

# **NEEDS/OFFERS MATRIX AND ANALYSIS**

**2008**

## Impressum

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# Needs/Offers Matrix and Analysis

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On Research for the Western Balkan Countries

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## 1. INTRODUCTION

The present study was conducted in 2007 and updated in 2008 within the framework of the project: "SEE-SCIENCE.EU Info Office for the Steering Platform on Research for Western Balkan Countries (WBC)", financed under the 6th European Framework Programme for Research, technological Development and Demonstration (RTD).

### 1.1. *Background of the study*

The project's objective is to offer documentary and information support to the Steering Platform for WBC, an initiative which was launched in June 2006 by the Austrian Presidency and the EU Commission, in personam by Commissioner Potocnik, to support, streamline, monitor, synchronize and optimize all efforts with respect to RTD in SEE.

The Western Balkan Countries (Albania, Bosnia and Herzegovina, Croatia, FYR of Macedonia, Montenegro and Serbia (with Kosovo)) had suffered long phases of political instability, armed conflicts, economic depression, disruption of states and massive emigration.

The consequences for the RTD system in WBC were devastating: demolished RTD infrastructure, massive brain drain and brain waste, isolated international position of the successor states of the Socialist Federal Republic of Yugoslavia and absent public financing.

Today, the RTD systems have not recovered fully yet, the problems still exist in all WBCs although to different extent. Still, all WBCs are fully committed to integration into the European Research Area and accession to the EU in general.

With the Lisbon Agenda, scientific and technological development was acknowledged as the key to wealth and economic growth in the European Union. For the Western Balkan countries, this means a lot of effort to overcome the current gap and reach the status quo of the European Union Member States. All WBCs lag behind in their development to knowledge based economies.

Therefore, the Thessaloniki Summit in 2003 was an important step to bring the topic of WBC RTD on the European tableau. The West Balkan Action Plan, which was adopted there by all Ministers of the WBCs, the neighbouring countries and the European Commission, resulted in new initiatives, measures and incentives for the RTD system in WBCs.

The launch of the Steering Platform for WBC RTD by Commissioner Potocnik in 2006 marks the next step in EU's commitment to support WBC in their S&T development and integration efforts into ERA.

### 1.2. *Objectives*

The present study analyses the relation between existing and virulent needs of WBCs' RTD system and currently available funding programmes. In detail, it focuses on the correspondence between these two components: the needs and the offer.

The present study:

A) Includes:

- Survey of needs of the RTD system and its key-players (researchers, policy makers)
- Survey of existing international and bilateral RTD funding programmes, which are open for WBC participation
- Matrix on the relationship between needs/offered programmes

B) Discusses following aspects:

- Does correspondence exist between the available funding programmes and the eminent needs of the WBC in RTD?
- To which extent do existing funding programmes respond to the need and demands of the RTD systems of WBC?
- Where are the major gaps? Which needs have not been addressed by the existing programmes yet? Which needs are not covered to full extent by funding programmes – where should the focus of improvement be put on?

C) Can be used as a handbook for:

- Universities, research institutes, industry, SMEs, single researchers in WBC who look for appropriate funding for their research activities
- WBC and EU Policy makers' to define new strategies and initiatives
- Intermediaries, like NCPs, governmental agencies, who want to offer tailored information to national clients on how and where to receive funding for RTD activities.

### **1.3. Methods**

Previous studies and statistical surveys have identified the needs of the components of the RTD systems of WBCs. The present study does not double these findings; rather it puts them in relation to offers and objectives of international funding programmes. The use of a matrix was chosen in order to show both components (thus needs and programmes) of the study at one glance. The correspondence factors were introduced to quantify and qualify the extent of correspondence between the two components of the study.

### **1.4. Structure of the study**

There are two ways to approach this study:

- 1) Focusing on a specific need: the major needs of the WBCs in RTD are discussed with reference to the causes and national peculiarities. A brief overview on funding programmes that tackle the particular need is offered at the end.

- 2) Focusing on the different funding programmes, which objectives, budget, funding conditions, fields of funding etc. are introduced and learning briefly of the needs which this programme covers.

Accordingly, chapter 3 (page 15) introduces the needs and chapter 4 (starting page 45), discusses the funding programmes.

Results and recommendations are discussed in the chapter „Conclusions.

### **1.5. Updates**

During the updating process, the information that was provided in the first version of the report was controlled in its source and changes and updates have been searched. In addition, all related news, web-sites and documents concerning S&T development in the WBCs were analysed to obtain additional information.

The general structure of the study has been kept as same. Parts, that no change has taken place and are still valid are kept as same. Information; that is not current, no longer available or can not be confirmed was taken out. Considering that the previous report is only one year old, the information that has not change can still be considered as up-to-date.

A new heading named "**Overview**" has been added to provide a general overview mainly about the EU Perspectives on Science & Technology as well as Enlargement. Also, the Slovenian Presidency's Programme as well as Romanian Campaign concerning S&T in WBCs are provided on this section.

Under the International Funding Programs for WBCs heading, three new funding sources have been added: **Eurostars, European Investment Bank, Erasmus Mundus**. Although these sources have some limitations concerning scope and eligibility for WBCs, it has been considered that the interested public/private institutions or individuals can get acquainted with them and can advocate these programs for their countries. Also concerning National, unilateral S&T Programmes (4.14) funding possibilities offered by 2 new Organization/Program in Austria (ADA) and Switzerland (RRPP) have been included.

Concerning Bilateral Agreements, there are different sources of information. Especially the agreements made with the Former **Socialist Federal Republic of Yugoslavia** cause confusion on their today's applications. Also some agreements are outdated. During the updating procedure the national authorities of the region were also asked to confirm or correct the available data. Some have responded and their feedbacks are included in the Bilateral Agreements table together with the other sources indicated in the Report.

The information related to the other funding programs has only been updated.

Regarding the new findings, the source of the information has been indicated as footnote. Internet is used as a main source for this research.



## 1.6. Matrix

### Correspondence factors:

- \*\*\*\*\* Main objectives of the funding programme address the need to 100%  
Budget is dedicated to 100%
  - \*\*\*\* Main objectives of the funding programme address the need to 75%  
Budget is dedicated to 75%
  - \*\*\* Objectives of the funding programme address the need to 50%  
Budget is dedicated to 50%
  - \*\* Objectives of the funding programme address the need to <=25%  
Budget is dedicated to <=25%
  - \* Objectives of the funding programme do not meet the specific need but spill-over effects are possible
- (R) Restricted WBC eligibility
- (NB) No dedicated budget available

### Amount of budget:

Programme budget / average project budget

€€€€€	500.000 – 1M € and more
€€€€	300.000 – 500.000 €
€€€	100.000 – 300.000 €
€€	50.000 – 100.000 €
€	up to 50.000 €

Programmes/ Needs	FP7: Cooperation	FP7: Ideas	FP7: People	FP7: Capacities/ Research Potential	FP7: Capacities/ RTD Infrastructures	FP7: Capacities – Internat. Cooperation	Cooperation and Innovation Programme (CIP)	IPA	COST	EUREKA	EURO STARS	JRC
	€€€€€/€€€€€	€€€€€/€€€€	€€€€€/€	€€€€€/€€€€€	€€€€€/€€€€€	€€€€€/€€€€	€€€€€/€€€€	€€€€€	€€€€€/€€	(NB)		€€€€€
Upgrading RTD Infrastructure				**	**			*				
Upgrading e-infrastructure								*				
Enhancement of regional cooperation								**			***** (R, NB)	
Focus Priority research areas	*****	*** (R)							***** (R)	***** (NB)		***** (NB)
Brain drain/ Brain waste	*	*	**	*	*	*	*	*	*	*		*
Mobility of researchers	**	**	*****	**	**	**	**		*****			***
Transition of universities from teaching-research institutions	*	*	*		*	*		*	*			
Support of basic research	*****	*****							***** (R, NB)			
Support of applied research							*****			***** (NB)	***** (R, NB)	
Strengthen connection-basic-applied research	*	*					*		*	*	***** (R, NB)	
RTD capacity of Industry and SMEs							*****			***** (NB)	***** (R, NB)	
EU standards/ Harmonization	*	*	*	*	*	*	*	***** (R)	*	*		*
Research career development		*****	*****									
Institution building						***		**				

Programmes/ Needs	SEE- ERA.NET: joint calls	LIFE +	EIB	Innovation 2010	INTERREG IV	NATO SPS	TEMPUS	Life Long Learning Programme	Erasmus Mundus I	UNESCO	Bilateral S&T Agree- ments:	National unilateral S&T Programmes (DE, CH, AT)	National unilateral Innovation/ Business Programmes (AT - CIRCE)
	€€€€€/€	€€€€€	€€€€€/	€€€€€/€	€€€€€/	€€€€€/	€€€€€/	€€€€€	€€€€€/		€-€€€€	€€€	€€€€€/
		€€€€€			€€€€	€-€€€	€€€€		€€€			€	€€€
Upgrading RTD Infrastructure			***	***			**			***	**		
Upgrading e-infrastructure			***	**		***		*		**			
Enhancement of regional cooperation	*****	**	***		***	**	***	**	*****	**		***	*****
Focus Priority research areas	***	***** (R)			***	***** (R)					*****	**	*
Brain drain/ Brain waste	*			*		** (R)	*	*	*****	*	*	*	****
Mobility of researchers	****				*	***	***	****	*****	***	*****	*****	
Transition of universities from teaching-research institutions						*	***	**		**	*	**	
Support of basic research					***	***** (R)							*****
Support of applied research				**	**							*	*****
Strengthen connection-basic-applied research				*	**	*							****
RTD capacity of Industry and SMEs	**		*****	**	****								
EU standards/ Harmonization	*	***	*****	*	***	*	*	*					
Research career development									*****				
Institution building	*	**			**		**		*				

## 2. OVERVIEW

### 2.1. *General*

During the Thessaloniki Summit, it is agreed that the Stabilisation and Association process to be enriched through strengthening political co-operation, enhancing support for institution building, promotion of economic growth by increasing the region's export possibilities through concrete trade measures, and the possibility for the WBCs to participate in some Community programmes. In addition, the EU / Western Balkan Action Plan in Science and Technology has been initiated. The plan aimed to integrate the region's research and development activities in the European Research Area (ERA). Three years after, during the Austrian Presidency in 2006, efforts towards development of science and technology in the region and its integration to ERA was reassured through the establishment of a Steering Platform on Research for the Western Balkans region.

As of 2007, a new Instrument for Pre-Accession Assistance (IPA) replaced all existing instruments to support the candidate and potential candidate countries including WBCs.

As of January 2008, **Slovenia** took over the EU Presidency for the first half of 2008 and addressed the Western Balkans as one of the main priorities of his programme. The Presidency aims to strengthen the EU perspective in the region by furthering the Thessaloniki agenda and advancing European standards in the region.

"We believe that Europe can also contribute to the development of its neighbouring regions through cooperation in the field of science and research. The Slovenian Presidency will therefore aim to facilitate their further integration into European research programmes." <sup>1</sup>

It is also stated that the Slovenian Presidency will focus especially on the Kosovo's status and support the progress of Kosovo further in the Stabilisation and Association process.

With regard to Lisbon Strategy, the following areas will be subject to special attention:

- access of start-up companies to sources of finance, and on cluster policy – the latter is particularly important in terms of SMEs' ability to access research infrastructure,
- Joint Technology Initiatives and other activities which facilitate and encourage better cooperation between researchers and businesses in the area of research and development,
- The GALILEO project's successful implementation,
- small and medium-sized enterprises' access to research infrastructures
- expected initiatives by the European Commission in the area of sustainable industrial policy and eco-innovation.

