1994	
Other European countries	Agreement/Programme	Signature/Ratification/Date of effect
Austria	Agreement on scientific and technological cooperation between the Republic of Austria and Republic of Montenegro	10.06.2009
Belgium	(P)	

3.7.3 *Type of activities and scientific fields of cooperation*

Montenegro's actual financing strategy is to start financing of the most promising fields in the mean of the human potential and infrastructure; at the moment humanities and basic research do not fit in that strategy.

It is difficult to state, in case of Montenegro, the thematic orientation of the county's bilateral cooperation, as the number of projects conducted is very low. Even this, there is a discrepancy between the identified R&D thematic priorities of Montenegro in the Comparative summary report and projects implemented under bilateral research programmes. The bilateral cooperation with Austria shall comprise especially the following forms: exchange of scientific and technological information, documentation and publications; exchange of scientists and experts within bilateral scientific projects approved by the Parties to implement the scientific and technological co-operation; exchange of scientists and experts for consultations, lectures and special studies and realisation and support of joint bilateral or multilateral scientific events and programmes to mutually provide scientific material, instruments and equipment. Financial support for joint scientific projects is provided for mobility of scientists and experts and the institutions of each country should assure that hat their outgoing scientists and experts are sufficiently insured for health.

3.8 **Republic of Moldova**

3.8.1 *Bilateral agreements with other SEE countries*

Source: International cooperation in science and innovation of Academy of Sciences of Republic of Moldova (ASM). <http://international.asm.md/cooperare-bilaterala/acorduri-cu-asm.html>

The Ministry of Education of the Republic of Moldova signed bilateral treaties on education with Bulgaria and Turkey from the SEE countries (of some 30 bilateral treaties on education with other countries). Further bilateral agreements of cooperation in education, science and culture with Bosnia and Herzegovina and Greece are in process of negotiations.

Based on the bilateral protocols of educational cooperation, Ministry of Education monitor and perform activities related to supporting and promoting basically academic mobility, training for teachers, book donations etc.

The Academy of Sciences of Moldova is authorized with the Government's competence in the field of scientific research and has concluded Agreement on scientific cooperation with the following SEE countries: Bulgaria, Romania, Montenegro and Turkey.

The programme on bilateral cooperation in the field of scientific research, technological development and innovation was signed between the Academy of Sciences of Moldova and Romanian National Authority for Scientific Research, in the framework of which the following collaborative initiatives will be financially supported: joint projects, scientific seminars and summer schools.

3.8.2 Bilateral agreements with other European countries

Moldova has bilateral agreements with the following EU-member states: Poland, Hungary, Austria and the Czech Republic. A Memorandum of Intentions on scientific and technological cooperation between Moldova and German Federal Ministry of Education and Research was signed in March 2008, on basis of which was announced an Open Call for collaborative research project proposals for a duration of 12 months.

Table 8: Bilateral Agreements between Moldova and other SEE countries and between Moldova and other European Countries

Republic of Moldova		
SEE Country	Agreement/Programme/Protocol	Signature/Ratification/Date of effect
Bulgaria	Scientific cooperation agreement between the Academy of Sciences and Bulgarian Academy of Sciences	29/05/2002
Montenegro	Cooperation agreement between ASM and Academy of Sciences and Arts of Montenegro.	01/27/2006
Romania	Scientific cooperation agreement between the Academy of Sciences and Romanian Academy. Protocol implementing the Agreement on scientific collaboration between the Academy of Sciences and the Romanian Academy.	01/17/2005
	Scientific-technical cooperation agreement for 2005-2007 between Academy of Agricultural and Forestry Sciences "Gheorghe Ionescu-	05/31/2005

	Şişeşti" in Romania and ASM Program of bilateral cooperation in scientific research, technological development and innovation between National Authority for Scientific Research Romania and ASM	10/23/2008
Turkey	Technical and Scientific Cooperation Agreement between the Academy of Sciences and Turkish Academy of Sciences.	05/10/2007
Other European countries	Agreement/Programme	Signature/Ratification/Date of effect
Austria	Scientific Cooperation Agreement between the Academy of Sciences and Austrian Academy of Sciences.	12/17/2007
Czech Republic	Scientific Cooperation Agreement between the Academy of Sciences and Academy of Sciences of the Czech Republic.	09/20/2008
Germany	Memorandum of intent on scientific and technological cooperation between Federal Ministry of Education and Research in Germany and ASM	03/14/2008
Hungary	Scientific cooperation agreement between Hungarian Academy of Sciences and Academy of Sciences. Protocol to the scientific collaboration between the Academy of Sciences and Hungarian Academy of Sciences for 2006-2009.	07/11/1996 06/26/2006
Poland	Scientific cooperation protocol between the Academy of Sciences and Polish Academy of Sciences for the year. 2010-2012	09/12/2009
UK	Cooperation agreement between the Academy of Sciences and Royal Society of London.	22/06/1995

3.8.3 Type of activities and Scientific fields of cooperation

Academy of Sciences has established cooperative links with scientific institutions in Bulgaria in the scientific-technical cooperation agreement between ASM and the Bulgarian Academy of Sciences signed on 05/29/2002. Collaboration between the two academies is the joint implementation of research projects, participation in scientific events and direct agreements

between scientific research institutes of the Academy. Also, as a form of cooperation between the parties is provided and equivalent exchange of scientists and researchers.

Romania

Types of projects to receive financial support are: Research Projects (CP) (encourage bilateral collaboration in research areas of mutual interest); Scientific Seminars (SST) (allow a group of experts critical assessment of accumulated knowledge in a field of research, dissemination and identifying new research directions of mutual interest; Summer School (SW) (Allow a new development / approach and disseminate information on the topic, contribute to training and motivating young researchers)

Scientific cooperation areas of mutual interest were set as follows: environment, agriculture, health, technologies, products and services and science and resource management information.

3.9 Romania

The Ministry of Education and Research in Romania has many instruments for financing the R&D system. In the framework of the National Plan for R&D&I (2001-2005) 14 specific programs structured on areas of activity with externalised management are financed. The Core Programs (2003-2005) gives financial support for research projects carried out by the National R&D Institutes (one for each fields). The Sectorial Plan (2004-2005) aims at supporting the development of R&D infrastructure and increasing the capacity of drawing up, implementing and evaluation of policies, strategies and programs at national level. The R&D Grants (2001-2005) is financing original projects based on competition and managed by the National Council for Research in Higher Education.

Romania is familiar with the programmes of the EU, the objectives and priorities of these programmes. They are aware that they can obtain significant expertise, technology, research capacity and useful relationships by participating in international cooperation. It is obvious that the political motivation behind strengthening and increasing bilateral S&T co-operations is to use the added value gained by co-operations for developing a coherent R&D policy in the country, and raising awareness about the importance of S&T in the whole society. Besides it should also enhance mutually advantageous regional relationships with neighbouring countries.

3.9.1 *Bilateral agreements with other SEE countries*

Romania up today has 4 Bilateral Agreements in the field of Research and Higher Education with Albania, Bulgaria, Croatia and the Republic of Moldova.

Romania fully recognizes the importance of bilateral research cooperation programmes for obtaining significant expertise, technology, research capacity and establishing useful relationships.

Bilateral research links of Romania are very active, even though there are no targeted research projects implemented with the countries from SEE region. However, Romania takes advantage of S&T agreements at governmental level through developing and launching joint research activities with respective countries.

3.9.2 *Bilateral agreements with other European countries*

Romania up today has a series of Bilateral Agreements in the field of Research and Higher Education that are active.

In the near future, Romania will intensify its bilateral co-operation and is in discussion with a unknown number of Countries.

Table 9: Bilateral Agreements between Romania and other SEE countries and between Romania and other European Countries

Romania		
SEE Country	Agreement/Programme	Signature/Ratification/Date of effect
Albania	na	Na
Bulgaria	Agreement	2007
Croatia	<p>Agreement on co-operation in the fields of culture, education and science between the Government of the Republic of Croatia and the Government of Romania</p> <p>Protocol on scientific and technological cooperation between the Ministry of Science and Technology of the Republic of Croatia and the Ministry of Research and Technology of Romania</p> <p>Programme of cooperation between the Ministry of Science, Education and Sports of the Republic of Croatia and the Ministry of Education, Research, Youth and Sport of Romania in the field of education for the period 2010-2013</p>	<p style="text-align: center;">19.05.1993</p> <p style="text-align: center;">19.04.1994</p> <p style="text-align: center;">30.04.2010</p>
Republic of Moldova	<p>Scientific cooperation agreement between the Academy of Sciences and Romanian Academy. Protocol implementing the Agreement on scientific collaboration between the Academy of Sciences in the Republic of Moldova and the Romanian Academy.</p> <p>Scientific-technical cooperation agreement for 2005-2007 between Academy of Agricultural and Forestry Sciences "Gheorghe Ionescu-Şişeşti" in Romania and the Republic of Moldova</p> <p>Program of bilateral cooperation in scientific research, technological development and innovation between National</p>	<p style="text-align: center;">17.01.2005</p> <p style="text-align: center;">31.05.2005</p> <p style="text-align: center;">23.10.2008</p>

	Authority for Scientific Research Romania and the Republic of Moldova	
Other European countries	Agreement/Programme	Signature/Ratification/Date of effect
na	na	Na
na	na	Na

3.9.3 *Type of activities and Scientific fields of cooperation*

The most intensive thematic priorities in the bilateral relations of Romania are sub areas “Chemical sciences”, “Physical sciences” and “other engineering sciences”. However, it should be clarified that this conclusion is based mainly on general quantitative indicators. It is important to be mentioned that Romania introduces in its cooperative research programmes country specific priorities, which immediately puts “Agricultural sciences” at the leading positions in terms cooperation with Greece and Bulgaria. However, some discrepancies can be found in terms of stated country priorities and bilateral research domains supported.

The Bulgarian-Romanian cooperation is an exceptional case, because social sciences and humanities are the only fields of bilateral joint activities.

The National Programs address the main priorities of the science and technology policy of **Romania**:

- Infrastructures of innovation and technology transfer (National Program INFRATECH 2004-2007);
- Space research (National Program SECURITY 2004-2006);
- Research for excellence: R&D projects of high complexity, development of human resources, increasing participation to European and international programs, development of infrastructure for accreditation (National Program “Research for Excellence”).

3.10 **Serbia**

The Southeastern European countries like Serbia became completely isolated from the Western and Central European countries because of the war in the region. During the last few years Serbia has been experiencing constant renewal of international cooperation and support. This cooperation has been substantially supported by many international organisations, as well as through the assistance of developed countries in bilateral programmes. Many regional projects have been launched with the objective of promoting regional cooperation in South Eastern Europe, thus regional scientific cooperation in Serbia is currently being promoted within several regional organisations.