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<sup>1</sup> Slovenian Presidency Programme, Si.nergie for Europe, January-June 2008. Access: 12 February 2008. pg 8  
< [http://www.eu2008.si/includes/Downloads/misc/program/Programme\\_en.pdf](http://www.eu2008.si/includes/Downloads/misc/program/Programme_en.pdf)>

On the 24th of January, The Slovenian Minister for Higher Education, Science and Technology Mrs. Mojca Kucler Dolinar made a presentation on Presidency's priorities in the field of science, technology and information society. **One of the priorities that she has addressed was enhancing the European Research Area (ERA), including more effective integration of the Western Balkan countries and strengthening the role of women in science.**

She has also addressed the importance of upgrading research infrastructures, establishing the European Institute of Innovation and Technology and the Joint Technology Initiative.

Also, the Presidency will attempt to conclude the adoption procedure regarding Eurostars initiatives, especially on SMEs in the research and development sector<sup>2</sup>.

**Romania**, the other neighbour of the region, which joined in the EU together with Bulgaria in 2007, has launched a campaign on January 2008 "to make science and technology development a key to prosperity and peace in the strife-torn Western Balkans". The main purpose of the campaign is to bring EU and private investment to the universities and technology industries in the region. The major activity areas will be towards modernisation of the region's scientific research and technology sector, free movement of researchers, create networks that encourage young researchers in research and innovation, strengthening the local and regional research base in the Western Balkans and helping SMEs to specialise in science management and consulting. In order to achieve these goals, an example of establishment of a regional ESFRI is mentioned to develop a local or medium-size infrastructure, a sort of satellite infrastructure that is strong enough to link to the larger ones<sup>3</sup>.

## ***2.2. EU Perspectives on Science and Technology***

Increasing global economic challenges force countries to be more innovative and competitive. Therefore in this era science and technology have become one of the most distinctive elements for economic development. When we look at the main actors of the world's leading economies, in terms of percentage of GDP (2006) the order was the following: Japan (3,12 %), United States (2,59%) and EU(1.96%).\* (no figure available for China)<sup>4</sup>

Within the EU, only Sweden and Finland have achieved the Lisbon goal (3% of GDP, two thirds of which to come from private sources).

Those countries and/or regions that have efficient growth and innovation strategies with a reasonable amount of sources (% of GDP) invested in R&D become key players of world's economy.

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<sup>2</sup> Slovenian Presidency of the EU 2008. Access: 26 January 2008.

<[http://www.eu2008.si/en/Meetings\\_Calendar/index.html](http://www.eu2008.si/en/Meetings_Calendar/index.html)>

<sup>3</sup> Hunt, Philip. [Romania pushes for tech development in Western Balkans](#), News Highlights, Science Business, 15 January 2008. <<http://bulletin.sciencebusiness.net/ebulletins/showissue.php3?page=/548/art/9624>>

<sup>4</sup> OECD, [Main Science and Technology Indicators](#), October 2007

There is a big gap between the national funding resources allocated in research within the EU member countries, no need to mention the candidate and potential candidate countries. Considering the limited funding sources regional cooperation becomes more and more important. All European countries face the same challenges.

EU makes a lot of effort and provides funding to strengthen joint research within Europe as well as with the other main international competitors.

Europe's ambition to become the world's most dynamic knowledge-based society (as defined by the 2000 Lisbon Summit) needed to be reinforced in 2005 due to lack of progress on achieving these ambitious goals. Universities across the EU employ about 37% Researchers, which is relatively high compare to US and China. Business sector employs 50% of researchers whereas 70% in US and 80% in Japan. The percentage of R&D funded by business was 55% for EU-27 in 2004, compared with 64% in the US and 75% in Japan.

Regarding high tech products in its exports, EU has 18% compare to 27% for the US and 22% for Japan. The 2006 European Innovation Scoreboard provides a broader assessment of innovative performance, and indicates that there is still a gap between Europe and the US and Japan<sup>5</sup>.

By re-launching the Lisbon strategy in 2005, EU aims to refocus on economic growth and creation of new jobs through development of human capital, investing in knowledge and innovation and improving the business potential.<sup>6</sup>

European Strategic Forum on Research Infrastructures (ESFRI) has been created to coordinate the research infrastructures at European Level to optimize the resources. The 7. Framework Programme (FP7), for example, as being different from previous FPs, places an emphasis on international cooperation (cooperation with third countries) on research as one of the core of the Community policies. Within the work programs and calls, it is aimed to reinforce research capacity in non-associated candidate and neighbourhood countries and to address the particular needs of developing and emerging economies. The Competitiveness and Innovation Programme was launched as complementary to the 7.FP to coordinate innovation related activities. EU Regional Policy also supports research and innovation through strengthening the business sector, with a special emphasis on SME development.

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<sup>5</sup> Commission Staff Working Document. Accompanying the Green Paper 'The European Research Area: New Perspectives'{ COM(2007)161}. Brussels, 4.4.2007. Access: 30 January 2008. pg 10 <  
[http://ec.europa.eu/research/era/pdf/era\\_swp\\_final.pdf](http://ec.europa.eu/research/era/pdf/era_swp_final.pdf)>

<sup>6</sup> Communication From The Commission to the Spring European Council. Strategic report on the renewed Lisbon strategy for growth and jobs: launching the new cycle (2008-2010) Keeping up the pace of change. Brussels, 11.12.2007. Access: 25 January 2008.  
<[http://ec.europa.eu/growthandjobs/pdf/european-dimension-200712-annual-progress-report/200712-annual-report\\_en.pdf](http://ec.europa.eu/growthandjobs/pdf/european-dimension-200712-annual-progress-report/200712-annual-report_en.pdf)>

Within the 7FP, the status of the majority of West Balkan Countries has changed. All countries of the Western Balkans except Bosnia and Herzegovina have signed agreement for participation in the 7FP, and they are now associated to the European Union 7th FP on an equal base with the EU Member states. On the other hand, Bosnia and Herzegovina has shown a great interest to participate in the Framework Programme. It is expected that BiH will soon start negotiations with the EC to join in the 7.FP like all the other WBCs.

### ***2.3. From the Enlargement Perspective***

All Western Balkan countries have been approaching towards EU with different speeds. Croatia has started accession negotiations with the EU, and the former Yugoslav Republic of Macedonia has now candidate status. The others have a perspective to become a Member state in the future.

**"Raising competitiveness, reducing the high levels of unemployment and fostering human development and infrastructures are major challenges throughout the region." <sup>7</sup>**

Through IPA, which has started on January 2007, financial assistance made available for candidate countries and potential candidate countries. IPA will support the following areas: strengthening democratic institutions and the rule of law, reforming public administration establishing functioning market economies. Infrastructure projects, especially in the fields of transport, energy and environment will also be supported. Health, education, housing and refugees are the other sectors that will take attention. The funding will be made available through institution-building and cross-border cooperation projects, as well as, local needs of the countries.

European Fund for South East Europe (EFSE) will support private sector development and the energy efficiency. Within the framework of the South-East Europe Cooperation Process the Stability Pact will change to Regional Co-operation Council. The countries will have ownership of the program and EU will support their efforts.

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<sup>7</sup>Communication from the Commission to the European Parliament and the Council, Enlargement Strategy and Main Challenges 2007-2008, Brussels, 6.11.2007. Access: 30 January 2008, pg 7

< [http://ec.europa.eu/enlargement/pdf/key\\_documents/2007/nov/strategy\\_paper\\_en.pdf](http://ec.europa.eu/enlargement/pdf/key_documents/2007/nov/strategy_paper_en.pdf)>

## ***Country summaries***

### Albania:

There is no reference to science & research chapter. Regarding industry and SMEs important steps has been taken such as the National Registration Centre, SME competitiveness strategy and action plan against informal economy and investment barriers as well as Export guarantee funds have been established.

### B&H:

There is no reference to science & research chapter. With regard to sectoral policies no significant developments can be reported either.

### Croatia:

Good progress has been made in the chapter science and research and education and culture.

### FYR of Macedonia:

There has been very little progress reported on the science and research and the scientific institutions are still weak. In the area of education and culture policies have been adopted. However, there is a scarcity of resources to implement the reform measures.

### Montenegro:

In the field of education progress has been made in legal framework. Civil society must be involved in the process and availability of trainings should be increased. In the area of industry and SME, little progress took place in implementing the European Partnership priorities. A strategic assessment should be made on competitiveness as well as labour legislation, administration, energy and environmental policies should be improved.

### Serbia:

No reference to science. In the area of education a limited progress is observed. Coordination must be established between institutions and labor markets' needs should be considered in curriculum.

On the other hand, concerning industry and SME Serbia is fully committed to the process of the European Charter for Small Enterprises.<sup>8</sup>

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<sup>8</sup> Same source, pg 14-49



### **3. NEEDS**

There have been a lot of studies done to assess the current situation of the RTD in WBCs. Although there are general characteristics of the Region, each country nowadays has a different position regarding their RTD capacity and its utilization.

The successor states of the Socialist Federal Republic of Yugoslavia (SFRJ) can draw on a long lasting RTD culture and well-developed RTD systems, backed by a wide pool of human resources and international contacts. This has not been the case in Albania, which followed the Russian Communist model of separation and inclusion. The communist dictatorship regime prevented internationalisation of RTD and exchange.

Still, armed conflicts have resulted in a vast destruction of RTD infrastructure (most heavily in BiH), disruption of scientific regional and international cooperation, massive brain drain and brain waste. In addition, difficult political and economic situations resulted in low investments in basic and applied research, low RTD capacity of SMEs and industry, little innovation incentives, weakened position of universities as research institutes etc.

Thus, even if the starting conditions were different amongst the successor states of SFRJ and Albania, recent political and economic developments contributed to the similar situation for RTD in all WBCs nowadays.

### **3.1. *Renewal and Upgrading of Research Infrastructure***

#### **Background:**

The term “research infrastructure” sums up all devices, equipments, tools, facilities and establishments being at the disposal of the research community to conduct research activities on a competitive and advanced level.

Research Infrastructure in WBC is destroyed, outdated or inadequate.

Various factors account to this problem, ranging from devastative effects of war and post-war situation, lack of national funding due to low level of GDP and transitory economies to lack of focus of international donor funds on investment in RTD.

Even if there are regional differences and not all countries are affected by this need in the same extent, the inadequacy of existing research infrastructure remains one of the most significant barriers to the development of excellence in the region.

Therefore, optimization of existing capacities, upgrading and modernization of equipment and laboratories are the key requirements. Also, access to international research infrastructure remains an obstacle.

#### **Country specification:**

##### Albania:

Lack of up-to-date equipment is the biggest problem. Maintenance and running costs of the existing equipment is also very high.<sup>9</sup> In addition, the development of new research centres on local and regional levels as well as building new technology parks and innovation centres is of importance in order to catch up with international developments and in order to trigger the “spill over” effect of innovation clusters and start-up companies on the RTD system in general.

##### Bosnia and Herzegovina:

Armed conflicts and difficult post-war situation has led to massive destruction of research infrastructure on university and industry level. The country is in the most difficult situation of almost starting from the scratch. Renewal and restructuring of research facilities and revitalisation of scientific institutions and research capacities is of utmost importance to the country.

The need for adequate research infrastructure, for technology parks and for new research centres is highest priority.

##### Croatia:

Researchers in Croatia are generally satisfied with the adequateness of research infrastructure. The country hosts, beside universities in all major cities, some important research institutions on public and

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<sup>9</sup> Gjonaj-Kumbaro, Adriana. S&T in Albania. 18 August 2006. Access: 26 January 2008. <http://www.see-science.eu/news/339.html>

private level (Rugjer Boskovic Inst., PLIVA for pharmaceutical research, Nicola Tesla Inst. for telecommunications etc.).

#### FYR of Macedonia:

Outdated and inadequate research equipment and facilities pose obstacles to high-level research performance. The country has some potential centres of excellence, like the Research Centre for Genetic Engineering and Biotechnology of the Macedonian Academy of Science and Arts; further the Institute for Earthquake Engineering and Engineering Seismology; etc. These centres require substantial investment to upgrade and renew infrastructure.

#### Montenegro:

It is a small country with generally few research institutes. Even more, outdated and inadequate research infrastructure is the country's bottleneck in scientific progress and advanced research activities.

#### Serbia:

Since the late 1980's the number of R&D organisation has decreased, existing RTD equipment is outdated and the need for building technology parks and regional RTD clusters is eminent.

The creation of high-tech clusters and spin-offs is more a matter of self-initiative than the result of national strategy and policies, as it is the case with the Electro technical faculty of the university of Novi Sad, where a professor's initiative has led to the creation of almost 20 spin offs in cooperation with his students.

#### Kosovo:

The University of Prishtina is the only research/teaching institution in the country. International support is focused on other key priorities; RTD investment remains low, resulting in old and outdated research infrastructure.

### **Correspondent funding programmes:**

- FP7: Specific Programme: Capacities/Research Infrastructure: \*\*

Under this funding line, the use and development of RTD infrastructure is optimized and international cooperation is envisaged in areas of mutual interest. Recently, initiatives in ESFRI (European Strategic Forum for Research Infrastructure) were launched to lobby for the allocation of funds for upgrading and renew RTD infrastructure in WBC.

- FP7: Specific Programme: Capacities/Research Potential: \*\*

A specific call has been dedicated to the WBC with the possibility of funding research equipment and infrastructure in early 2007.

- IPA: \*

Recently, RTD has been taken up into the CARDS/IPA programme as a focus area of intervention and support. In detail, the upgrade and renewal of RTD infrastructure will be supported by IPA funds. Still it is not known to which extent IPA will offer financing.

- EUROSTARS\*\*\*\*

Eurostars is an innovation programme. It supports international collaborative with emphasis in SME participation. Development of a new product, process or service is targeted.

- EUROPEAN INVESTMENT BANK (EIB)\*\*\*

EIB provides loans, technical assistance, guarantees and venture capital to contribute towards the integration, balanced development and economic and social cohesion of the EU Member States, candidate countries and WBCs.

- INNOVATION 2010 (I2I): \*\*\*

The European Investment Bank supports through the i2i programme the development of research centres of excellence in the countries of the Western Balkan.

- TEMPUS: \*\*

The programme focuses on supporting tertiary education systems, therefore only small-scale funding is provided for purchase of computers and teaching material for universities.

- UNESCO: \*\*\*

Upgrading and renewal of RTD infrastructure is one of the core objectives of UNESCO's support activities for WBC.

- BILATERAL S&T AGREEMENTS: \*\*

In general, mobility and exchange activities are funded under the umbrella of bilateral S&T agreements. Until now, only FYR of Macedonia additionally supports the purchase of small-scale RTD equipment for bilateral RTD activities.

### **3.2. Upgrade of Information- and e-Infrastructure and Internet Connections**

#### **Background:**

The WBCs' research systems are in specific need of improving their electronic networks for RTD, their information infrastructure (access to scientific journals and e-libraries) and of continuing to build on the established connection to GEANT.

The access to international journals and databases and also the access to international information sources that are already available inside the SEE countries are of vital importance. In other terms, the international visibility of WBC researchers is enhanced when the possibility is given to publish in international journals and bring national scientific journals into international networks.

Often, university libraries lack funds to subscribe to international journals. Low level of inter-connectivity between libraries of different institutes, faculties; default catalogue systems etc. prevent thorough diffusion of information resulting that the availability of material and information is often not known amongst the researchers.

#### **Country specification:**

##### Albania:

The information infrastructure is inadequate and does not meet the demands of the research community.

The access to international journals is inappropriate and the information system of libraries is insufficiently developed, e-catalogues of the libraries' stocks mostly do not exist.

The SEEREN network connected Albania to GEANT, the multi-gigabit pan-European data communications network, reserved specifically for research and education use. Now, in the second phase of SEEREN, the connectivity of various Albanian research institutes is ensured further.

##### Bosnia and Herzegovina:

The connection to GEANT is provided by the national research and education network BIHARNET. Unfortunately, it did not function at all.

Also here, information systems for libraries are insufficiently developed and access to electronic journals and science databases is limited. Thus upgrading of information infrastructure is a key priority.

##### Croatia:

The access to electronic journals and scientific databases, the e-accessibility of libraries and the very well established connection to GEANT offer adequate e-infrastructure to the Croatian research community. On the other hand, collaboration must be furthered among libraries especially in the area

of databases. Also a science management tool (CROSBI ) and an expertise in bibliometric methods in order to measure productivity and publishing patterns are available.<sup>10</sup>

#### FYR of Macedonia:

Unrestricted access to international journals and scientific databases is essential for the research community in the country, until now subscription fees are provisionally covered through international donor funds and projects. MARNet provides international and national networking services. However, there is lack of national funds to pay for these international connections.<sup>11</sup> The connection to GEANT needs to be strengthened. Information systems in libraries remain inadequate. In 2006, the Ministry of Education and Science signed an agreement for national access to the electronic scientific database Scopus, which is available for all faculties and institutes at the state universities in the country. Also in 2006, the Government accepted a "Programme for development of scientific research activities in the Republic of Macedonia for the period of 2006-2010"

#### Montenegro:

Through insufficient national financial support, information infrastructure is insufficient, access to international scientific databases and the low levels of library documentation remain obstacles for the development of RTD in the country.

#### Serbia:

Serbia's researchers can rely on well-developed information infrastructure; national funds are available for the subscription to international journals and scientific databases. Steady connections to the GEANT network are ensured. However, due to high prices of internet access and the scarcity of information only 13% of Serbia's population uses the internet.

#### **Correspondent funding programmes:**

- IPA: \*

WBCs strongly expressed their need to introduce the support for RTD infrastructure into the IPA programme. It is unknown until now, to which extent IPA will offer financing and whether e-Infrastructure will be part of it.

- EUROPEAN INVESTMENT BANK (EIB)\*\*\*

Loans can also be utilized for this purpose.

- INNOVATION 2010 (i2i): \*\*

The i2i programme supports various aspects of e-infrastructure and internet connectivity. Special focus is put on modernisation and extension of existing networks (e.g. ensuring GEANT connection) and on the establishment of physical and virtual infrastructure, where e.g. the need for e-access to

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<sup>10</sup> Ballantyne, Peter. Accessing and Disseminating Scientific Information in South Eastern Europe. Science Policy Series. 3rd volume. Strengthening Scientific Cooperation in South Eastern Europe. pp. 2006. Access: 24 January 2008. Pg.40

>[http://portal.unesco.org/fr/files/35408/11649676371Science\\_series\\_3.pdf/Science%2Bseries%2B3.pdf](http://portal.unesco.org/fr/files/35408/11649676371Science_series_3.pdf/Science%2Bseries%2B3.pdf)>

<sup>11</sup> Same source. Pg.46

libraries could be met. Still, as loans and credits are the financing models, appropriate national/own financial resources are necessary.

- NATO SPS: \*\*\*

Besides other objectives, the programme offers grants for improvement of and better use of telecommunication facilities.

- LIFE LONG LEARNING: \*

In transversal programmes, the creation and renewal of ICT contents, services, pedagogies for lifelong learning, also at universities, is supported. The specific need is not addressed directly. Still, support for upgrading of university networks is possible, thorough following of the programme and its open calls is necessary.

- UNESCO: \*\*

UNESCO supports measures to enhance the electronic connectivity between universities in SEE.

### **3.3. Enhancement of Regional RTD Cooperation**

#### **Background:**

International integration and regional cooperation is the key to stability and prosperity of the Western Balkan region.

Regional cooperation and coordination on all levels of the RTD system help the countries to unite their strengths and have a stronger international voice.

Crucial problems/needs:

- Full integration of WBC in international RTD programmes, such as FP7, EUREKA, JRC, etc.
- Stronger focus of international programmes to RTD in WBC (IPA, Stability Pact, etc.)
- Renewal of regional and international links between research communities
- Easier mobility of researchers

#### **Country specification:**

The problems described above reflect the situation in all WBC to different extent. Especially for Albania, regional integration poses a specific problem which dates back to the times during the isolatory dictatorship communist regime. Albania still faces isolation and needs to overcome this issue more than other Western Balkan Countries. For the all other countries internationalization of the research needs to be encouraged and supported. In Macedonia, the Ministry has promoted and stimulated international cooperation in all fields of scientific research and technological development. This initiative resulted increase in international scientific cooperation with many countries, especially with the European Union Member States within the 7.FP, COST, NATO, UNESCO, IAEA and JICA.

#### **Correspondent funding programmes:**

Stronger regional cooperation is necessary between the different WBCs in order to respond to regionalization trends in the EU and in order to use the power of united efforts. Following programmes specifically support regional cooperation in the western Balkans:

- IPA: \*\*

The Multi-Beneficiary part of the IPA programme addresses problems and issues which affect several WBCs. Solving them requires joining forces and results in mutual benefit for all partners.

- EUROSTARS\*\*\*\*

Eurostars is an innovation programme. It aims international collaborative with emphasis in SME participation.

- EUROPEAN INVESTMENT BANK (EIB)\*\*\*

EIB aims to contribute towards the integration, balanced development and economic and social cohesion of the EU Member States, candidate countries and WBCs.



- SEE-ERA.NET Pilot Joint Call: \*\*\*\*\*

The programme requires cooperation on regional level, cooperation between several WBCs is an evaluation criteria for submitted proposals.

- INTERREG: \*\*\*

Trans-regional cooperation is the cornerstone of the programme.

- NATO SPS: \*\*

Also here, projects which address issues important to several partner countries of the NATO SPS are fostered.

- TEMPUS: \*\*\*

The programme fosters regional and international cooperation amongst its partnering regions (such as WBCs) and the EU Member States.

- LIFE LONG LEARNING: \*\*

Through thematic networks and multilateral projects, the programme aims to enforce regional cooperation amongst educational institutions.

- UNESCO: \*\*

UNESCO supports thematic regional networks of research centres in order to enhance the WBCs' research potential across borders and strengthen the position of the whole region of western Balkans in RTD.

- NATIONAL UNILATERAL S&T PROGRAMMES: \*\*\*

Various national, unilateral S&T programmes support regional cooperation and require collaboration of at least two WBCs in projects.

- NATIONAL, UNILATERAL INNOVATION/BUSINESS PROGRAMMES: \*\*\*\*\*

CIR-CE (currently the only national, unilateral programme supporting the involvement of the business sector of WBCs) specifically addresses regional cooperation through its multi-partner participation rules for projects.

### **3.4. Identification and Concentration on Priority Research Areas**

#### **Background**

The difficult political and economic situation many SEE countries are still facing going hand in hand with a low level of national investment in RTD requires a concentration of forces:

Specific and country-focused RTD priorities need to be set. The strategic allocation of RTD budget on some promising and important science and technology fields will facilitate further development and improve performance in these fields. The countries have recognised the driving force of prioritisation of research topics.

In general, following research priorities have been identified:

- Information and Communication Technologies, ICT
- Life Sciences and Biotechnology
- Environmental and Material research
- Renewable Energies and Sustainable Development
- Water resources
- Transport
- Humanities and Social Sciences
- Research in SMEs

#### **Country specification:**

##### Albania:

Priority definition is intended to strengthen applied research and improve scientific results, protect national interests and improve international cooperation. It includes:

- ✓ Electric power industry, ICT industry and Food industry
- ✓ Agriculture and food
- ✓ Natural resources
- ✓ IST
- ✓ Biotechnology and biodiversity
- ✓ Human science and Albanology
- ✓ Public health

##### Bosnia and Herzegovina:

Priorities are focused on the restructuring of the industrial RTD sector and on some specific fields in applied research, like:

- ✓ Electric power industry, ICT industry and Food industry
- ✓ Woodworking and wood pulp industry
- ✓ Mining and ferrous metallurgy
- ✓ Machine-building and metal working

- ✓ Chemical and petrochemical industry

Following RTD areas need to be addressed in addition:

- ✓ Environment
- ✓ Energy efficiency
- ✓ Agriculture and food processing
- ✓ Public health
- ✓ Industrial technologies for the reconstruction of the country

#### Croatia:

As the only Western Balkan Country until now, Croatia is fully associated to EU's Framework Programme for RTD. Therefore, strategic importance is given to connect and synchronize Croatia's RTD needs to EU priorities, standards and regulations.