Serbia differs from other SEE countries in terms of reaching very intensive and diverse research cooperation with the SEE countries. Thus, the country is trying to overcome and to meet the priority needs regarding R&D system of all WBC and that is to get access to modern research infrastructure which is absent or outdated in Serbia; to create conditions to attract young researchers to scientific career through providing fellowships and scientific trips and transfer of good practices through bilateral research schemes; to allocate efficiently scarce

financial resources to priority thematic areas that will have not only national but regional and European-wide added value.

Higher education institutions maintain bilateral connections with a number of foreign university associations and there are also programmes and various international competitions that award funds to scientific research, the development of the education system and the acquisition of material resources for the advancement of the higher education teaching process.

Source: <http://www.euraxess.rs/sitegenius/topic.php?id=304>

An International Cooperation of Serbian research organization is facilitated by International S&T Cooperation Department of Ministry for science and technology development of government of Serbia. Its role is to support, coordinate and facilitate international science and technology bilateral and multilateral cooperation, EU programs and projects in R&D, relations with UN organizations and agencies and other foreign government and non-government scientific and professional organizations, as well as Serbian scientists and experts abroad. Focus of departments work is at international cooperation in scope of programmes, bilateral cooperation, regional initiatives and FP7.

Finally, Ministry of science is actively supporting regional collaboration initiatives, such as Central European Initiative – CEI, Black Sea Economic Cooperation – BSEC, Danube Region Business Conference and German Regional Programme of Cooperation in Central and Eastern Europe – CEEC.

3.10.1 Bilateral agreements with other SEE countries

In scope of bilateral cooperation, Ministry of science and technological development negotiated bilateral agreements with Croatia, FYR of Macedonia, Greece and Slovenia. Also currently bilateral agreements on cooperation with Bulgaria, Bosnia and Herzegovina, and Romania are under negotiation.

3.10.2 Bilateral agreements with other European countries

Serbia has ongoing active bilateral programmes with Austria, France, Germany, Italy, Hungary and Slovakia. New bilateral agreements have been concluded with Germany, and in order to intensify the bilateral cooperation, further bilateral agreements with Portugal and Spain.

Table 10: Bilateral Agreements between Serbia and other SEE countries and between Serbia and other European Countries

Serbia		
SEE Country	Agreement/Programme	Signature/Ratification/Date of effect
Croatia	Treaty between the Government of the Republic of Croatia and the Federal Government of the Federal Republic of Yugoslavia on cooperation in the areas of culture and education	23.04.2002
	Memorandum on launching the program of scientific and technological co-operation	23.11.2005

	<p>between the Republic of Croatia and the Republic of Serbia</p> <p>Protocol from the second session of the Joint Commission for Scientific and Technological Cooperation between the Ministry of Science, Education, and Sports of the Republic of Croatia and the Ministry of Science and Technological Development of the Republic of Serbia</p> <p>Protocol from the Third Session of the Joint Commission for Scientific and Technological Cooperation between the Ministry of Science, Education and Sports of the Republic of Croatia and the Ministry of Science and Technological Development of the Republic of Serbia</p>	<p>28.10.2008</p> <p>14.12.2009</p>
former Yugoslav Republic of Macedonia	<p>Agreement of scientific and technological cooperation between Government of Federal Republic of Yugoslavia and Government of Republic of Macedonia, Ministry of Science and environmental protection</p> <p>Agreement between the Federal Government of the Federal Republic of Yugoslavia and the Government of the Republic of Macedonia in the Fields of Education, Culture and Sports</p>	<p>03.07.1997/03.03.1998/10.03</p> <p>03.07.1997/03.03.1998/10.03</p>
Greece	Programme of Cooperation in the Fields of Education and Culture between the Federal Government of the FR of Yugoslavia and the Government of the Hellenic Republic for 2002-2004	20.02.2002
Slovenia	Protocol from the Fourth session of the Mixed commission for scientific and technological cooperation between Republic of Serbia and Republic of Slovenia	
Other European countries	Agreement/Programme	Signature/Ratification/Date of effect
France	Agreement	2006
Germany	Agreement	2009

Hungary	Agreement	2006
Italy	Agreement on scientific and technological co-operation between the Republic of Serbia and the Republic of Italy	21.12.2009
Slovakia	Agreement between the Federal Government of the Federal Republic of Yugoslavia and the Government of the Slovak Republic in the Fields of Education, Culture and Sports Agreement of scientific and technological cooperation between Government of Federal Republic of Yugoslavia and Government of Republic of Slovakia, Ministry of Science and Environmental protection	30.01.1996/29.08.1996/12.09.1996 2006

3.10.3 Type of activities and scientific fields of cooperation

- Again, the thematic priorities set are country specific, recognizing the specific need and strengths of partner countries. However, it can be summarized that in terms of thematic sub areas, Serbia is active in “Physical sciences”; “Mathematics and computer sciences” and Biological sciences” as well as in “Veterinary medicine”. According to the Strategy for 2010-2015 in S&T Serbia’s priority areas will be as follows: Biomedicine and human health, new materials and nanosciences, Environment protection and climate change, Agriculture and food, Energy and energy efficiency, Information and communication technologies, improvement of public policy making processes and affirmation of national identity. Based on the bilateral agreements the cooperation between Serbia and other countries is basically on inter-university exchanges (both – teacher and student exchange) and visits of researchers. Thematic fields in joint research projects are: Quality of life, health, food and environment, agriculture, information society, progressive technologies and new materials, energy and its intensive usage and contribution of Social sciences to development of society.

3.11 Slovenia

Slovenia was interested in the SEE area due to several political factors. Besides elaborating common strategies in the field of science and technology, forming the means and tools for the R&D and innovation policy at regional level, the potential technology transfer and, last but not least, the representation of their own interests in the region motivated the country to establish closer links with their South-Eastern neighbours.

3.11.1 Bilateral agreements with other SEE countries

Slovenia, together with France and Greece is one of the main actors in terms of bilateral research relations with SEE countries. Cooperation is devoted entirely to this region, logically most intensive with Croatia as a neighboring state. Slovenia has bilateral governmental agreements with all SEE countries.

3.11.2 Bilateral agreements with other European countries

Slovenia established bilateral cooperation in the field of scientific research, education and/or technological cooperation with the following countries: Austria, Czech Republic, Denmark, Finland, France, Germany, Hungary, Italy, Latvia, Lithuania, Luxembourg, Malta, Poland, Portugal, Slovakia, Spain and UK.

Table 11: Bilateral Agreements between Slovenia and other SEE countries and between Slovenia and other European Countries

Slovenia		
SEE Country	Agreement/Programme	Signature/Ratification/Date of effect
Albania	Agreement between the Government of the Republic of Slovenia and the Government of the Republic of Albania on Cooperation in the Fields of Education, Culture and Science	09/1994
BiH	Agreement on Scientific and Technological Cooperation between the Government of the Republic of Slovenia and the Government of the Republic of Bosnia and Herzegovina	04/1996
Bulgaria	Agreement between the Government of the Republic of Slovenia and the Government of the Republic of Bulgaria on Co-operation in the Fields of Education, Culture and Science Survey of the interest in scientific and technological cooperation with the Republic of Bulgaria	02/1996
Croatia	Agreement on Scientific and Technological Cooperation between the Government of the Republic of Slovenia and the Government of the Republic of Croatia Protocol of the 6th Session of the Committee for Scientific and Technological Cooperation between the Republic of Slovenia and the Republic of Croatia	04/1996
Former Yugoslav Republic of Macedonia	Agreement between the Government of the Republic of Slovenia and the Government of the Republic of Macedonia for Scientific and Technological Cooperation	12/1995
Greece	Agreement between the Government of the Republic of	08/1994

	<p>Slovenia and the Government of the Hellenic Republic on Cooperation in the Fields of Culture, Education and Science</p> <p>Agreement between the Government of the Republic of Slovenia and the Government of the Hellenic Republic on Scientific and Technological Co-operation</p>	10/2002
Montenegro	Agreement on Scientific and Technological Cooperation between the Government of the Republic of Slovenia and the Federal Government of the Federal Republic of Yugoslavia	02/2002
Romania	Agreement on Scientific and Technical Cooperation between the Government of the Republic of Slovenia and the Government of Romania	02/2002
Serbia	Agreement on Scientific and Technological Cooperation between the Government of the Republic of Slovenia and the Federal Government of the Federal Republic of Yugoslavia	01/2002
Turkey	<p>Agreement between the Government of the Republic of Slovenia and the Government of the Republic of Turkey on Cooperation in the Fields of Education, Science and Culture</p> <p>Programme of Cooperation in the Fields of Education, Culture and Science between the Government of the Republic of Slovenia and the Government of the Republic of Turkey for the Years 1999-2003</p> <p>Agreement on Co-operation in Science and Technology between the Government of the Republic of Slovenia and the Government of the Republic of Turkey</p>	<p>04/1997</p> <p>02/1999</p> <p>2001</p>
Other European countries	Agreement/Programme	Signature/Ratification/Date of effect
Austria	Agreement on Scientific and Technological Cooperation between the Government of the Republic of Slovenia and the Government of the Republic of Austria	10/1999

Czech Republic	Agreement on Scientific and Technological Cooperation between the Government of the Republic of Slovenia and the Government of the Czech Republic	08/1996
Denmark	Agreement between the Republic of Slovenia and the Kingdom of Denmark on the Development of Economic, Industrial and Technical Co-operation Joint declaration between the Ministry of Science and Technology of the Republic of Slovenia and the Ministry of Research and Information Technology of the Kingdom of Denmark	12/1995 1997
Finland	Memorandum of Understanding on Co-operation in the Fields of Education, Science and Culture between the Ministry of Foreign Affairs, the Ministry of Education and Sport, the Ministry of Science and Technology and the Ministry of Culture of the Republic of Slovenia and the Ministry of Education, Science and Culture of Finland Memorandum of Understanding on Scientific Cooperation between the Academy of Finland and the Ministry of Education, Science and Sport of the Republic of Slovenia	1999 2003
France	Agreement between the Government of the Republic of Slovenia and the Government of the Republic of France on Cooperation in the Fields of Culture, Education, Science and Technology	04/1993
Germany	Agreement between the Government of the Republic of Slovenia and the Government of the Federal Republic of Germany on Cooperation in Culture	09/1994
Hungary	Agreement for Scientific and Technological Cooperation between the Government of the Republic of Slovenia and the Government of the Republic of	11/1995