The thematic areas include:

- ✓ Biotechnology
- ✓ Biomedicine
- ✓ Environmental Technologies
- ✓ ICT
- ✓ Nanotechnology
- ✓ Agriculture

#### FYR of Macedonia:

Being the second candidate country, after Croatia, for accession to the EU, the priorities are set in order to complement EU standards and in order to harmonize its research policy with the EU RTD policies:

- ✓ Sustainable development
- ✓ Water resources and management
- ✓ Energy
- ✓ New materials
- ✓ Environmental Protection
- ✓ ICT
- ✓ Health
- ✓ Biotechnology
- ✓ Production of high quality food
- ✓ Geological science and engineering

#### Montenegro:

Council for Scientific-Research Activities, which was established in 2006, prepared a S&T strategy by end of 2007 to be discussed. This strategy should also define feasible mechanisms for increasing annual budgetary allocations for science. Nevertheless, participation in all European scientific

programmes takes top priority. The ongoing integration processes will also help the Ministry in defining future policy development in RTD.<sup>12</sup>

Nevertheless, previously identified priorities are:

- ✓ Improving quality of life and communication infrastructure
- ✓ ICT
- ✓ Environmental technologies and water management
- ✓ Materials research
- ✓ Research on agro-business and biotechnology

#### Serbia:

Serbia is currently implementing and setting several measures to tackle main RTD needs, including priority setting in basic and applied research programmes as follows:

Priorities in the Basic Research Programme:

- ✓ Natural sciences (physics, chemistry, biology, mathematics), mechanics, geosciences and medicine
- ✓ Social Sciences
- ✓ Humanities (Serbian language and literature, history etc.)

Priorities covered in the Technology Development Programme are:

- ✓ Information technology
- ✓ Electronics and electrical engineering
- ✓ Mechanical engineering
- ✓ Construction industry and civil engineering
- ✓ Biotechnology

Special sub-programmes address:

- ✓ Energy efficiency
- ✓ Biotechnology and Agro-industry

#### Kosovo:

Kosovo has not defined any research priorities yet, focus is put on initial steps to build the legislative framework and increase RTD funds. In a latter stage, priority setting is envisaged.

#### **Correspondent funding programmes:**

Different international programmes focus on priority research areas, which coincide with WBCs' areas of focus:

- FP7: Specific Programme: Cooperation: \*\*\*\*\*

Through SICA (Specific International Cooperation Actions), FP7 budget is dedicated to foster projects in thematic areas prioritized by WBC. Besides, participation of WBC is possible in all ten thematic

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<sup>12</sup> Knežević, Tanja; Žižić, Branka. S&T in Montenegro. 3 September 2007. Access: 26 January 2008. see-  
science.eu eJournal summer 07. <<http://www.see-science.eu/news/2232.html>>

areas. Still, as experience from FP6 has shown, participation of WBC partners is difficult due to following reasons:

- ✓ FP7 is a highly competitive programme and participants show a high level of RTD performance – for WBC partners often is a hurdle
- ✓ Lack of international contacts
- ✓ European partners lack trust in including WBC partners into consortia

- FP7: Specific Programme: Ideas: \*\*\*(R)

Pioneer, basic research is funded with the possibility of WBC researchers to get involved into executive research teams. Still, the areas of research are completely open, scientific excellence is the sole criteria, which needs to necessarily meet the priority objectives of Western Balkan Countries.

- COST: \*\*\*\*\*(R)

This programme supports the creation of international RTD projects in different basic research areas. Still, it is limited to fund only meetings and coordination activities (workshops, conferences etc) within the project, whereas RTD activities need to be financed by different means other than COST.

- EUREKA: \*\*\*\*\*(NB)

The programme offers a platform for market-oriented, applied research activities. The funds come from national budgets of the EUREKA Member Countries (Croatia, Serbia).

- JRC: \*\*\*\*\*(NB)

JRC actions concentrate on supporting WBC RTD organisations in policy implementation in all thematic areas prioritized by WBC. Also here, no RTD activity itself is supported, only know-how transfer, workshops, JRC experience for WBC researchers and institutional links.

- SEE ERANET Joint Calls: \*\*\*

These calls address thematic areas specifically important to WBC RTD. Besides networking activities, multilateral RTD projects are funded.

- LIFE+: \*\*

In the priority area of environment, the programme supports WBC in implementing EU standards. RTD activities are not funded.

- INTERREG: \*\*\*

Cross-border and inter-regional RTD cooperation in thematic areas of mutual interest is funded.

- NATO SCIENCE FOR PEACE: \*\*\*\*\*(R)

This programme supports research activities in areas defined by the partner countries (for WBC: only Croatia and FYR of Macedonia), which include Environmental security, Food security, Information technology and Human and Social security.

- BILATERAL AGREEMENTS: \*\*\*\*\*

S&T agreements between countries focus on priority areas of both partners. In general, only mobility and exchange of research personnel is funded.

- NATIONAL, UNILATERAL S&T PROGRAMMES: \*\*

The Austrian (ASO - Austrian Science Liaison Office), German RTD programmes for WBC fund cooperation in certain RTD areas of mutual interest.

The Austrian programme supports RTD networking in areas of interest for all partner countries. Only small RTD projects are carried out (up to 12.000Euro), further common studies, workshops and conferences and scientific training measures.

The German programme only funds preparatory actions (travel costs to meetings, conferences etc.) in areas of:

- ✓ New technologies (correspondent to priorities of all WBC)
- ✓ Life Sciences (correspondent to priorities of all WBC)
- ✓ Environmental sustainability (correspondent to priorities of all WBC)

Research activities are not funded.

### **3.5. Measures against Brain Drain / Brain Waste**

#### **Background:**

Years of armed conflicts in former Yugoslavia, disrupted economies, difficult transition phases in all succession states and uncertain future prospects have all contributed to the massive brain drain and also brain waste of researchers, which hit all WBC to major or even fatal extent.

Many researchers have left their countries to seek fortune in other professions (brain waste) or outside their mother countries (brain drain), leaving holes in their national RTD communities, which cannot be filled easily. Few of these (former) researchers intend to come back and links to the expatriate RTD community are weak with the result that neither knowledge backflow nor international contacts are strong enough.

In general, only strong intervention and effective measures can help to prevent further loss of human resources and capacities in WBC.

#### **Country specification:**

##### Albania:

Over the last ten years, Albania has lost almost 40% of scientific manpower, the biggest part of who are younger than 40 years. All Albanian research institutes, universities etc. are in a critical situation and in desperate need for an increase in academic staff.

##### Bosnia and Herzegovina:

During and after war, the country has suffered massive and extensive brain drain of RTD personnel, on average 70% have left the country to the US, Canada and the EU without the intention to return. As BiH had a strong industrial research base, this economical branch has been weakened massively, by physical destruction of industrial sites as well as massive loss of technical and research staff.

Brain drain has predominantly occurred in the group of graduates and young scientists. The current situation shows an imbalance with a large number of (biologically) old researchers, hardly any middle-aged scientific staff and young researchers still leaving the country.

##### Croatia:

Throughout the 1990's, there was a notable decline in the scientific manpower, some left the country but more have changed professions. Still, the figures are not as alarming as in BiH and Albania.

##### FYR of Macedonia:

The country also registered a decline in scientific personnel during the 1990's with the situation nowadays being more constant.

##### Montenegro:

Due to the only recent independence of Montenegro, trends in brain drain and brain waste were measured for the former state union of Serbia and Montenegro. In general, the numbers of scientific personnel remained quite constant in the last ten years (after 1994). The country can make use of the traditionally strong research potential.

### Serbia:

Also here, the numbers have been constant with regards to RTD staff employed in universities, research institutes and industry since 1994.

### **Correspondent funding programmes:**

Brain drain and brain waste are problems, which cannot be solved directly by e.g. preventing people to seek for a better future. Besides favourable living conditions in stable political and economic circumstances, targeted investment into the national RTD system, in research infrastructure in order to offer adequate conditions for research activities, in promoting research careers, in supporting young researchers, in opening to international cooperation and researchers' mobility, in strengthening the RTD capacities of industry and SME etc. is of utmost importance to prevent brain drain, attract expatriate researchers to come back to their mother countries and to gradually build the human resources in WBC.

The available international RTD programmes for WBC do not cover directly the need for measures against brain drain and brain waste in WBC. As it is a multifactor problem, international and national efforts need to be gathered to tackle the bunch of issues.

All funding programmes introduced here have positive effects to prevent brain drain by tackling certain aspects of the whole problem.

- FP7: PEOPLE: \*\*

The programme offers grants for scientists from third countries to return to their home country and continue their research work there.

- ERASMUS MUNDUS: \*\*

The programme provides scholarships to excellent graduate students from third countries.



### **3.6. Support to Mobility of WBC Researchers**

#### **Background:**

In this context, mobility is referred to as:

- Trans-national cooperation in projects (travel, meetings, etc.)
- Short- and long-term stays for experience exchange, working and training purposes at research institutions in EU and WBC
- Trans-sectoral mobility of staff between academia and industry

International experience, exchange of working methods and networking with colleagues from different countries is a crucial asset in today's research careers and for research institutions (international reputation, cooperation, knowledge gain etc.).

Also here, the mixture of post-war situation, loss of human capital in RTD, strict visa regulations, years of international isolation, disrupted RTD systems etc. has prevented mobility in both directions (incoming and outgoing).

Further, the Visa problem is a big hurdle, long bureaucratic procedures and unsure positive replies leave desperate and disillusioned researchers in WBC behind. Positively, visa obligation was abandoned amongst most of the Western Balkan countries; Slovenia, Romania, Bulgaria and Greece have loosened their visa regimes. Still, almost all countries of the EU follow strict rules for citizens from WBC. First steps to issue "smart visa" for researchers and other professionals from WBC have been set by the EU.

An agreement relieving visa restrictions for citizens of Albania, Bosnia and Herzegovina, FYR of Macedonia, Montenegro and Serbia travelling to the EU entered into force on Tuesday (January 1st). The agreement will be applied in all EU member states except Denmark and the UK. The agreement will allow receiving cheaper visas for travel to the EU, and simplify visa application procedures.<sup>13</sup>

Researchers and the RTD system as a whole in WBC are in strong need for mobility (in both directions: from and to WBC) in order to have the possibility of unrestricted international cooperation and experience.

#### **Country specification:**

Researchers' mobility is important to all countries in SEE.

Until today, only in the case of Croatia visa is not required to enter the EU.

#### **Correspondent funding programmes:**

Despite difficulties in obtaining visa for WBC, different programmes support the mobility of WBC researchers, mostly for short term stays to conduct research in countries of the EU or to meet for international project preparation activities:

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<sup>13</sup> EU eases visa restrictions for five Balkan countries. Southeast European Times. 02/01/08. Access: 4 February 2008. [http://www.setimes.com/cocoon/setimes/xhtml/en\\_GB/features/setimes/newsbriefs/2008/01/02/nb-03](http://www.setimes.com/cocoon/setimes/xhtml/en_GB/features/setimes/newsbriefs/2008/01/02/nb-03)

- All programmes, which cover travels to project meetings and other international cooperation activities:  
FP7: Cooperation, Capacities programme (Research potential, international cooperation), COST, INTERREG, Tempus, Life Long Learning, Bilateral RTD programmes, Innovation 2010, UNESCO, National, unilateral S&T programmes, National, unilateral Innovation/Business programmes, etc.
- Following programmes cover short- and long term research stays in EU RTD institutions:  
FP7: People/International incoming fellowships, international outgoing Fellowships, industry/academia partnerships; COST, JRC, SEE-ERA.NET PJC, LIFE+, INTERREG, NATO SPS, TEMPUS, Life Long Learning, etc.