	Hungary	
Italy	Agreement on Scientific and Technological Cooperation between the Government of the Republic of Slovenia and the Government of the Italian Republic	10/1999
Latvia	Agreement between the Government of the Republic of Slovenia and the Government of the Republic of Latvia on Cooperation in the Fields of Culture, Education and Science Protocol of Intentions between the Ministry of Science and Technology of the Republic of Slovenia and the Ministry of Education and Science of the Republic of Latvia Survey of the interest in scientific and technological cooperation with the Republic of Latvia	10/1999 1998
Lithuania	Agreement between the Government of the Republic of Slovenia and the Government of the Republic of Lithuania on Cooperation in the Fields of Culture, Education and Science Joint declaration between the Ministry of Science and Technology of the Republic of Slovenia and the Ministry of Education and Science of the Republic of Lithuania Survey of the interest in scientific and technological cooperation with the Republic of Lithuania	2001 1998
Luxembourg	Agreement between the Government of the Republic of Slovenia and the Government of the Grand Duchy of Luxembourg on Cooperation in the Fields of Education, Culture and Science	05/1998
Malta	Agreement between the Government of the Republic of Slovenia and the Government of Malta on Cooperation in the Fields of Education, Culture and Science	05/1997
Poland	Agreement on Scientific and Technological Cooperation between the Government of the	1997

	Republic of Slovenia and the Government of the Republic of Poland	
Portugal	<p>Agreement between the Republic of Slovenia and the Portuguese Republic on Cooperation in the Fields of Education, Culture and Science</p> <p>Agreement on Scientific and Technological Cooperation between the Republic of Slovenia and the Portuguese Republic</p>	<p>10/1999</p> <p>07/2003</p>
Slovakia	<p>Agreement between the Government of the Republic of Slovenia and the Government of the Slovak Republic on Cooperation in the Fields of Science, Education and Culture</p> <p>Agreement on Scientific and Technological Cooperation between the Government of the Republic of Slovenia and the Government of the Slovak Republic</p>	<p>07/1997</p> <p>2001</p>
Spain	<p>Agreement between the Republic of Slovenia and the Kingdom of Spain on Cooperation in the Fields of Culture, Education and Science</p> <p>Programme of Cooperation in the Fields of Culture, Education and Science between the Republic of Slovenia and the Kingdom of Spain for the Years 1999-2003</p> <p>Agreement between the Republic of Slovenia and the Kingdom of Spain on Scientific and Technological Co-operation</p>	<p>09/1994</p> <p>12/2000</p> <p>07/2003</p>
UK	Agreement between the Government of the Republic of Slovenia and the Government of the United Kingdom of Great Britain and Northern Ireland on Co-operation in the Fields of Education, Culture and Science	07/1994

3.11.3 Type of activities and Scientific fields of cooperation

The scope of cooperation of Slovenia is wide, generally with no thematic priorities, even though some of the supported projects are country specific. The density of the projects funded is in Natural sciences and Engineering sciences.

The activities supported in framework of bilateral agreements are usually joint scientific research projects, thematic conferences, exchange of students, experts and scientists, exchange of information on science and technology between two countries etc. With Croatia as a neighboring state Slovenia has an intensive cooperation and scientific priority areas of the joint research projects are: biotechnology and biomedicine, nanoscience and nanotechnology, energy and transport, informatics and telecommunications, ecology and environment protection and social sciences and humanities.

3.12 Turkey

TUBITAK is the leading agency for management of research in Turkey and is responsible for promoting, organizing, conducting and funding research and development in line with national targets.

3.12.1 *Bilateral agreements with other SEE countries*

Turkey up today has 9 Bilateral Agreements in the field of Research and Higher Education with Albania, Bosnia and Herzegovina, Bulgaria, Croatia, the Former Yugoslav Republic of Macedonia, Greece, Montenegro, Romania and Slovenia.

3.12.2 *Bilateral agreements with other European countries*

Turkey up today has 5 Bilateral Agreements in the field of Research and Higher Education with France, Germany, Ireland, Italy and with Slovakia.

Table 12: Bilateral Agreements between Turkey and other SEE countries and between Turkey and other European Countries

Turkey		
SEE Country	Agreement/Programme	Signature/Ratification/Date of effect
Albania	Agreement on scientific and technological cooperation between the Ministry of Education and Science of the Republic of Albania and the Council of Scientific and Technological Research of Turkey (TUBITAK)	07.02.2007
Bulgaria	Agreement on Science and Technology between TUBITAK and Bulgarian Academy of Sciences.	29.05.2002
Croatia	Agreement between the Government of the Republic of Croatia and the Government of the Republic of Turkey in the field of education and culture	19.06.1996
	Protocol between the Ministry of Science and Technology of Croatia and the Council for Scientific and technical research of Turkey (TÜBITAC) on Cooperation in the field of science and technology	19.04.1998

	<p>Memorandum of Understanding on Cooperation in Higher Education between the Ministry of Science and Technology of the Republic of Croatia and the Council of Higher Education of the Republic of Turkey</p> <p>Programme between the Government of the Republic of Croatia and the Government of the Republic of Turkey on Cooperation in the Fields of Education, Science, Culture and Arts, Youth and Sport</p>	<p>10.02.1999</p> <p>05.12.2006/12.12.2008</p>
former Yugoslav Republic of Macedonia	Agreement on Cooperation in Science and Technology between TUBITAK and the Ministry of Education and Science of Macedonia.	17.05.1994
Greece	<p>Agreement between the Republic of Turkey and the Hellenic Republic on Scientific and Technological Cooperation</p> <p>Executive Protocol between the Republic of Turkey and the Hellenic Republic on Scientific and Technological Cooperation</p>	<p>04.02.2000</p> <p>20.07.2001</p>
Slovenia	Agreement on Cooperation in Science and Technology between Government of Republic of Turkey and Government of Republic of Slovenia.	19.04.2001
Other European countries	Agreement/Programme	Signature/Ratification/Date of effect
France	<p>Cooperation Agreement between TUBITAK and Centre Nationale de la Recherche Scientifique</p> <p>Protocol for Programme of Integrated Actions between TUBITAK and the Ministry of Foreign Affairs of France</p>	<p>11.02.1992</p> <p>16.07.2003</p>
Hungary	Protocol on Cooperation in Science and Technology between TUBITAK and The National Office for Research and Technology (NKTH) of Hungary.	12.01.2005
Italy	<p>The General Protocol on Scientific and Technological Cooperation between CNR and TUBITAK.</p> <p>The Executive Protocol</p>	<p>16.07.1982</p> <p>23.02.2001</p>

3.12.3 *Type of activities and Scientific fields of cooperation*

Turkey supports in the framework of bilateral cooperation this type of activities:

- Joint research and development projects, including exchange of research results and exchange of scientists;
- Exchange of individual scientists for the purpose of conducting research work, exchange of information about ongoing research activities, adoption of new scientific methods, delivering lectures, establishing new scientific contacts for developing joint projects, attending scientific events;
- Organising and participating in joint scientific meetings, conferences, symposia, courses, workshops, exhibitions;
- Exchange of scientific and technological information and documentation;
- Joint use of research and development facilities and scientific equipment;
- Other forms of scientific and technological co-operation which might be mutually agreed upon;
- Natural Sciences and Mathematics;
- Medical Science;
- High Technology Materials;
- Energy and Environment;
- Genetic Engineering;
- Agriculture;
- Veterinary Sciences;
- Earth Science and Earthquake Engineering;
- Informatics.

3.13 UNMIK-Kosovo (UN resol 1244)

The Ministry of Education, Science and Technology started as Department of Education soon after UNMIK established the Joint Civil Commission for Education, which intended to include members of the Albanian and Serb speaking academic community as well as a UNESCO/UNICEF representative as chairman. MEST had no specific Department for Science and Technology. The responsibility for research and technology lied with the Department of Higher Education and Science (DHES). In the meantime a Department of Science and Technology (DST) as a part of MEST was established. It is responsible for the execution of the policies of the Government of UNMIK-Kosovo (UN resol 1244) and its aim is creation of a good infrastructure, institutional and financial basis for the development of science, science researches as well as the encouraging the modern technology developments in UNMIK-Kosovo (UN resol 1244) economy. Department of Science and Technology is trying to initiate the amendment and re-amendment of the Law for the Science and Research Activity, as well as in cooperation with the CITT board drafts a strategic national document for the developments in the field of innovations, patents and technology transfer.

Another aspect of the activities of Department of Science and Technology is the coordination of works with the science state and public bodies, like the National Science Council, the Academy of Arts and Science, Independent Scientific Institutes, Public University and other public and private institutions which are dealing with the scientific research in the different fields.

The interventions of the MEST however were rightfully mostly focused on higher education, first of all on teaching related aspects and also concentrated on some structural, administrative and management issues, refraining, however, from interventions in the field of scientific research.

3.13.1 Bilateral agreements with other countries

Bilateral agreements in education and science with Albania and FYR of Macedonia are in process of negotiation.

In the cooperation with the PPKA (Partnership Project Kosove- Austria), MEST has also managed to establish the Board of the Center for Innovation and Technology Transfer (CITT).

Meetings with external and internal experts were organised and study visit to Austria and Czech Republic took place in order to gain experiences in managing in the field of science and technology.

Table 3.1 summarises the general thematic priorities of the SEE countries.