Still, the need for long term stays in research institutions in the EU, which would substantially contribute to new experiences and knowledge gain of WBC researchers, is insufficiently met or insufficiently used respectively, e.g. the Marie Curie mobility scheme in FP6 was hardly deployed by WBC researchers to gain research experience abroad for a longer period.

### **3.7. Support of Transition of Universities from Teaching to Research Institutions**

#### **Background:**

In many cases, universities in WBC are teaching institutions with only a low level of RTD activities, resulting in questionable quality of university diploma, minor international competitiveness of graduates and low attractiveness of research career in general.

This problem can only be seen in a wider context, since it is the result of other developments and factors like e.g. devastation of RTD infrastructure, international isolation, low level of public funding, gap to international developments (Bologna process), traditional role of universities etc.

Still, also the WBCs face with the requirements set by the Bologna process. In order to accomplish these objectives, universities in WBC need to undergo the transition process. Here, the renewal of university curricula and the adoption of international standards is a core objective.

#### **Country specification:**

The more a country has to struggle with the effects of the factors mentioned above, the more the problem of universities, being only teaching facilities, is eminent.

There is no data available, describing this problem in different WBCs.

#### **Correspondent funding programmes:**

This need requires support from different angles, since various factors account to this demand like e.g. investment in RTD infrastructure, updating of university curricula, training of university staff, international cooperation etc. In detail, following programmes support the modernization of curricula and universities:

- TEMPUS: \*\*\*

The programme aims at improving university curricula, university management and higher education modernization.

- LIFE LONG LEARNING: \*\*

The programme supports the adoption of Bologna objectives in higher education systems. Also, policy cooperation for know-how transfer in accreditation services is a focus. The update of higher education management is a core objective.

- ERASMUS MUNDUS: \*\*

The programme provides scholarships to excellent graduate students from third countries.

- UNESCO: \*\*

The UNESCO supports measures to implement the Bologna objectives in higher education systems of WBCs.

### **3.8. Specific Support to Basic Research**

#### **Background:**

Basic research had a long-standing tradition in former Yugoslavia/SFRJ (Socialisticka Federativna Republika Jugoslavija). Universities were founded in the 19th century already had state support guaranteed appropriate investment in RTD leading to a strong basic research system and prominent industrial research. In addition, the specific political situation as a non-block state in the times of the Cold War supported international cooperation and encouraged RTD links throughout the world. In contrast, Albania's strict dictatorship regime and inclination towards the Soviet system has led to a much closed RTD system with a short tradition of universities in the country.

Nowadays, low level of public funding, destroyed or inadequate research infrastructure, massive brain drain/brain waste, "degradation" of universities to teaching institutes and effects of isolation during the 1990s dominate the situation of basic research in all WBC. Despite the heritage of relatively high-quality research institutions in the succession states of SFRJ, the shrinking of national RTD systems in WBCs and thus of basic research remains an obstacle at different extent in all WBC.

Basic research paves the ground for future technologies and developments, whereas applied research drives economic growth at short- and medium term. As WBCs need to strengthen their economies and boost social welfare, applied research is prioritized in the policy orientation of WBC.

Special attention may be given to basic research in social sciences and humanities, which help to understand societal changes, developments in a globalized world, effects on national economies and societies, etc. thus provide the theoretical backbone of a knowledge-based society.

#### **Country specification:**

##### Albania:

Recently, national policies have prioritized applied research. Nevertheless, support to basic research is limited.

##### Bosnia and Herzegovina:

The specific situation of the BiH RTD system, being highly fragmented and decentralized on cantonal and entity level and lacking of a coherent RTD policy and investment on the state level, makes support for basic research even more pressing. In the light of these problems, BiH needs to focus its efforts and establish institutes for fundamental and applied research in areas of particular interest. Also, basic research needs to be developed as a ground for training and future technological development.

##### Croatia:

A well developed university system and high-level public research institutes (e.g. Rudjer Boskovic Institute) account to the good situation of basic research in the country.

##### FYR of Macedonia:

Governmental initiatives have started to support basic research through encouraging and financing national R&D projects. Still, this support needs to be strengthened, as it is vital for the development of the country.

### Montenegro:

The need for support of basic research is profound, governmental initiatives have started their support in specific scientific areas.

### Serbia:

The challenge for Serbia lies in strengthening the connection between the well-developed basic research system and applied research initiatives, technology transfer systems etc.

Governmental programmes focus on support of specific thematic scientific areas.

### **Correspondent funding programmes:**

- FP7: Specific Programme: Cooperation: \*\*\*\*\*

Through SICAs (Specific International Cooperation Actions), FP7 budget is dedicated to foster projects in thematic areas prioritized by WBC. Besides, participation of WBC is possible in all ten thematic areas. Still, as experience from FP6 has shown, participation of WBC partners is difficult due to following reasons:

- ✓ FP7 is a highly competitive programme and participants show a high level of RTD performance – for WBC partners often a hurdle
- ✓ Lack of international contacts
- ✓ European partners sometimes hesitate to include WBC partners into consortia

- FP7: Specific Programme: Ideas: \*\*\*\*\*

Pioneer research is funded with the possibility of WBC researchers to get involved into executive research teams. Still, the areas of research are completely open, scientific excellence is the sole criteria, which needs to necessarily meet the priority objectives of Western Balkan Countries.

- COST: \*\*\*\*\* (R)

Programme supports the creation of international RTD projects in different basic research areas. Still, it is limited to fund only meetings and coordination activities (workshops, conferences etc.) within the project, whereas RTD activities need to be financed by different means other than COST.

- SEE-ERA.NET Joint Calls: \*\*\*

In certain thematic areas specifically important to WBC RTD, multilateral projects in basic research are funded.

- INTERREG IV: \*\*\*

Cross-border and inter-regional RTD cooperation in thematic areas of mutual interest is funded.

- NATO SCIENCE FOR PEACE: \*\*\*\*\* (R)

Multi-annual, basic research projects in areas defined by partner countries receive funding.

### **3.9. Specific Support of Applied Research**

#### **Background:**

Applied research forms an integral part of the innovation system, it combines scientific, entrepreneurial and engineering knowledge. Applied research implies new developments, new technologies, production of high-end goods etc. Investment in applied research means long-term investment into a knowledge-based economy, cornerstone of a wealthy and prosperous society.

Unfortunately, investment from the business sector into RTD remains very low: BERD figures (business expenditure on R&D as a share of the gross domestic product-GDP) lag considerably behind the EU-15 heavily impeding the dynamics and competitiveness of WBCs economies. In addition, the innovation spirit has not yet taken hold of entrepreneurs in WBC. On the contrary, the main characteristic of the business sector in many WBC remains one of a service-oriented but not knowledge- and innovation intensive part of the economic system. National initiatives to boost BERD lack as much as does the entrepreneurial innovative spirit.

#### **Country specification:**

##### Albania:

The need to focus on applied research is reflected in the country's strategy to prioritize six scientific areas, essential to meet the demands of Albania's society and economic system (like e.g. ICT, biotechnology, agricultural technologies, etc.)

##### Bosnia and Herzegovina:

The need for a general increase of the level of applied expertise in sectors such as electric power industry, ICT, wood-processing industry etc. is essential for the economic growth of the country.

##### Croatia:

Applied research needs to be integrated in a wider context of innovation and technological development. National policies need to combine public science with production and entrepreneurship.

##### FYR of Macedonia:

Specialisation on e.g. sustainable development, production technologies of high-quality food, biotechnology etc. is essential for the country and requires support of applied research in these areas.

##### Montenegro:

Support to applied research is essential with focus on areas like biotechnology, marine biology, tourism, energy efficiency etc.

##### Serbia:

In Serbia, various governmental programmes support commercialisation of research results, applied research projects, technology and innovation initiatives etc. Nevertheless, a clear long-term strategy for RTD is missing (as in other WBCs as well) with long term support for applied research being unsure.

### **Correspondent funding programmes:**

- FP7: CIP: \*\*\*\*\*  
Applied, market-oriented RTD projects in Innovation, Energy and ICT are funded. As it is open to WBC for the first time, no predictions on its applicability and acceptance in WBC can be made at this stage.
- EUREKA: \*\*\*\*\* (NB)  
The programme offers the international platform and contacts for conducting RTD projects in innovation and market-orientation. National funds are necessary for RTD activities.
- EUROSTARS\*\*\*\*\* (NB)  
The Program offers innovative projects with SME participation. National funds are necessary for RTD activities.
- INNOVATION 2010 (I2I): \*\*  
Special attention is given on strengthening SMEs' research capacity and private sector participation in public research.
- INTERREG IV: \*\*  
Besides other objectives, the programme supports cross-border and inter-regional cooperation in technology development and enterprises.
- CIRCE: \*\*\*\*\*  
Networking and innovation projects with focus on SME involvement are fostered

### **3.10. Strengthen Connection between Basic and Applied Research**

#### **Background:**

The innovation capacity of countries' S&T system depends to a great extent on the successful link between basic and applied research, thus in the potential of basic research to create results and new findings and in the ability of the innovation system to take up these new developments and commercialize them appropriately.

The success of this model relies on strong components as well as strong interconnection.

For WBC, the need to realize the necessity of interconnection and in a further step to strengthen this link is crucially important. It goes hand in hand with the strengthening of both components; with the need to

- Define and channel resources to S&T priorities
- Upgrade technological capabilities of industry and SME
- Introduce technology transfer systems.

#### **Country specification:**

The S&T systems of all WBC reflect the need to strengthen the connection between basic and applied research, but to various extent with Croatia's RTD and innovation system being more advanced in responding to the need than other WBC.

#### **Correspondent funding programmes:**

Please refer to the programmes supporting either basic or applied research. Spill-over effects can strengthen the connection between these two components. Besides, this need requires strong intervention through policy strategies and national RTD plans.

- CIRCE: \*\*\*\*\*

Consortia usually include intermediaries and companies linking research results to industry. The project partners usually come from universities as well as from the business sector (preferably from SMEs) Networking and innovation projects with focus on SME involvement are fostered



### **3.11. Enhancement of RTD Capacity of Industry and SMEs**

#### **Background:**

In many SEE, the level of innovative capacity of the business sector is rather low. Large public enterprises are shut down and SMEs' capacity for innovation, RTD output and commercialization of science is very limited. The reasons are manifold, general economic weakness; insufficient public spending for the innovation system, lack of appropriate state initiatives (tax incentives, technology parks etc.) remain the major problems.

In addition, governments in SEE still lack awareness of the importance of innovation for increased economic competitiveness and growth. Technology transfer systems have only recently been implemented in some WBC.

In general, technological capacity of the business sector is not the top priority in most of the national RTD plans of WBC and conditions for private investment in RTD remain poor. International Finance Cooperation (by World Bank), apply programs and provide investment products/services and advisory services through PEP-SE (started operations in July 2005) that support SME development in the region. Region must develop its competitiveness to attract more foreign investments. Therefore enhancement of the RTD capacity is very important for SMEs in the region.

For the period of 2007-2013 EU Regional Policy supports research and innovation. The main priorities for investment are: strengthening cooperation between business and public research by supporting creation of clusters of excellence; supporting research and innovation activities in SMEs and enabling SMEs to access RTDI services in publicly-funded research institutions; supporting regional cross-border and transnational initiatives aimed at strengthening research collaboration and capacity building in priority areas of EU research policy; strengthening R & D capacity building, including information and communication technologies, research infrastructure and human capital in areas with significant growth potential.<sup>14</sup>

#### **Country specification:**

##### Albania:

The Technology Information Promotion Service office has been created to facilitate match-making between demand and supply for technology. Still, a national strategy to improve the innovation capacity of industry and SME in Albania is lacking.

##### Bosnia and Herzegovina:

Most of the country's large companies with respectable RTD innovation capacity have not been reconstructed yet due to lack of national and foreign investment. Also, SMEs' RTD output remains very low contributing to the weak technological performance of the country. Governmental intervention

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<sup>14</sup>Regions for Economic Change, Innovating through EU regional policy. Conference. Brussels, 12 – 13 June 2006. <[http://ec.europa.eu/regional\\_policy/conferences/innovating\\_june06/programme\\_en.cfm](http://ec.europa.eu/regional_policy/conferences/innovating_june06/programme_en.cfm)>

has neither been systematic (no state-level strategy due to fragmented structure of RTD in BiH) nor profound.

#### Croatia:

The HITRA programme is the first innovation policy programme aimed at fostering the commercialization of science and at improving the overall innovation performance of the country. Still, stronger political awareness of the key role of innovation and commercialization of science for a knowledge based economy is important.

#### FYR of Macedonia:

Four technology parks exist in the country and some donor supported technology initiatives have been started. The main goals of SME development in FYR of Macedonia are to support for new SME development and to increase their competitiveness. Basic problems of SMEs are lack of new job creation, value adding, effective supply-chain management systems, financial support mechanisms and Entrepreneurship culture.<sup>15</sup>

#### Montenegro:

Innovation and technology transfer initiatives are underdeveloped, systematic strategies and investment is needed. SMEs in Montenegro are mostly in a position to outsource technology improvements, but there is still a shortage of structures that could articulate and support their quest. Innovation Relay Centre has not been established yet.<sup>16</sup>

#### Serbia:

National programmes try to tackle the issue of low innovation capacity of the business sector by various initiatives focused on innovative SMEs, the development of S&T parks and the interconnection and interaction of the various components of the RTD system (knowledge generation – application – entrepreneurship).

#### Kosovo:

Technology transfer and innovation capacity of the business sector have not been prioritised in policy strategies.

#### **Correspondent funding programmes:**

- FP7\*\*

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<sup>15</sup>Revised National Development Strategy For Small And Medium Sized Enterprises 2006-2012. EU- Funded Project Managed By The European Agency For Reconstruction, Project number 04MAC01/02/001 – EAR.2005. Access: 19 February 2008)

< [http://www.sme-union.cz/share/docs/Strategy\\_for\\_SME.pdf](http://www.sme-union.cz/share/docs/Strategy_for_SME.pdf)>

<sup>16</sup> Knežević, Tanja; Žižić, Branka. S&T in Montenegro. 3 September 2007. Access: 26 January 2008. see- science.eu eJournal summer 07. <<http://www.wbc-inco.net/news/2232.html>>

“Co-operation” programme: SMEs are actively encouraged to participate in all research actions. The involvement of SMEs in Joint Technology Initiatives (JTIs) is also encouraged wherever such activity is considered appropriate.

"Ideas" programme: open to SMEs Just like any other organisation, research teams from SMEs can compete on the basis of excellence.

“People” programme: greater attention is directed towards encouraging increased SME participation under “Industry-academia partnerships and pathways

“Capacities” programme: “Research for the benefit of SMEs” aims to strengthen the innovative capacity of European SMEs and their contribution to the development of new technology-based products and markets. The indicative budget for the SME specific actions is circa 1.3 billion Euros.

- FP7: CIP: \*\*\*\*\*

Support for RTD Innovation and market application is the main objectives of the CIP programme. Special attention is dedicated to the involvement of SMEs, which are encouraged to improve their innovative capacities through low-risk access to financial resources.

The programme is open to WBC, accession may be difficult and participation low due to the low number and low level of RTD capacity of SMEs in WBC.

- EUREKA: \*\*\*\*\* (NB)

EUREKA is a platform for market-oriented research, with strong involvement of SMEs.

AS funding comes from national sources, participation of eligible WBC remains unstable and insecure.

- EUROSTARS\*\*\*\*\* (NB)

The Program offers innovative projects with SME participation. National funds are necessary for RTD activities.

- EUROPEAN INVESTMENT BANK (EIB)\*\*\*

EIB provides loans, technical assistance, guarantees and venture capital to contribute towards the integration, balanced development and economic and social cohesion of the EU Member States, candidate countries and WBCs.

- INNOVATION 2010 (I2I): \*\*

SMEs receive support through senior and/or structured loans for RTD activities and patent development. In general, the programme covers various objectives and needs.

- INTERREG IV: \*\*

The programme targets technology development and support for enterprises, but to very limited extent.

- CIRCE: \*\*\*\*\*

Networking and innovation projects are supported, with special focus to enhance SMEs' RTD capacity and performance. Funds are divided amongst the two major objectives (networking, innovation), with more financial resources dedicated to innovation projects.

### **3.12. Implementation of EU Standards and Harmonization**

#### **Background:**

The integration into the European Union is the long-term goal of all SEE countries. The level of integration varies from country to country. Still, the road to the EU requires a step-by-step implementation of EU standards and adoption of the *acquis communautaire* in all fields, so as in RTD. Thus, it is of utmost importance for all WBC to adapt their national RTD systems to EU rules, working methods and policies.

#### **Country specification:**

The EU has different tools (like IPA, Stability Pact) to assist countries in their association and integration process. The level of integration/Status of accession to EU defines which programmes are applied to the countries:

#### **Candidate Countries: Croatia, FYR of Macedonia**

The countries benefit from all five components of the IPA programme. Both are signatories of the Stabilisation and Association Agreement (SAA) pre-requisite for the status of a candidate country.

#### **Potential Candidate Countries:**

Albania, BiH, Montenegro, Serbia and Kosovo are eligible for parts of the IPA programme.

Croatia, Macedonia and Serbia in 2007, Albania and Montenegro in 2008 have associated to FP7 Programme.

In BiH, the following priorities have been identified by the EC: Implement the State level Law on higher education, improve the quality of education, to prevent segregation of children along ethnic lines at school, Start designing an integrated research policy.<sup>17</sup>

#### **Correspondent funding programmes:**

All EU programmes foster adaptation to EU standards (e.g. FP7, LIFE+, TEMPUS, Life Long Learning Programme, etc.) and working methods. The more WBCs are integrated and the more WBC researchers participate in international actions, the more common is the adaptation to and implementation of EU standards (e.g. in project management, evaluation procedures etc.) in WBCs. IPA specifically assists Croatia and FYR of Macedonia in adapting the *acquis communautaire*.

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<sup>17</sup> Proposal for a Council Decision on the principles, priorities and conditions contained in the European Partnership with Bosnia and Herzegovina and repealing Decision 2006/55/EC. Access: 24 January 2008, pg.11 <<http://www.dei.gov.ba/en/?ID=388>>

### **3.13. Support for Research Career Development**

#### **Background:**

Massive brain drain, low level of public financing, low international visibility and integration, low income of researchers, inappropriate state of RTD infrastructure, difficult international mobility, etc. the list of reasons, why a research career in SEE does not seem appealing is long and reflects the major problems researchers and especially young scientists have to face when following a research career. Young researchers lack sufficient opportunities for training and mobility, talented people need an attractive RTD environment in order to have the possibility to develop a flexible and performance related career.

Alongside with a diminishing appreciation of the research profession and the general low awareness of S&T as a motor for economy, many SEE countries face the problem of a lack of human resources to fill the void and respond to demands for a competitive research system.

The following issues should be improved in WBCs in order to build an attractive research career and to have more young researchers:

- Projects for training of junior researchers and new employment mechanisms
- Initiatives for re-training of people with interrupted research-careers to encourage them to follow up and learn new techniques
- Cooperation between higher education sector and business sector as to ensure employment possibilities after studies
- Trainings to increase international cooperation and mobility

#### **Country specification:**

All WBCs are affected by the decreasing number of researchers and young people who opt for the career of a researcher.

#### **Correspondent funding programmes:**

All programmes, which improve the RTD situation in WBCs in general, can have long-term positive effects and can result in increased numbers of researchers in WBCs. Concerning the promotion of young researchers, no national RTD programmes exist in WBC for the promotion of their careers.

- FP7: People: \*\*\*\*\*

Special initiatives for early stage researchers (max. 4 years of research experience after graduation) in international training networks are offered. Also, career development of researchers is a major objective of the programme.

- FP7: Ideas: \*\*\*\*\*

In ERC Starting Grants, young researchers have the possibility to set up their own research team. WBC researchers can become part of such teams if they are engaged at a university or research institution in a MS or ACC.

### **3.14. Support to Institution Building**

#### **Background:**

The RTD systems of the WBCs need to undergo a process of institutional transformation and restructuring in order to be able to respond to national demands and international RTD developments.

The main problems are:

- Low level of awareness on S&T as the motor for economic growth in the society
- Fragmented national strategies for RTD lacking long term perspectives
- Lack of coherent strategies to foster involvement of the business sector in RTD
- Inadequate evaluation systems to measure S&T policies, programmes and institutions in WBC
- Lack of regular/appropriate statistical measures/systems for scientific and technological output

A positive development can be seen in the presence of National Contact points for various EU programmes (FP7, JRC, TEMPUS, etc.) in the countries. Such a system is of crucial importance for the integration into various EU programmes and success of WBC researchers in these programmes.

#### **Country specification:**

##### Albania:

National classification on S&T is not available. Therefore internationally recognized R&D indicators for Albania (such as Frascati classification) can not be provided. The related problems are data collection and analysis, lack of qualified human resources and funds.<sup>18</sup>

In addition, inexistence of a National Patent Office makes it difficult to measure results, effects and developments in the country's RTD performance.

##### Bosnia and Herzegovina:

No National Patent Office exists on the state level, also statistical S&T data is hard to obtain. The fragmented state-structure makes it very difficult to create coherent national RTD strategies and evaluation systems.

##### Croatia:

Various types of surveys and statistics indicating R&D, innovation, patents, human resources and IT on S&T in Croatia are available. The main problems are lack of trained statisticians and administrative capacities in statistics field.<sup>19</sup>

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<sup>18</sup> Agolli, Edmond. Albania's S&T System. Workshop Presentation. Trends and challenges in South Eastern Europe, Skopje March 27-31 2007. organized by the UIS and the UNESCO Office in Venice. Access: 5 February 2008. < [http://www.uis.unesco.org/ev.php?ID=6891\\_201&ID2=DO\\_PRINTPAGE](http://www.uis.unesco.org/ev.php?ID=6891_201&ID2=DO_PRINTPAGE)>

<sup>19</sup> Becic, Emira Ph.D. Science, Technology and Innovation Indicators: Trends and Challenges in Croatia. Workshop presentation. Same http source indicated before.

#### FYR of Macedonia:

Although coping with the problems described above, progress has been made as the country has improved its national evaluation system through new regulations, making the evaluation procedure more open and scientifically objective. Basic S&T statistics on R&D and Innovation are made available through surveys. However it should be updated and scope should be enlarged.

#### Montenegro:

The country especially lacks the presence of a favourable national strategy for RTD with developed national priorities. Very limited R&D indicators are available.