	ICT	Nano-technology	NewMaterials	Space res.	Energy +Sust.dev.	Agri-culture -businss	Bio-techn. Food	Bio-medicine	Life sciences	Genomics	Impr. the quality of	Environment. research	Water resources	Other
Albania														
Bosnia and Herzegovina	X		X			X	X				X	X		
Bulgaria	X	X	X							X				Foresight
Croatia	X	X			X	X	X	X				X		
Former Yugoslav Republic of Macedonia	X		X		X	X	X					X	X	Transport Ecology Chemistry Earth quacking
Greece	X	X		X	X		X			X		X		Marine sciences Natural hazards Cultural heritage
Montenegro	X		X			X	X				X	X	X	
Republic of Moldova														
Romania	X	X	X			X	X				X	X	X	
Serbia														
Slovenia	X	X	X		X		X	X						Social sciences
Turkey														

Table 3.2: Support provided in bilateral RTD programs

Country / Responsible institutions	Mobility (costs of travelling and daily/monthly allowances)	Research infrastructure	Research activity	Other
Albania	X			
Bosnia and Herzegovina Ministry of Foreign Affairs	X			
Bulgaria Ministry for Education and Science	X	X	X	
Croatia Ministry of Science, Education and Sports	X			
Former Yugoslav Republic of Macedonia Ministry of Education and Science	X		X	
Greece Ministry of Development – General Secretariat for R&T	X	X	X	Scholarships Publications
Montenegro Ministry of Education and Science	X	X	X	
Republic of Moldova				
Romania Ministry of Education and Research	X			Research activity is indirectly supported
Serbia				
Slovenia Ministry of Higher Education, Science and Technology	X			Longer staying of researchers from West Balkan countries
Turkey				

Table 3.3 includes the names of institutions managing bilateral intergovernmental cooperation programmes

Country	Ministry	Agency
Albania	Ministry of Education and Science	Academy of Science of Albania
Bosnia-Herzegovina	Ministry of Foreign Affairs (MVP) Department for International Scientific, Technical, Educational and Cultural Cooperation	
Bulgaria	Ministry for Education and Science (MON)	Academy of Sciences of Bulgaria
Croatia	Ministry of Science, Education and Sports (MZOS)	
former Yugoslav Republic of Macedonia	Ministry of Education and Science	
Greece	Ministry of Development General Secretariat for Research and Technology (GSRT)	
Montenegro	Ministry of Education and Science (MPIN)	
Republic of Moldova		
Romania	Ministry of Education and Research (MEC)	
Serbia		
Slovenia	Ministry of Higher Education, Science and Sport (MSZS)	
Austria	Ministry of Science and Research (BMWF)	Austrian Exchange Service (ÖAD) Department of Academic Cooperation and Mobility Unit (ACM) CEEPUS
France	Ministry of Foreign Affairs (MAE) Directorate general for international cooperation and development Ministry of National Education, Secondary Education and Research International Relations Department Science Technology and Pedagogy Mission	EGIDE – Public agency for scientific exchanges management
Germany	Federal Ministry of Education and Research	International Bureau of the

	(BMBF)	Federal Ministry of Education and Research at the DLR
Hungary		National Office for Research and Technology (NKTH)

4 REGIONAL SEE COOPERATION: INITIATIVES AND ACHIEVEMENTS

The Regional Cooperation Council (RCC) was officially launched on 27 February 2008, as the successor of the Stability Pact for South Eastern Europe.

The RCC is intended to sustain focused regional cooperation in South East Europe through a regionally owned and led framework that also supports European and Euro-Atlantic integration. It is turned to developmental projects and creation of a political climate susceptible to implementing projects of a wider, regional character, to the benefit of each individual country.

The work of the RCC focuses on six priority areas: economic and social development, energy and infrastructure, justice and home affairs, security cooperation, building human capital, and parliamentary cooperation as an overarching theme.

The organization maintains close working relations with all actors of relevance in these areas, such as governments, international organizations, international financial institutions, regional organizations, civil society and the private sector.

The RCC functions as a focal point for regional cooperation in South East Europe. Supported by the Secretary General, its Secretariat based in Sarajevo and its Liaison Office in Brussels, the RCC provides the Southeast European Cooperation Process (SEECPP) with operational capacities and acts as a forum for the continued involvement of those members of the international donor community engaged in the region.

The RCC also provides political guidance to and receives substantive input from relevant regional task forces and initiatives active in specific thematic areas of regional cooperation.

The Statute of the RCC forms the basis for its operations. According to it, the RCC Board provides operational guidance and supervision to the organization. It comprises of those RCC members contributing to the budget of the RCC Secretariat as well as the EU, represented by the Troika consisting of the EU Presidency, the European Commission and the European Council Secretariat.

The annual budget of the RCC Secretariat is set at 3 million euro, 1/3 being the contribution by the region, 1/3 by the European Commission and the remaining 1/3 by other RCC members and international partners.

The RCC Secretariat is based in Sarajevo, Bosnia and Herzegovina. It employs 32 officials, 25 in the Sarajevo headquarters and seven in the Brussels Liaison Office.

Support for IPA towards the development of a regional research strategy under the umbrella of the Regional Cooperation Council could be an important tool to further enhance regional cooperation.

4.1 A new ERA for eInfrastructures (www.seera-ei.eu)

In South East Europe has begun with the launch of the European project SEERA-EI (South East European Research Area for eInfrastructures). SEERA-EI kicked off in Athens on 9th

April 2009, and it will provide an open forum for national-level programme owners in order to enable the coordination of national programmes in the field of electronic infrastructures.

The initiative brings together 19 partners from 10 countries in the South-East European region and will set the framework for the adoption of a common regional agenda for eInfrastructure. SEERA-EI receives EC support through FP7 under the "Research Infrastructures" action.

Planned Project Activities

Specifically, the project will gather and exchange information regarding current e-Infrastructure programmes, and a state-of-the-art analysis will be carried out. Through the analysis, a set of best practices and guidelines for national eInfrastructure programmes will be produced, and areas for joint regional activities will be identified, ranging from short-term soft actions, mid-term policylevel actions, to preparatory activities for long-term actions.

Communication Platform for eInfrastructure Programme Managers in SEE

One of the project's first activities was the establishment of a platform for information exchange on eInfrastructure initiatives in order to enhance communication among national-level programme managers in South East Europe.

The platform consists of two core means of communication: digital and face-to-face. The digital communication tools include project mailing lists, project private and public website, and specifically the dynamic communication tools including wiki, online forum, and survey tool, allowing easy and dynamic access and editing of information.

The face-to-face programme managers' networking meetings are held collocated with project steering committee meetings, and are supported by the tools including calendar and agenda tools. SEERA-EI has successfully carried out three faceto- face networking meetings in Athens, Bucharest and Belgrade, that will be followed by seven more meetings, hosted in each country of the SEERA-EI consortium.

SEERA-EI Open Workshop

"South-East European eInfrastructures: programming and vision" Working towards a Common Vision and Sustainable Cooperation in South East Europe

Regional vision and long term cooperation for the development of sustainable eInfrastructures in South East Europe were the main topics that were discussed at the SEERA-EI Open Workshop "South-East European eInfrastructures: programming and vision". The event was held with great success in Sofia, Bulgaria on May 12th, 2010 and it was organized in the framework of the EC funded SEERA-EI (South East European Research Area for eInfrastructures) project.

4.2 THE SOUTH EAST EUROPE PROGRAMME (www.southeast-europe.net/en/)

The Transnational Co-operation Programme South East Europe (TCP-SEE) is part of the new European Territorial Cooperation Objective for the programming period 2007 - 2013.

The general aim of TCP-SEE is to foster a balanced territorial development and territorial integration within the co-operation area.

As a overall objective, TCP-SEE shall develop transnational partnerships on matters of strategic importance to improve the territorial, economic and social integration process and to contribute to cohesion, stability and competitiveness. TCP-SEE supports transnational cooperation projects between partners that promote economic, environmental and social development by elaborating joint solutions, concrete outputs and results enabling further implementations, e.g. further initiatives and investments. The programme focuses on four thematic priorities: innovation, environment, accessibility, and sustainable urban development.

Activities to foster innovation in the region are called for in the first priority axis (Facilitation of innovation and entrepreneurship). The Western Balkan countries are fully eligible for this programme. SEE poses a unique landscape to improve integration, competitiveness and consequently territorial cohesion. While the Part of the internal Cohesion Policy of the EU, TCP-SEE actively seeks the full participation of non-Member States in the programme area, which benefit from the external Pre-Accession Assistance and the European Neighbourhood Policy funding.

The programme area includes 16 countries with a total population of 200 million and presents one of the most diverse and complex transnational co-operation areas in Europe. It is the only transnational programme area with such a large number of non-EU countries participating (candidates, potential candidates and third countries).

The eligible area for TCP-SEE comprises Albania, Austria, Bosnia and Herzegovina, Bulgaria, Romania, Croatia, FYR of Macedonia, Greece, Hungary, parts of Italy, Serbia, Montenegro, Slovakia, Slovenia, Republic of Moldova and parts of Ukraine.

4.3 Central European Exchange Programme for University Studies ("CEEPUS II")

Agreement between the Republic of Albania, the Republic of Austria, the Republic of Bulgaria, Bosnia and Herzegovina, the Republic of Croatia, the Czech Republic, the Republic of Hungary, the Republic of Macedonia, Montenegro, the Republic of Poland, Romania, the Republic of Serbia, the Slovak Republic and the Republic of Slovenia promoting cooperation in the field of higher education.

The legal basis for CEEPUS is an international Agreement signed by the member states and is open for accession.

CEEPUS is based on lean management. The highest ranking decision making CEEPUS body is the Joint Committee of Ministers that meets once a year and takes all strategic decisions. Coordination, evaluation, program development and advertizing are the main tasks of the Central CEEPUS Office (consisting of only two persons). Each country has a National CEEPUS Office in charge of national implementation. In order to avoid setting up new

administrative bodies, the National CEEPUS Offices are integrated into already existing structures, usually national agencies.

The main activity of CEEPUS are university networks operating joint programs ideally leading to joint degrees. CEEPUS covers mobility grants for students and teachers in this framework.

The main objectives of CEEPUS are to

- contribute to merging the European Higher Education Area and European Research Area
- use regional academic mobility as a strategic tool to implement Bologna objectives
- enable cooperation with SEE, the Ukraine and Moldavia

5 SUMMARY AND CONCLUSIONS: BILATERAL AND REGIONAL SCIENTIFIC COOPERATION

Bilateral S&T programmes are in general focused on strengthening RTD cooperation between the signatory countries.

Diverse S&T agreements exist between EU Member States (old and new) and Western Balkan countries but also amongst SEE countries.

Duration:

The duration varies between 2 – 4 years.

Objectives:

The clear aims of S&T agreements are:

- Foster international and regional cooperation between signatory countries
- Stimulate exchange of researchers; know how, capacities, etc.
- Networking

The main strength of bilateral RTD cooperation is that it can be established easily, have low costs and risks, and the success rate is high. The participants can easily learn the culture of application. The results lead to scientific articles, new procedures, and they are integrated in university curricula. The young researchers achieve higher scientific grades and build up relationships. From the point of view of the research project, additive financing means co-financing.

Relationships are prevented from becoming stable and long-term by the fact that – except for a few cases – the agreements do not provide financial support for research costs. Not all of the countries allow small and medium sized enterprises (SME-s) to participate in the projects. The evaluation of the results is irregular and their dissemination to society is completely missing.

The more than **82 agreements** concluded and **12 agreements in preparation** among the 13 countries and other European countries provide opportunities for large-scale networking. It means that by gaining references in bilateral relationships one can quickly find partners for working in a Union's or other multilateral project or for utilising the results. In this latter field the opportunities of involving SME-s are still unexploited.

The main risks in the SEE region are instability of the region, limited mobility due to the visa regime, poor communication links and underdeveloped internal procedures. The war led to a significant increase in brain drain. Establishing relationships is also hindered by the development / knowledge gap and political changes.

The self-assessment revealed that it worth cooperating with countries making every effort to facilitate the cooperation. The policy makers are the most important stakeholders in launching bilateral RTD cooperation. The most important strategic orientation is the representation the country's interest. According to the self-assessment Germany, Greece and Slovenia have the best practice in project management, Germany, Croatia, Greece and Austria in the evaluation system.

Conclusions:

The conclusions of the study can be summarized as follows.

5.1 Strength, weaknesses, opportunities, threats

In the past few years (decades) bilateral, intergovernmental S&T cooperation has had two objectives. One of them is that the cooperation of the scientific research institutions of two countries should yield *results for mutual benefit* of both countries. The management system, in which projects compete in their added value, has been developed to achieve this objective. Changes in content have been due to changes in preferential themes.

The other objective of cooperation has been to “*bridge the gaps*” between the researcher communities of the two countries, establish references and strengthen international relationships – preferably with little investment. Therefore the partners only at the location where they are incurred pay research costs, and the two governments support only the mobility of researchers. This is what is called *additive funding*, which is still a typical way of funding all bilateral S&T cooperation.

If the enlarged and still enlarging EU wishes to integrate not only the new member states, but their research and innovation potential as well, it has to learn about the STRENGTHS of bilateral S&T cooperation that you can build on. It also has to be examined, which are the already outdated principles and practices that are the WEAKNESSES of two relations, and in this way block and limit the expansion of the research cooperation and the development of larger-scale research projects.

The Lisbon objective and the programmes aiming to achieve it, offer OPPORTUNITIES you can choose from step by step. Of course one must not forget about THREATS either, which may occur within a country, in the relationship of two countries or in a region. They can be affected by actual political or economic conditions, legislation environment, or the attitude of decision-makers and implementers in charge of the relations of two countries.

Strengths

The main strength of bilateral S&T cooperation is still the same they were once established for. Bilateral projects are *easy to establish, have low costs and involve few risks*, their administration is quite simple and *their success rate is high*.

The different scientific schools and practices enrich each other, and in case of a long-term relationship they produce *impressive results* (scientific articles, new practices, patents). The new knowledge is usually *included in university curricula*, in this way contributing to increasing the knowledge base.

Young and junior researchers tend to quickly learn how to develop projects and prepare applications, and use this opportunity effectively for networking and achieving higher grades.

From the point of view of the project, additive financing means *co-financing*, whereby one can use the research infrastructure of its partner “free of charge”. The exchange of information, experience and occasionally know-how significantly increases the knowledge base of the partners as well as their practical experience. In addition, the *human relationships* improve their social awareness, accepting and acknowledging people from other countries.

The strengths of bilateral RTD cooperation can be divided into nine thematic categories. These include: i) Basis for future collaboration (ERA); ii) Low cost/easy administration/low risk; iii) Access to research facilities and expertise; iv) Networking; v) Stability of the region; vi) Funding; vii) Research related strength; viii) RTD Development/Integration and ix) Positive outcomes of RTD bilateral cooperation.

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- i) Bilateral RTD cooperation is a basis for future collaboration (ERA). This was identified as a strength in the sense that bilateral RTD cooperation provided a good introduction (first step) and foundation for future cooperation (in regional, multilateral and EU projects). It was stated that these large scale multilateral programmes funded by the EU are usually a continuation of bilateral cooperation where researchers can establish links and partnerships, gain experience, network, as well as develop ideas for larger-scale projects.
 - ii) Low cost/easy administration/low risk was recognised as another strength by over half of the countries in bilateral RTD cooperation. In short, these countries pointed out this scientific cooperation is low cost, non-bureaucratic, simple, quick, flexible, easier, more manageable, low-risk, secure and has a higher success rate than EU funded multilateral cooperation.
 - iii) More than half of the countries identified access to research facilities and expertise as a strength of bilateral RTD cooperation. In other words, for purposes of research, specialisation, post-graduate studies, etc. (young) researchers are able to acquire know-how in foreign partner institutes/institutions (modern facilities/equipment, unique institutions in specific fields, expertise and experience) which can be fruitfully used at home.
 - iv) Networking was also recognised as a strength in bilateral RTD cooperation by nearly half of the countries. Bilateral RTD cooperation in these countries is seen as advantageous because it provides stimuli for good partnerships and connects scientists who work in similar research fields, creating networks of excellence through cooperation. Through this type of cooperation that involves the exchange of scientific information and experiences, it is easier support to make contacts and to find common interests among partners, which contributes to the overall strengthening of networking in this region.
 - v) A quarter of the countries acknowledged stability of the region as a strength of bilateral RTD cooperation. Countries mentioned that stability is accomplished because diplomatic weaknesses and problems are eliminated and the overall communication between countries is improved and made more flexible through bilateral RTD cooperation. In addition, the converging of regions also contributes to the stability of the region.
 - vi) Funding was also recognised as a strength in bilateral RTD cooperation in a third of the countries. According to the participating countries, bilateral RTD cooperation provided extra money for mobilities and access to shared EU funds as well as the availability of co-funding schemes.
 - vii) Nearly half of the countries identified strengths that are research related in bilateral RTD cooperation. Namely, these strengths in bilateral RTD cooperation include the basis for establishing thematic programmes in priority areas and identification of target areas with utmost research potential in particular partner countries. The definition of priorities can be undertaken together with a partner country that creates enormous opportunities for scientists through wide scope / long-term cooperation in a diversity of scientific fields.
 - viii) RTD Development/Integration was another strength identified by three countries in bilateral RTD cooperation. This includes the development and renovation of research potential as well as the development of human potential through bilateral RTD cooperation within particular partner countries. In addition to contributing to regional development this entails the integration of science into European Research Area.
 - ix) Lastly, a number of positive outcomes of RTD bilateral cooperation were acknowledged by half of the countries. Since bilateral RTD cooperation supports joint projects that are interesting to both countries, it contributes to solving bilateral scientific “problems” in the region. In terms of final outcomes, it positively results in the transfer and sharing of

knowledge/technology/resources, joint publications, utilisation of research results and existing research infrastructure, new patents, good reputation, etc. Optimistically, through the production of new knowledge, research skills are enhanced and there is a growing awareness of research capabilities in the scientific communities of each partner country. Accordingly, countries need to adapt their scientific policies to facilitate regional cooperation. Bilateral projects results can also be exploited in industry and provide a good base for market and in general contribute to a better knowledge of society.

Weaknesses

Additive financing, one of the basic principles of bilateral S&T cooperation at the start, have by now become one of the weaknesses. Especially long-term cooperation is hindered by the fact that the agreements *do not provide a budget for the research costs of bilateral research*.¹

In the Central European countries bilateral S&T relationships originally included science, engineering, medicine and agricultural sciences only. However, at the time of preparing for the EU accession economic projects analysing the impact of the integration also started. Spin-off companies established at universities were the first small businesses interested in bilateral cooperation, but the *SME-s of business sector are still the white crows* of bilateral cooperation. Bilateral projects in the fields of social sciences and humanities are also rather underdeveloped in this framework.

Weaknesses of bilateral RTD cooperation can be divided into six thematic categories. These include i) Limited budget; ii) Limited scope, iii) Lack of infrastructure iv) Bureaucracy / Efficiency of administration v) Lack of evaluation and vi) Negative Outcomes.

- i) Three quarters of the countries stated that a limited budget is a weakness of bilateral RTD cooperation. In other words, these countries claim that the budgets in bilateral programmes are small, inadequate and insecure. Moreover, they often need to be supplemented since they are only sufficient to cover mobility and daily allowances and do not provide money for research equipment.
- ii) Limited scope is considered to be another weakness of bilateral RTD cooperation by half of the countries. They claim that it is limited in scope because bilateral RTD cooperation should include more countries and should provide for longer-term research. Many countries are critical that bilateral programmes only fund mobility, which no longer serves the purpose of science. In some countries, links between research institutes-universities and business are almost absent while in others RTD cooperation is limited to the physical sciences while social sciences and humanities are neglected.
- iii) Nearly half of the countries consider that a lack of infrastructure is another weakness in bilateral RTD cooperation. These include: a lack of modern equipment /infrastructure for competitive research projects as well as insufficient access to the world scientific data bases. Particularly poor training conditions as well as scarce, unsatisfactory research equipment that were either destroyed in the war or are outdated were noted in some countries.

¹ Greece and Germany are exceptions. Greece reimburses the research and mobility costs of its own researchers in approved research projects, but does not expect the same from its partners. Germany, while reducing traditional mobility projects, is developing the financing system of big bilateral projects. In these, in agreement with its partner country, it also finances research costs in selected topics.

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- iv) Four countries claimed that the bureaucracy / efficiency of administration in bilateral RTD cooperation are a weakness. Some criticisms of this included that there should be less bureaucratic administration, more institutional autonomy, more accessible information and more personnel.
 - v) Lack of project evaluation was considered to be another weakness of bilateral RTD cooperation. Two countries claimed that an evaluation system and follow-up procedure is non-existent in bilateral RTD cooperation.
 - vi) Finally, the negative outcomes of bilateral RTD cooperation were mentioned as another weakness by a quarter of the countries. These negative outcomes included: underrepresentation of the business sector; limited use of results in industry and inapplicability of results to facilitate technological development of own country.

Opportunities

Networking is a real opportunity for bilateral S&T relationships already established or being established now. We have already seen examples of bilateral relationships expanded to become trilateral ones². But there are also examples of a developed EU member state strengthening its S&T cooperation with two other European countries in trilateral relationships already from the start³. During the preparation for EU accession the framework of bilateral cooperation has provided and will provide opportunities for brokerage events. There are numerous European multilateral programmes in which new projects⁴ have been born on the basis of bilateral cooperation, and this provides great perspectives for the multilateral co-operations of the European Research Area.

By partly or completely eliminating the weaknesses described above will provide opportunities for *wider-scale, complementary research* and in this way develop significant new methods and technologies that can be used in industry, medicine or agriculture. It is essential to *involve small and medium size enterprises more intensively* in bilateral relationships.

Participants of bilateral cooperation gain *references* that enable them to join the work of science networks more easily, get access to the research facilities of their partners, and gain new knowledge and experience not only in science, but also in the fields of application and markets.

Central European and West-Balkan countries may increase the knowledge levels of the *region* with the help of bilateral S&T relations; they can develop their human resources and in this way contribute to increasing the competitiveness of the region.

The opportunities of bilateral RTD cooperation can be divided into eight thematic categories. These include: i) Potential future collaboration /integration (ERA); ii) Access to research potentials /infrastructure; iii) developing human potential; iv) Expansion /development /exchange of knowledge; v) Innovation /Modernisation; vi) Research-related; vii) Advantageous policy (funding) changes and viii) Positive market-related outcomes.