#### Serbia:

The legal framework (Science, Innovation, Higher education, IP Laws, etc.) in S&T is available. However in practice, institutional R&D capacities to respond the needs of economic development are not sufficient. Also the S&T statistical system should be improved to be compatible with internationally recognized standards.<sup>20</sup>

#### **Correspondent funding programmes:**

- FP7: Specific Programme: Capacities/International Cooperation: \*\*\*  
The actions foreseen under the INCO programme are mainly targeted towards policy makers in WBC to support the integration of national RTD systems into ERA, which also includes the need for adaptation of institutions and institution building (e.g.: establishing NCP systems in WBC).
- IPA: \*\*  
Although Institution Building is one of the five components of IPA applicable to all WBC, RTD is not addressed. Only in the Multi-Beneficiary Programme, institution-building measures (mapping of RTD facilities, integration into ERA) are mentioned.
- INTERREG IV: \*  
The programme supports the exchange of experiences; good practices also cooperation initiatives in technology development. Activities like inter-regional mapping of excellence, synchronization of evaluation procedures etc. can also form part of INTERREG projects.
- TEMPUS: \*\*  
The programme supports the development of administrative and institutional structures of universities through training of staff.

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<sup>20</sup> Kutlaca, Djuro - STI System in Serbia: Research Perspective. Workshop presentation. Same http source indicated before.

#### **4. INTERNATIONAL FUNDING PROGRAMMES FOR WBC**

The programmes introduced here summarize all international activities, under which funding is available for RTD of WBCs. Some programmes are specifically designed for the WBCs, (IPA, Bilateral S&T agreements, national/unilateral RTD programmes, development programmes) in other programmes; WBCs can participate and/or have Member State status (FP7, COST, EUREKA, TEMPUS, etc.). As the programmes are all international, cooperation on this level is enhanced and helps the WBCs to step out of their isolation and grow into the European and worldwide RTD family.



#### 4.1. 7<sup>TH</sup> FRAMEWORK PROGRAMME FOR RTD – FP7

##### **Introduction:**

The 7th Framework Programme is dedicated to achieve the Lisbon agenda of making Europe the world-leading knowledge based society with research and innovation being the motors of economic growth and welfare. The FP7 aims to intensify the creation of the European Research Area, the key instrument to counteract fragmentation and duplication and to use Europe-wide synergies in RTD. The four specific programmes in FP7 all address key priorities of European RTD:

- **Cooperation:** in ten thematic priorities, international projects are carried out.
- **People:** the human potential of Europe's RTD system are fostered and supported
- **Ideas:** new, emerging areas in science, with the possibility to push new developments and scientific break-throughs are funded
- **Capacities:** the programme aims to unlock the research capacity of Europe's outermost regions, further to support SME RTD activities, to foster new RTD infrastructure and revitalize existing infrastructure and also to support the cooperation with third countries (international cooperation) in areas of mutual benefit and interest.

##### **Duration:**

2007 – 2013

##### **Eligibility of WBCs:**

All countries of the Western Balkans except Bosnia and Herzegovina (BiH) are associated to the European Union 7<sup>th</sup> FP on an equal base with the EU Member states. Croatia, Macedonia, Serbia have signed the Memorandum of Understanding (MoU) that associate these countries to the 7FP on 13 June 2007. The provisions of the association instruments are applicable from 1 January 2007.

([ftp://ftp.cordis.europa.eu/pub/fp7/docs/third\\_country\\_agreements\\_en.pdf](ftp://ftp.cordis.europa.eu/pub/fp7/docs/third_country_agreements_en.pdf))

- Albania has signed the MoU on 17 December 2007. The new 'Associated status' allows Albania to participate in all calls for proposals as of 1 January 2008.  
([http://cordis.europa.eu/fetch?CALLER=FP7\\_NEWS&ACTION=D&DOC=1&CAT=NEWS&QUERY=1198140446892&RCN=28871](http://cordis.europa.eu/fetch?CALLER=FP7_NEWS&ACTION=D&DOC=1&CAT=NEWS&QUERY=1198140446892&RCN=28871) )
- Montenegro has signed the MoU on 25 January 2008.  
([http://cordis.europa.eu/fetch?CALLER=FP7\\_NEWS&ACTION=D&DOC=6&CAT=NEWS&QUERY=1202367929157&RCN=29058](http://cordis.europa.eu/fetch?CALLER=FP7_NEWS&ACTION=D&DOC=6&CAT=NEWS&QUERY=1202367929157&RCN=29058))

## 4.2. FP7 Specific Programme: COOPERATION

### **Objectives:**

The COOPERATION programme aims to foster transnational research cooperation between researchers, universities, research institutes, industry and SMEs in the European Union, Candidate Countries, Associated Countries and International Cooperation Partner Countries (ICPC). The programme supports projects in ten thematic priorities (see „Fields/Areas of funding“)

### **Eligibility of WBC:**

The participation of WBC (except Bosnia and Herzegovina) in the COOPERATION programme is possible in all thematic areas. On the other hand, the programme has provision for special calls for the Western Balkan Countries and international cooperation actions (**S**pecific **I**nternational **C**ooperation **A**ctions/**SICA**) aiming at improving the dialogue among regional partners.

### **Conditions for funding:**

- Participation in ten thematic priorities, without dedicated WBC calls: the rules for participation foresee a minimum of 3 partners from different EU MS
- In **SICAs**, the general rules for participation foresee two partners from EU MS and at least one partner from WBC.

### **Project types/Funding Schemes:**

Support to trans-national cooperation will be implemented through the following instruments:

**Collaborative research:** The objective is to establish, in the major fields of advancement of knowledge, excellent research projects and networks able to attract researchers and investments from Europe and the entire world.

**Coordination of national research programmes:** the ERA-NET scheme and the participation of the Community in jointly implemented national research programmes (under Article 169 of the Treaty)

**Joint Technology Initiatives:** These initiatives, will combine private sector investment and/or national and European public funding, including grant funding from the Research Framework Programme and loan finance from the European Investment Bank.

**European Technology Platforms (ETPs):** have been set up in a number of areas where Europe's competitiveness, economic growth and welfare depend on important research and technological progress in the medium to long term. They bring together stakeholders, under industrial leadership, to define and implement a Strategic Research Agenda (SRA). The implementation of the SRA will be supported by the Cooperation programme.

**Collaborative projects** (from large- to small-scale research projects): this project types may vary in size according to topics and research focus but their main aim is to develop new knowledge, new technologies, products, demonstration activities or common resource for research.

**Networks of Excellence:** support is given to implement a Joint Programme of Activities by a number of research organisations integrating their activities in a given field (*Contribution to long-term integration of high quality S/T research*)

**Coordination/Support actions:** support for activities aimed at coordinating and supporting research activities and policies (networking, exchanges, studies, conferences, trans-national access to research infrastructure, etc.) is offered in this project type.

#### **Fields/Areas of funding:**

Ten thematic priorities are foreseen for funding:

- Health
- Food, Agriculture and Biotechnology
- Information and Communication Technologies,
- Nano-sciences, Nano-technologies, Materials and New Production technologies,
- Energy
- Environment (incl. Climate Change)
- Transport (incl. Aeronautics)
- Socio-Economic Sciences and Humanities
- Space
- Security

Each theme is operationally autonomous but aims to maintain coherence within the Cooperation Programme and allowing for joint activities cutting across different themes, through, for example, joint calls.

#### **Budget:**

The budget for the COOPERATION programme is 32.413 M Euro. It is divided amongst the ten thematic priorities and budget for the non-nuclear activities of the Joint Research Centre (JRC).

#### **More information:**

<http://cordis.europa.eu/documents/documentlibrary/2750EN.pdf#page=40>

[http://cordis.europa.eu/fp7/cooperation/home\\_en.html](http://cordis.europa.eu/fp7/cooperation/home_en.html)

#### **Corresponding to the following needs:**

- Enhancement of Regional Cooperation
- Definition of priority research areas
- Specific support to basic research
- Specific support to applied research

### **4.3. FP7 Specific Programme: IDEAS**

#### **Objectives:**

The IDEAS programme is set to foster high level frontier research by supporting research teams of highest excellence conducting research with the potential to scientific breakthroughs and to opening new dimensions in science.

The IDEAS programme is implemented by the European Research Council (ERC), which consists of the Scientific Council (SC) and a Dedicated Implementation Structure (DIS). The SC sets the research topics for the work programme; it operates independently and consists of a group of high-level researchers.

The DIS is the operational structure and implements the calls according to the work programme set by the SC.

#### **Eligibility of WBC:**

Candidates of any country or origin may apply. However they must be hosted by a legally recognised public or private research organisation situated in the EU or Associated Countries.

Except BiH, all other WBCs are Associated Countries.

#### **Conditions for funding:**

The ERC activities are implemented in the first two years of FP7 via following mechanisms:

- ERC Starting Independent Research Grants: young researchers are supported to establish their own research team, which is conducting research on the forefront of science. The „principal investigator“ has absolute autonomy in nominating research colleagues to work in the team, grants are given on the basis of the excellence criteria (team and project).
- ERC Advanced Grants: It aims to encourage risk-taking and interdisciplinary, and supports pioneering frontier research projects. Principal Investigators (PIs) applying for the ERC Advanced Grant must be established research leaders who have made exceptional contributions to research in terms of originality and significance. They must be active researchers with an outstanding track record of significant research achievements in the last 10 years. PIs can be at any career stage but must scientifically independent.

#### **Fields/Areas of funding:**

In principal, no thematic restrictions consist. The SC of the ERC develops, based on constant information exchange and thorough contact with the research communities in the EU, the work programme and topics of the calls.

#### **Budget:**

The IDEAS programme has a budget of 7.510 M Euro.

**More information:**

[http://cordis.europa.eu/fp7/ideas/home\\_en.html](http://cordis.europa.eu/fp7/ideas/home_en.html)

<http://erc.europa.eu/>

**Corresponding to the following needs:**

- Enhancement of regional/international Cooperation
- Definition of priority research areas
- Specific support of basic research
- Support of Research Career Development

#### **4.4. FP7 Specific Programme: PEOPLE**

##### **Objectives:**

The PEOPLE programme aims to strengthen the quantitative and qualitative human potential in RTD in the European Union. The programme is structured around following pillars:

- Initial training
- Lifelong training and career development
- Industry dimension/Industry academia partnerships
- International dimension
- Specific Actions

##### **Eligibility of WBC:**

It is intended to ensure as large a geographical coverage as possible, involving the maximum number Member States and Associated countries.

##### **Conditions for funding:**

Associated WBCs can participate in all pillars defined above. Funding for the other WBC partners (BiH) in the PEOPLE programme can be achieved through:

- Marie Curie networks for early stage researchers: funding for WBC institutions to participate in the Marie Curie network is given if the objectives of the network can be reached only with the participation of the WBC partner;
- Industry dimension: single WBC researchers can be hosted by a European university of industry partner which takes part in a Marie Curie Industry/Academia partnership scheme.
- Incoming international fellowship: Researchers from the WBCs can apply for a research stay in a host institution in the EU, with a scope to knowledge enhancement and collaboration enrichment
- Outgoing international fellowships: EU researchers can receive funding for a research stay in a WBC research organisation with mutual profit of expertise and knowledge. The return to the EU is obligatory.

##### **Fields/Areas of funding:**

The PEOPLE programme applies a bottom-up approach; participation is possible in all fields of research.

##### **Budget:**

The budget for the PEOPLE programme amounts to 4.750M Euro.

**More information:**

<http://cordis.europa.eu/fp7/people.htm>

**Corresponding to the following needs:**

- Enhancement of regional cooperation
- Measures against brain drain/brain waste
- Support of mobility of researchers
- Support for research career development
- Strengthen connection between basic and applied research

#### **4.5. FP7 Specific Programme: CAPACITIES**

##### **Objectives:**

The specific programme CAPACITIES aims to:

- support the coherent development of policies;
- complement the Cooperation programme;
- contribute to EU policies and initiatives to improve the coherence and impact of Member States policies;
- find synergies with regional and cohesion policies, the Structural Funds, education and training programmes and the Competitiveness and Innovation Programme (CIP).

The CAPACITIES programme also aims to optimize the use of research infrastructures, to strengthen the innovative capacity and ability of SMEs, to support the development of regional research-driven clusters, to unlock the research potential of the EU's convergence and outermost regions, further to bring closer together science and society in the EU and to support measures of international cooperation.