- i) Bilateral RTD cooperation is potential future collaboration/integration (ERA). Namely, this entails the use and development of existing bilateral cooperation at different levels e.g., unilateral, multilateral, regional approaches. It involves the opportunity to create

² E.g. TRICO program between Austria, Italy and Slovenia.

³ ECO-NET programs between French and a minimum of 2 other partners from CEEC, SEEC or Newly Independent States.

⁴ E.g. the projects: ESO-DENIS, EU INCO-Copernicus – PORIS, ESPRIT – HIPERLOGIC, EUREKA-RAMAPHOS etc.

strong links and to renew former ones, especially in the region, based on common strategic priorities, importing knowledge, and the sharing of the individual infrastructural capacities of countries in the region. In short, bilateral RTD cooperation provides the opportunity to build up new research partnerships for long-term cooperation that gives each country a better reputation and broadens the ERA.

- ii) Access to research potentials/infrastructure was mentioned by a quarter of the countries as an opportunity of bilateral RTD cooperation. This includes the use of research potentials abroad, better access to major/modern scientific networks, technology, data bases and information as well as access to complementary sources of expertise and know-how to develop and renovate research potential in their own countries.
- iii) The opportunity of developing human potential in bilateral RTD cooperation (development of human resources and capacities). Some countries stated that this cooperation in terms of mobility is an ideal opportunity for the training of young researchers.
- iv) The possibility to identify the expansion/development/ exchange of knowledge as an opportunity of bilateral RTD cooperation. Enlarging, developing, expanding and disseminating knowledge in different scientific fields and industries as well as learning about different cultures and ways of thinking were all listed as opportunities.
- v) Innovation and modernisation as an opportunity of bilateral RTD cooperation. In other words, bilateral RTD cooperation is an opportunity to create more innovative and market-oriented products as well as a possibility to improve or reinforce the infrastructure and upgrade institutions and universities. In short, innovation is attainable through internationalisation.
- vi) The research-related opportunities of bilateral RTD cooperation. This includes: the creation of larger research teams with the potential of larger projects as well as the access to interesting, stimulating and excellent projects in specific fields. These cooperative research activities would also provide the opportunity to improve quality of scientific projects as well as increase competitiveness among researchers raising the overall standard of scientific RTD activities in partner countries. Further, cooperative work on research projects would facilitate joint publications.
- vii) Advantageous policy (funding) changes as an opportunity of bilateral RTD cooperation. Opportunities included more investment in research as well as a better distribution of private – public funding. Better use of national project funds and access to additional funds were also mentioned.
- viii) Lastly, positive market-related outcomes as an opportunity of bilateral RTD cooperation. Access to markets, improved cooperation with innovative as well as the opportunity to implement scientific results/ applied innovations in the overall community and to use them for social development of the countries were mentioned.

Threats

The main threats in the SEE region are the *instability of the region*, *limited mobility* due to the visa regime, *poor communication links* as well as undeveloped internal procedures. The countries have become impoverished because of the war, their infrastructure is underdeveloped, and salaries are low. All this has led to the phenomenon called *brain drain*.

This region also has difficulty in networking due to the *development and knowledge gap*, which includes lack of balance in mobility compared to well-developed countries. The

transfer of knowledge is unidirectional, it is impossible to establish parity in financial matters and there are significant *differences in scientific policy* as well.

The development of bilateral relationships is also threatened by *political changes*. One of the reasons for this is that multilateral cooperation has been gaining ground, and it is to be feared that some countries (e.g. Germany) will terminate their bilateral S&T agreements. The other reason is the ever-changing political configuration of the partner countries, political turbulences, as a result of which the old agreements (may) become invalid⁵.

The new regulations, like intellectual property right (IPR), have in many countries⁶ very bureaucratic procedure and are very expensive.

The threats of bilateral RTD cooperation can be divided into six thematic categories. These include: i) Budget cuts/limitations; ii) Collaboration obstacles or barriers; iii) Development/knowledge gap; iv) Brain drain; v) Political shifts or changes; and vi) New regulations.

- i) Budget cuts/limitations are a threat to bilateral RTD cooperation. Namely, these include: limits in the national budget allocated for scientific research or RTD cooperation that is too extensive for a particular country's national funding system. In addition, some stated that apart from a lack of funding for research activities, the budget is inappropriately allocated (a larger share should be made available in the 1st year to buy research equipment) while others are threatened by a loss of European funding in the future.
- ii) Collaboration obstacles or barriers as threats to bilateral RTD cooperation. Some instances of this include: security problems, instability of the region, limited mobility due to the visa regime, different mentalities in different countries, poor communication links, unidirectional transfer of knowledge, lack of unified procedures, unsigned bilateral agreements, decentralisation of the financing for science, lack of understanding among policy makers and bureaucracy.
- iii) A development/knowledge gap is another threat to bilateral RTD cooperation. Namely, these include: a lack of balance compared to well-developed countries where it is impossible to establish parity in financial matters as well as differences in scientific policy. Another threat is that scientists also lack knowledge on cooperation procedures of programmes and on potentials in partner countries.
- vii) Brain drain is another threat to bilateral RTD cooperation. Various reasons behind brain drain were mentioned by countries that have experienced war or where there are overall deteriorating macroeconomic conditions in the country following transition.
- iv) Political shifts or changes as threats to bilateral RTD cooperation. These include: Interest in multilateral cooperation and the creation of the European Research Area (although this is not negative) or because old EU countries would like to stop bilateral cooperation. Additional threats are a result of the ever-changing political configuration of other partner countries, political turbulences and old Agreements that are no longer valid.
- v) Lastly, new regulations such as IPR: Intellectual Property Rights are another threat to bilateral RTD cooperation. Some countries claimed that at present IPR is absent although needed in their countries while others mentioned that this is a very bureaucratic and expensive issue in any international cooperation. In addition, EU standards of higher education are not compatible to the legislation of higher education in some countries.

5.2 Trends

⁵ This is especially true for agreements concluded by ex-Yugoslavia

⁶ Austria, France, Romania, Slovenia.

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- ⇒ All of the South Eastern European (SEE) countries *wish to contribute to increasing their own competitiveness*, but the *R&D expenditure* is far below especially compared to the Barcelona objective of 3%.
 - ⇒ The *bilateral intergovernmental R&D relationships of the SEE countries represent a significant potential* for the establishment of the European Research Area, as they cover all European countries
 - ⇒ Bilateral intergovernmental relationships, supplemented by the RTD co-operations between individual institutions form a *network of research capacity* that may provide a stable basis for the completion of the European Research Area.
 - ⇒ The „EU-Balkan Countries Action Plan in S&T” adopted at the Ministerial Conference in Thessalonice in 2003 resulted in *new initiatives, measures and programs* in Austria, France, Germany, Greece and *new bilateral intergovernmental agreements have been or will be concluded* among EU member states, candidate countries and West-Balkan countries.
 - ⇒ The *main driving force of the SEE countries* for the development of bilateral co-operations with EU member states is *to reintegrate in the scientific „mainstream” of European countries and the stabilization of the Balkan region.*

The science policy environment

It is government programmes, national development plans, national strategies for scientific research, innovation strategies and mid-term strategies for different fields that determine the science and technology policy of the partner countries, and specify the priorities that have to be necessarily supported from the funds of the state budget, which are rather scarce in some of the countries. In line with this, the plans, strategies or programmes specify more general or more specific objectives. In general *all of the countries wish to contribute to increasing their own competitiveness* through the development of high technologies, development of information technologies and its application in all sectors of the society, promoting technologies for new markets – creating new jobs etc.

The focus of efforts of the SEE countries is the restructuring of the scientific research sector, restructuring the traditional industrial sector, using international technology transfer for technology catch up, the increased investment into science, mobilization of research and innovation potentials for economic growth. The slow but continuous increase in the number of researchers is one of the guarantees for achieving these objectives. *However, considering R&D expenditure*, there is far below especially compared to the Barcelona objective of 3%.

The *bilateral intergovernmental R&D relationships of the SEE countries represent a significant potential* for the establishment of the European Research Area, as they cover all European countries, with several decades of tradition in most of these countries, and they also develop considerably in America, Asia and Africa.

Consequently, these bilateral, intergovernmental relationships, supplemented by the RTD co-operations between individual institutions form a *network of research capacity* that may

provide a stable basis for any Integrated Project, Network of Excellence and after all the completion of the ERA.

Bilateral S&T cooperation between SEE partners

The „EU-Balkan Countries Action Plan in S&T” adopted at the Ministerial Conference in Thessalonica in 2003 resulted in *new initiatives, measures and programmes* in Austria, France, Germany, Greece and *new bilateral intergovernmental agreements have been or will be concluded* among EU member states, candidate countries and West-Balkan countries. Bosnia-Herzegovina, the F.Y.R. of Macedonia, Montenegro, Serbia and Albania as well as the countries Bulgaria and Romania have become full members of the European scientific society.

Besides utilising opportunities of the Union’s opening to SEE countries, the *main driving force* for the development of bilateral co-operations with EU member states is *to reintegrate in the scientific „mainstream” of European countries and the stabilisation of the Balkan region.*

Management and financing practice

Mobility projects facilitating the establishment of new relationships and in this way obtaining cooperation references besides trying to achieve concrete objectives are still needed today. However, there is a need for larger-scale projects, where also the research costs are supported besides mobility costs. That is, besides the costs of travel and stay they also cover small infrastructure investments, publication, laboratory costs and overhead. There are good practices in Germany, Greece, Slovenia, Bulgaria, F.Y.R of Macedonia, Montenegro and Slovenia as well as in the ASO institutes.

The different bilateral RTD programmes can also contribute to solving the European paradox⁷. To achieve this, however, SME-s are also needed to participate in bilateral programmes or even initiate bilateral projects themselves in order to modernise their technologies. For this they should be provided support complying with the “de minis” criterion⁸.

Preparing for the participation in EU projects, finding partners, developing a project idea and writing an application does not only require considerable efforts but is also very costly. The framework of bilateral cooperation can be used for organising multilateral brokerage events or generating new multilateral projects by disseminating the results of bilateral project.

Bilateral S&T cooperation does not only include projects and researchers but leaders and decision-makers involved in science, research, innovation and politics. Meetings of Joint Committees on S&T cooperation provide excellent opportunities for them to exchange information on changes in S&T policy, R&D infrastructure, new initiatives, new national programmes and financing of research, learn about best practices and discuss issues concerning the R&D policy of the European Union. There are still numerous unexploited opportunities in this field.

Evaluation practice

⁷ In spite of possessing significant knowledge, Europe is rather bad at commercialising research results.

⁸ This criterion defines the conditions and limit of state support what can be provided to an enterprise.

Within the SEE-ERA-NET project countries – with the exception of Austria and Greece – do not undertake a *follow-up evaluation* after closing the projects, that is, they do not check to what extent the intended objectives have been achieved and where and how the results may be utilised. It implies that there are no conscious efforts for actually utilising the research results, and for providing project directors with the necessary funding for it.

There are very few SEE-ERA-NET partner countries⁹ that The SEE-ERA-NET countries – with the exception of Austria and Greece – do not undertake a *follow-up evaluation* after closing the projects (e.g. in every 3-5 years concerning each partner) and on the basis of the lessons learned, change or modify some elements of their procedures, increase the supported cooperation forms or range of eligible participants.

Dissemination and public relations

According to data from SEE-ERA-NET partners, managing the bilateral S&T programmes finishes with the final reports and final financial settlement of the projects. The conscious and well-organised presentation of the results of accomplished projects is completely missing for example at Joint Committee meetings or in the form of assessment workshops, where researchers, businesses or SME-s who did not participate in the project but are working in the same field may be invited. Greece is a good model in this respect.

Bilateral mobility projects are often looked down even in research circles because neither their benefits nor their results are publicised. Therefore it would be advisable to publish a yearbook annually in all relations, which would summarily describe the bilateral intergovernmental S&T programmes of the country concerned and by briefly describing projects closed in the previous year, would present the latest results (scientific articles, curricula, new procedures or technology, patents or possibilities of new EU cooperation projects etc.).

What is supported?

The traditional and still most important supported forms of bilateral intergovernmental S&T co-operation are the *mobility projects*. They are research cooperation with a specified length and concrete objectives, whose objective, content, expected results and the extent of exchange of researchers needed to achieve these (number and length of stays, that is, mobility) are agreed on by the project managers of the two countries involved. The grant covers the travel and sustenance costs and in some cases also the insurance fees.

The costs of cooperation in form of a grant are paid from the national budgets of the cooperating countries through the institutions responsible for implementation of the program. Each country pays the costs of mobility of researchers incurred in its territory (travel expenses, accommodation or costs of events organised) to the extent agreed on with the partner in the bilateral Joint Committees. In case of countries whose currencies are different, it is called exchange of researchers on non-currency basis. It means that the grants are always payable in national currencies.

Other supported forms of cooperation include *bilateral conferences or workshops*, where the aim may be learning about the R&D system of the partner in order to prepare for a cooperation agreement, but it may also be the dissemination of research results or looking for partners to plan multilateral projects. Partners usually agree on organising and financing these kinds of conferences in advance, when agreeing on 2-3-year cooperation work plans. The

⁹ Initiated by the French partner, the French-Hungarian bilateral intergovernmental S&T cooperation programme was evaluated in 1996.

costs of researchers' mobility are financed like in projects and the costs of organising the event are born by the country where it is held.

In some countries besides mobility, other research-related costs may also be included in the budget of bilateral S&T projects. Greece, Bulgaria and Montenegro support their own researchers for carrying out research activities, acquiring new small research infrastructure and publishing results. F.Y.R of Macedonia also supports research activities of their own researchers within the bilateral cooperation.

In Germany there are differences from previous support principles in this respect too. Instead of traditional mobility projects there are new support areas adapted to the new strategy of the "International Cooperation in Education and Research – Central, Eastern and South Eastern European Region", This includes now preparatory missions, meetings of experts, thematic workshops, short-term investigations of feasibility (up to a maximum of 4 months) and pilot investigations (maximum of 12 months). The following types of expenditure are eligible for grants: travelling expenses incurred by German experts, cost of visits by foreign experts to Germany. In special cases:

- Staff for the implementation of events and investigations of feasibility (1-3 man-months)
- Cost of events (e.g. rental of venue, logistics)
- Physical resources (e.g. consumables for pilot investigations).

There are wide ranges of bilateral S&T cooperation programmes that do not fall within the competence of intergovernmental agreements. Their comprehensive analysis cannot be undertaken in this Assessment study; therefore we only mention the most significant ones.

The German Research Foundation (DFG) encourages international collaboration in science and research through its funding instrument. The programmes of the German Academic Exchange Service (DAAD) create the personnel and institutional basis for international research co-operation. The Max Planck Society (MPG) launched a specific strategic initiative for intensification of the existing and establishing new research cooperation with the Central-European and South-Eastern European Countries. The Helmholtz Association (HGF) consisting of 15 national R&D centres, support the integration of the accession countries through Matching Workshops. The Fraunhofer Society (FhG) strengthened its commitment in the context of the enlargement process of the European Union since 1990 into the CEEC. We can also include here the Hungarian Academy of Science, which manages a wide range of bilateral international cooperation programmes in the field of basic research and continuously develops its relationships with SEE countries.

Typically ministries prepare the agreement, make the policy and strategy, develop the programme and specify the budget of the cooperation. They have the right to make decisions. In some countries it is the ministries¹⁰, in others it is the agencies¹¹ that carry out operative tasks, e.g. publish the calls for proposals, collect the proposals, let the application evaluated, and prepare the meetings of the Joint Commissions for R&D Cooperation making decisions on applications. After the decision of the joint commissions, the institution responsible for the implementation signs a contract with the applicants, manages payment and accounting, and collects the scientific and financial reports.

In France besides the Ministry of Foreign Affairs the Ministry of National Education, Secondary Education and Research also participates in managing cooperation. The former is in charge of the political issues of the cooperation (e.g. preparing for and concluding new

¹⁰ Bosnia and Herzegovina, Bulgaria, Croatia, Germany, Greece, Former Yugoslav Republic of Macedonia, Montenegro, Romania, Slovenia.

¹¹ Austria, France, Hungary.

agreements), while the latter is in charge of the scientific and research strategy of the cooperation. Besides the administrative tasks listed above, publishing results is also the tasks of EGIDE.

The Austrian Ministry of Science and Research (BMWF) – besides the above-mentioned tasks - organises accompanying evaluation of the S&T programme; the Greek General Secretariat for Research and Technology is monitoring the peer-evaluation of the scientific results as well.

Who may apply?

In the early 90s basic research was characteristic of bilateral R&D co-operations and therefore only public research institutions and universities could apply for support. In Central and Eastern European countries, due to the changeover to market economy, there has been increasing demand for newly founded small enterprises and spin-off companies to join bilateral R&D projects in order to adopt the results of research. Today public and private research institutions, higher education, non-university research establishments and hospitals may submit applications for project funding.

In 9 countries¹² as well as research units of industrial or commercial companies and small and medium sized companies (SME) can apply for support in all bilateral, intergovernmental cooperation of the region. In case of the German commercial companies the only criteria is that their established place of business shall be in Germany, in Romania the applying SME-s should have an R&D profile.

Slovenia extends the possibility of participation as well as to the legal entities or private persons which are registered by the ministry for performing research activities and which already have ongoing national, European or technology projects, financed or co-financed by the Ministry of Education, Science and Technology or by the Ministry of Economy.

Austria, Bulgaria and Croatia exclude applicants from the industry or SME.

The CNRS provides financial support only for CNRS units.

What are the advantages and disadvantages of the applied evaluation system?

The strength of the peer review evaluation system of bilateral projects is that it is independent and professional. It ensures adequate evaluation practice harmonised with evaluation system of the European Commission. However it tends to be slow mostly in newly integrated countries and in the Western Balkan countries. In SEE countries there are extremely few experts in certain fields, and due to lack of funds their remuneration is usually very low or not solved yet. It is difficult to get back the evaluations in time, and sometimes there are big differences between the two evaluations.

The system relying on thematic committees is on the other hand quick, professional and confident. The thematic committees are homogenous; the results are comparable due to the fixed composition of the expert group. But the members have to be changed frequently in order to ensure independence, to cover all scientific fields at professional level.

¹² Bosnia-Herzegovina, France, Germany, Greece, Hungary, Republic of Macedonia, Montenegro, Romania, Slovenia

Although each country carries out the evaluation in line with its own internal procedures and practices, the main evaluation criteria and the classification of ranking have to be agreed by both parties, which is not always easy.

Evaluation criteria

When evaluating bilateral S&T projects – similarly to EU projects – the following questions have to be considered.

- What added value does the intended project involve compared to the current situation of science and technology, and what benefits will it offer to the participating institutions and the two countries?
- Does the research team have adequate professional expertise, experience and infrastructure for implementing the tasks planned, that is, what are the chances of achieving the results?
- What justifies that the project has to be implemented in international cooperation and with the members of the research team specified?
- What concrete results are expected, where and how can they be utilised?
- What amount is needed to implement the tasks?

Further questions are added to the ones above, regarding the participation of young / female researchers, the regional dimension and / or participation of SME-s.

The main evaluation criteria are the same in each country though there may be minor differences concerning their specific content and depth.

- ✧ **Scientific criteria** - scientific and technological merit, innovative character of the project, originality of the theme, clarity of the objective, quality of the methodology used
- ✧ **Feasibility** - qualification of the coordinators and the project partners, research experience of the team, complementarities, quality of available scientific infrastructure
- ✧ **Significance of the cooperation** - necessity to work with this foreign partner, results of former cooperation, expected benefit for the partners
- ✧ **Expected results** - utilisation of the results in or for the industry, possibility for other international cooperation, chances of the participation in EU framework programme, possibility for commercialisation
- ✧ **Budgetary aspects** – reality of the planned budget, balance of the mobility, co-financing
- ✧ **Other criteria** – national priorities, participation of young / female researchers, regional dimension, participation of SME (if it is not restricted).

6 RECOMMENDATIONS

Several general recommendations emerged:

1. Encourage partner countries, both targeted states and other partners, to concentrate on specific priority domains in order to achieve significant progress in enhancing competitive performance of every country and of the region, through cooperative activities;
2. Targeted countries to be assisted to develop an appropriate legal and regulatory environment at a national level including competitive rules and protection of intellectual property, in a way that is likely to ensure compatibility and to promote regional cooperation and consistency with adopted European and international standards and procedures;
3. Consortia partners to promote a dynamic dialogue among stakeholders in the S&T community – research organizations; industry; user groups – from one side, and from the other the latter and policy-makers;
4. Consortia partners are advised to introduce more coordinated implementation of national, regional and European RTD programmes and initiatives, mainly through application of the principle for mutual opening of national programmes and providing support for schemes to evaluate national activities by international panels;
5. Partner countries to consider developing a regional system of national contact points designed to provide timely and accurate information on the on-going or planned research activities that are open to, and can benefit from, mutual cooperation and/or co-financing;
6. Create Consortia partners to identify possibilities for future joint activities, using the instruments provided at a European level and to develop project ideas that will become a fully-fledged projects of the new programming period 2007-2013:
 - New Framework programme on RTD
 - Competitiveness and Innovation Programme
 - European Neighborhood Instrument
 - Lifelong learning programme 2007-2013
 - Other regional funds; national targeted initiatives and non European funds.
7. *The effectiveness of bilateral cooperation can be increased by supporting research costs besides the mobility costs, by supporting the participation of SME-s in all RTD cooperation program and by organizing events for generation new EU or other multilateral projects.* Besides the general evaluation criteria most of the countries¹³ also focus on whether SME-s participate in the project and whether there are any industrial connections of the project that ensure the utilisation of the results in industry, healthcare, agriculture or trade.
8. Promote the clustering activity aimed at producing valuable insights in terms of existing gaps in RTD activities, gaps in support for projects, policy recommendations, etc.

¹³ Bulgaria, Croatia, France, Germany, Greece, Hungary, F.Y.R. of Macedonia, Montenegro, Romania, Slovenia

The clustering exercise performed is meant to contribute to the preparation of the future RTD pools of thematic areas where interest of the consortia partners are taken into account and in particular to:

- Co-ordinate the ongoing projects under the bilateral frame and to ensure that further activities are developed in a consistent manner.
- Create coherence milieu and synergies between bilaterally-financed RTD projects, to explore applicability of research results, and to deduct policy implications from research projects with a view to facilitating the national governments' policy-making role.
- Encourage wide voluntary co-operation between project consortia within or across RTD programmes on issues where they have a common interest.

The benefits and importance of the clustering exercise is manifold. To start with, it identifies a number of key areas that should be seen as main priorities for cooperation in S&T among the SEE partner countries, but also between WBC and EU (namely we are referring to domains identified already in EU policy documents and in thematic such as human resource development; capacity building; research infrastructure and innovation). Further to these, the analysis is focused on several specific tasks which can be summarized as follows:

- To learn the area of research interest and prioritization of the other countries;
- To exchange expertise and information, thus avoiding duplication of work or finding answers to problems that were encountered;
- To define common areas of mutual interest for co-operation between consortia participants;
- To feed research experiences into policy-making;
- To highlight research needs in view of future RTD activities.
- To define and agree on research areas for pilot joint call

9. There is an urgent need *to make follow-up evaluation* after closing the projects, and conscious and well-organized *dissemination of the results* in and for the society.
10. The meetings of Joint Committees on S&T cooperation provide *excellent opportunities the leaders and decision-makers involved in science, research, innovation and politics* to exchange information on changes in S&T policy, R&D infrastructure, new initiatives, and discuss issues concerning the S&T policy of the European Union.
11. The strategic orientation is to facilitate cooperation with Southeast Europe by enabling more efficient use of the large research equipment thus creating regional networks of excellence.
12. Encourage global, EU and national institutions to support foresight as a tool for anticipating major changes within societies and responding to the global challenges. The foresight process is highly instrumental for tackling complex issues: by bringing together the relevant stakeholders – businesses, researchers, policy-makers, citizens, NGOs – and their wide range of expertise and accumulated skills it is possible to:
 - identify and systematically analyse possible future phenomena (opportunities and threats) by taking social, technological, economic, environmental and political factors into account, as well as the value systems of the stakeholders so as to
 - devise appropriate policies and strategies based on a consensus among these stakeholders;

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- in particular, we urge the EU member states' governments to include foresight and criteria relevant to the quality of life when preparing their national programmes of structural reforms and the national Lisbon programmes.
13. Encourage the countries of the South-east European region to consider examples of successful regional co-operation, the use of foresight and adapt good practices to their specific needs
 14. Increase Research and Development (R&T) activity in Universities (for example in Albania).
 15. *Renewal and upgrading of research infrastructures*
This is one of the most virulent needs of almost all WBCs, specifically in Albania and Bosnia and Herzegovina. As international donor support focused more on the upgrading of infrastructure in general, renewal of RTD facilities, industry and university laboratories were mostly neglected.
 16. *Upgrade information- and e-infrastructure and internet connection*
Despite the strong need to catch up with ICT developments, to get connected to virtual libraries and e-journals and to offer appropriate information sources for the national RTD community; the programmes do not reflect this in their objectives strong enough.
 17. *Enhance of regional RTD cooperation*
Scientific collaboration amongst scientists as well as coordination of policy-makers from different SEE countries for the sake of strengthening the international position of SEE creates bonds and can contribute to long-lasting stability in the region. In many fields, the regional aspect is also an important factor (such as transport networks, environmental hazards, etc.). Coordination by the Regional Cooperation Council (RCC) and the Steering Platform on Research for the SEE countries will also help to attract and coordinate further support (e.g. through IPA or EU Member States). Nevertheless, regional cooperation also requires initiative from the countries in the Western Balkans. Willingness to cooperate cannot only be pushed from outside but must develop also amongst the SEE countries themselves in order to have a strong voice in the international RTD arena.
 18. *Identify and concentrate on priority research areas*
The identification of strengths in certain RTD areas is necessary for SEE countries with respect to the limited national funds and resources available. The SEE countries have recognized this fact and have prioritized certain areas (ICT, Life Sciences, Sustainable Development, Water Resources Management, etc.). In bilateral S&T agreements, signatory countries collaborate in RTD areas of mutual interest, but budgets are usually small and limited to mobility rather than to actual RTD activities. Building on the tradition of bilateral programmes, new instruments should be developed (twinning between MS and WBC with IPA and SF) and implemented in such a way as to meet the systemic needs of the integration process.
 19. Adopt measures against brain drain/brain waste
General improvement of the economic and political situation, positive future prospects and stronger investment in RTD in general is required in order to decrease the numbers of researchers to leave their countries or seek fortune in other professions. Therefore, all funding programmes can contribute to ameliorate the situation but cannot prevent brain drain and brain waste directly.

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20. Support of mobility of WB ICT researchers
After years of international isolation and disruption of international scientific contacts, WBCs" researchers are in strong need for exchange and transfer of knowledge through increased international mobility. Usually, programmes covered in this report provide financing for researchers" travels to meetings and conferences. Also, grants for short-term and in some cases also long-term stays (e.g. FP7 People, JRC, COST) are given. Still, the obtainment of visa can remain an obstacle for researchers from WBC to travel to EU countries, but progress for visa-free travel is constantly made. The FP7 SP People should pay more attention to the needs of the region. One option is to introduce sur-place fellowships within the Marie Curie scheme, linking WB scientists to leading S&T institutions in the EU Member States. In addition, there is a strong need for special training elements, in particular with reference to science management, which could be integrated into the existing mobility schemes of the People Programme. In particular, industrial PhDs from the Western Balkan countries should be invited to join the fellowship schemes of the People Programme (such as ITN and IRSES) and ERASMUS MUNDUS.
 21. Support transformation of universities from teaching to research institutions
Many universities have not succeeded in making the transition to research institutions and remain pure "colleges" of teaching. With the Bologna Process, this transition is required in order to harmonize with the European education area. TEMPUS funds are of respective size to support the modernization and restructuring of universities in WBCs. UNESCO and World Bank and Life Long Learning initiatives also recognized the need for support to implement Bologna of ules.
 22. Enhance RTD capacity of industry and SMEs
The innovative capacity of the business and industry sector in many SEE countries is rather weak, only Croatia is advanced in terms of scientific output of the industry sector. Often, policy makers in SEE countries lack the understanding of the necessity of a strong innovation system. The integration of innovative SMEs into bilateral collaborative research schemes should bImplementation ofed.
 23. Implemente EU standards and harmonization
Implementation of EU standards ranges from adapting the *aquis communitaire* to using project management and auditing standards in EU projects. Therefore, all international EU programmes can support this need. IPA and JRC specifically support the implementation of EU standards for Candidate Countries and Potential Candidate Countries.
 24. Support of research career development
The research profession has suffered image loss and many young researchers either leave the country or stop pursuing the research profession in search for better future working prospects. Specific programmes to raise the appreciation of this profession and specially support young researchers are of national concern mostly.
 25. Support to institution building
A strong institutional basis, capable of reacting to and absorbing international trends is necessary for the RTD system in SEE countries. Here again IPA is challenged to come up with strong strategies and practical support for institutional set up in SEE countries.

In general, international funding programmes cover all needs. Major obstacles remain that access to the funds is often difficult especially for those SEE countries, which are smaller,

have lower research capacity, inappropriate and/or devastated RTD infrastructure and cope with international isolation. Still, the visa problem and bureaucratic hurdles may prevent SEE countries researchers to take part in some activities.

Concerning IPA, expectations in respect to support for RTD in SEE countries have not been fulfilled yet. More engagement and support from this side is still required.

Efforts have to be undertaken from national as well as international side in order to help the RTD system in SEE countries to step on its feet and have the chance to develop and become competitive for the prosperity of the region, for the stability and for the integration into the European RTD family.

7 AGREEMENTS

	Albania	BiH	Bulgaria	Croatia	FYRM	Greece	Montenegro	Moldova	Romania	Serbia	Slovenia	Turkey	UNMIK/Kosovo
Albania		X	X	P	X	X	X				X	X	
BiH	X		X	X		X	X			P	X	X	
Bulgaria	X	X		X	X	X		X	X	P	X	X	
Croatia	P	X	X		X	X	X		X	X	X	X	
FYRM	X		X	X			X			X	X	X	
Greece	X	X	X	X						X	X	X	
Montenegro	X	X		X	X			X			X		
Moldova			X				X		X			X	
Romania			X	X				X		P	X	X	
Serbia		P	P	X	X	X			P		X		
Slovenia	X	X	X	X	X	X	X		X	X		X	
Turkey	X	X	X	X	X	X		X	X		X		
UNMIK/ Kosovo													
Austria	X			X	X		X	X		P	X		
Belgium				X							X		
Cyprus											X		
Czech Republic				X				X			X		
Denmark											X		
Estonia											X		
Finland											X		
France	P	X		X	X					X	X	X	
Germany		X	X	X						X	X	X	
Hungary	X			X		X		X		X	X		
Ireland												X	
Italy	X	X		X	X					X	X	X	
Latvia													
Lithuania											X		
Luxembourg											X		
Malta											X		
Netherlands													
Poland	X			X		X		X			X		
Portugal				X							X		
Slovakia			X	X						X	X	X	
Spain				X	X					P	X		
Sweden													
United Kingdom				X	X						X		