##### **Eligibility of WBC:**

Except BiH all other WBCs are eligible to participate in all action lines. At the present time BiH is considered among the International Cooperation Partner Countries (ICPC).

##### **Conditions for funding:**

- Research Infrastructure: the creation of new infrastructure of pan-European interest needed by the European scientific community to remain at the forefront of the advancement of research is funded; also financing is given to the use and development of existing research infrastructure. The activities are undertaken in close coordination with the COOPERATION programme and attention is given to the international dimension.
- Research Potential: this programme line focuses on the financial support to realise the full research potential of the enlarged Union by unlocking and developing existing or emerging excellence in the EU's convergence regions and outermost regions.  
Further activities: staff exchange, between selected organisations, development of research equipment; organisation of workshops/conferences for know-how transfer; evaluation of RTD quality and infrastructure of facilities in outermost regions by international experts.  
Research entities in convergence regions of those WBC countries which are associated to the Seventh Framework programme can take part on the same basis as EU Member States.
- Activities of international Cooperation (INCO programme): in order to play a leading role, the EU needs a strong and coherent international science and technology policy, which can be achieved through strategic partnerships, facilitated contacts with partners in third countries



with the aim to provide better access to research carried out elsewhere in the world and through addressing problems that third countries face or that have a global character on the basis of mutual interest and benefit.

Project types:

Funding opportunities under the INCO programme are given in the frame of *Specific Support (CSASA)* and *Coordination Actions (CSACA)*, helping to identify regional priorities and S&T cooperation policies in ICPCs, further to enhance and develop S&T cooperation partnerships including structural activities and to support the coordination of national policies and activities on international S&T cooperation (ERANET, INCONET, BILAT)

**Fields/Areas of funding:**

The topics in the „Research infrastructure „and „Research Potential „funding line are thematically open.

**Budget:**

The CAPACITIES programme's budget is 4.097 Mio. Euro. The INCO programme has a budget of 180 Mio. Euro.

**More information:**

[http://cordis.europa.eu/fp7/capacities/home\\_en.html](http://cordis.europa.eu/fp7/capacities/home_en.html)

**Corresponding to the following needs:**

- Upgrading of RTD infrastructure
- Enhancement of regional cooperation
- Definition of priority research areas
- Implementation of EU standards/Harmonization
- Institution building

#### **4.6. CIP (Competitiveness And Innovation Framework Programme)**

##### **Introduction:**

The CIP programme groups all existing Community programmes in the field of innovation and competitiveness, like eTen, eContent, IRC, COOPENER, etc. under one roof.

##### **Duration:**

The CIP Programme is implemented for 2007-2013.

##### **Objectives:**

- Encourage competitiveness of the business sector, especially of SMEs
- Push innovations to market application
- Accelerate developments of the information society
- Improve the efficient use of energy and renewable energy sources

CIP is structured around three main blocks of activities:

- Entrepreneurship and Innovation: aiming to foster competitiveness and entrepreneurship of industry and SMEs
- Information and Communication technology Policy Support: Actions developing the single European information space and strengthening the internal market for information products and services are supported.
- Intelligent Energy Europe: objectives are to facilitate the development and implementation of the energy regulatory, to increase the level of investment in new and best performing technologies and to increase the uptake and demand for energy efficiency, renewable energy sources and energy diversification.

##### **Eligibility of WBC:**

The CIP programme is open to participation from all WBCs.

##### **Conditions for funding:**

Financial means include venture capital investment, financial risk-sharing schemes, loans, credits etc.

##### **Fields/Areas of funding:**

The focus is set on applicability, market-orientation, raise of competitiveness and innovation potential in the three domains of activities.

##### **Budget:**

The total budget amounts to 4.21 b Euro. Entrepreneurship and Innovation: 2631 M Euro. Information and Communication technology Policy Support: 801.6 M Euro. Intelligent Energy Europe: 780 M Euro.

**More information:**

[http://ec.europa.eu/cip/index\\_en.htm](http://ec.europa.eu/cip/index_en.htm)

**Corresponding to the following needs:**

- Enhancement of regional cooperation
- Specific support to applied research
- Strengthen connection between basic and applied research
- Enhancement of RTD capacity of industry and SME

#### **4.7. INSTRUMENT FOR PRE-ACCESSION ASSISTANCE (IPA)**

##### **Introduction:**

The Instrument for Pre-accession Assistance (IPA) aims at providing targeted assistance to Candidate Countries (CC) and Potential Candidate Countries (PCC) for membership to the EU. It replaces the 2000-06 financial instruments for the Western Balkans CARDS and other pre-accession financial instruments.

##### **Duration:**

2007 - 2013

##### **Objectives:**

IPA is made up of five different components:

- Transition Assistance and Institution Building
- Regional and Cross-Border Cooperation
- Regional Development
- Human Resources Development
- Rural Development

The first two of which will apply to both potential candidate and candidate countries, the last three will apply to candidate countries only. 90% of the budget is allocated to National Programmes including areas of specific interest for each country under the five components mentioned above. In areas, where there is a clear advantage to address more countries, thus in areas of common interest, cross-border issues, cooperation possibilities, the remaining 10% of IPA budget is allocated to Multi-Beneficiary Areas of Intervention (see below).

##### **Areas of intervention:**

RTD as an area of support is not foreseen in any of the five components; it is not included in any of the National programmes. The Multi-Beneficiary planning envelope for 2007 – 2009 foresees “Education, Youth and Research” as a major area of intervention. For RTD, the IPA aims to:

- Stimulate regional and international (EU – WBC) research cooperation
- Facilitate integration into ERA

Detailed actions to reach the goals:

- Support mapping of centres of excellence in specific thematic areas, relevant to WBC
- Facilitate further integration into ERA by exchanging information and best practices on role of research in support of economic development in a sustainable way;
- Bring different actors in the region together and identify priority elements necessary to achieve EU targets.

**Eligibility of WBC:**

- Candidate Countries (CC): Croatia, FYR of Macedonia; are eligible for all five IPA components
- Potential Candidate Countries (PCC): Albania, BiH, Serbia, Montenegro, Kosovo (according to UNSCR 1244) are eligible only for the first two components (thus *Transition Assistance and Institution Building and Regional and Cross Border Cooperation*)

**Fields/Areas of funding:**

No thematic restriction exists.

**Budget:**

As regards financial allocations, IPA will provide a total amount of 11,468 Billion Euro (current prices) over the 2007-2013 period.

**Pre-Accession assistance 2007-2009 under Multi-annual Institutional Financial Framework<sup>21</sup>**

Pre-acc. Assistance envelopes, in € Million	2007	2008	2009
Croatia	138.5	146.0	151.2
Former Yugoslav Rep. of Macedonia	58.5	70.2	81.8
Albania	61.0	70.7	81.2
Bosnia and Herzegovina	62.1	74.8	89.1
Montenegro	31.4	32.6	33.3
Serbia	186.7	190.9	194.8
Kosovo	63.3	64.7	66.1

**More information:**

IPA general information: [http://ec.europa.eu/enlargement/financial\\_assistance/ipa/index\\_en.htm](http://ec.europa.eu/enlargement/financial_assistance/ipa/index_en.htm)

IPA financial planning:

[http://ec.europa.eu/enlargement/pdf/countries/ipa\\_miff\\_081106\\_en.pdf](http://ec.europa.eu/enlargement/pdf/countries/ipa_miff_081106_en.pdf)

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<sup>21</sup> Frequently asked questions on Instrument for Pre-Accession Assistance (IPA). Brussels, 8 November 2006. Access: 25 January 2008. <<http://europa.eu/rapid/pressReleasesAction.do?reference=MEMO/06/410>>

**Corresponding to the following needs:**

- Upgrading of RTD infrastructure
- Upgrading and renewal of ICT infrastructure
- Enhancement of regional cooperation
- Implementation of EU standards/harmonization
- Institution building

#### **4.8. COST (European Cooperation in the field of Scientific and Technical Research)**

##### **Introduction to COST:**

COST is one of the largest intergovernmental frameworks for the coordination of national-funded basic research at European level. Cooperation takes the form of concerted activities between research institutions from member countries or cooperating states. Such research networks are called *Actions*. Non COST countries can also participate in these Actions, where there is mutual benefit.

##### **Duration:**

COST was established in 1971 and is an ongoing programme.

##### **Objectives:**

Research is carried out on a basic pre-competitive, pre-normative or policy-related nature. It is international and it aims to address issues where cooperation would be beneficial to a number of countries and that require harmonisation of regulations and policy making. Also, cooperation on newly emerging or multidisciplinary scientific topics is desired.

##### **Eligible Countries in WBC:**

Following COST signatory countries have full access to COST Actions

- Croatia
- FYR of Macedonia
- Serbia

In addition, support for the integration of scientists from other, non-signatory SEE countries (i.e. BiH, Albania, Montenegro) will be given. COST funds the attendance of researchers coming from these countries to participate in COST Action meetings.

##### **Field/Areas of funding:**

COST Actions can be initiated by individual scientists („bottom up“).

Following activities can receive funding from COST:

- Travel expenses and daily allowances for delegates to meetings
- Workshops, conferences
- Short term scientific missions (STSMs) – inter-laboratory exchanges
- Training schools
- Action grants
- Publications and dissemination
- High level research conferences organised jointly with ESF
- Studies, reviews, assessments, strategic activities
- Special provision for research from „near neighbours“ countries.

Research activities are NOT funded by COST but by national programmes.

Areas of funding (priorities):

- Biomedicine and molecular biosciences
- Food and agriculture
- Forests, their products and services
- Materials, physical and nanosciences
- Chemistry and molecular sciences and technologies
- Earth system science and environmental technologies
- Information and communication technologies
- Transport and urban development
- Individuals, society, culture and health

COST applies a continuous open call procedure, with one collection date for preliminary proposals and a second collection date to invite final proposers to submit their full proposal per year.

**Budget:**

COST Actions are financed from a specific line within the EU research framework programme in cooperation with the European Science Fund. In FP7, the proposed budget from 2007-2013 amounts to 280M Euro.

**More information:**

<http://www.cost.esf.org/>

**Corresponding to the following needs:**

- Enhancement of regional cooperation
- Definition of priority research areas
- Support of mobility of researchers
- Specific support of basic research



#### **4.9. EUREKA**

##### **Introduction:**

EUREKA is a pan-European network for market-oriented, industrial RTD created as an intergovernmental initiative in 1985, EUREKA aims to enhance European competitiveness through its support to businesses, research centres and universities who carry out pan-European projects to develop innovative products, processes and services.

##### **Duration:**

EUREKA is an ongoing initiative.

##### **Objectives:**

Through its flexible and decentralised network, EUREKA offers project partners rapid access to a wealth of knowledge, skills and expertise across Europe and facilitates access to national public and private funding schemes.

The internationally recognised EUREKA label adds value to a project and gives participants a competitive edge in their dealings with financial, technical and commercial partners.

Through a EUREKA project, partners develop new technologies for which they agree the Intellectual Property Rights and build partnerships to penetrate new markets.

##### **Eligibility of WBC:**

EUREKA currently has 38 full members. Several countries participate in EUREKA projects through a network of **National Information Points (NIPs)**.

Member Countries from WBCs: Croatia, Serbia

Host of National Information Points from WBCs: Albania, FYR of Macedonia

NIPs facilitate the setting-up and running of a project and are responsible for project generation, national and international support and follow-up.

##### **Conditions for funding:**

Besides individual projects, two types of initiatives exist in EUREKA:

- EUREKA Clusters are long-term, strategically significant industrial initiatives. They usually have a large number of participants, and aim to develop generic technologies of key importance for European competitiveness, primarily in ICT and, more recently, in energy and biotechnology. Clusters bring together large companies along with SMEs, research institutes and universities, sharing both the risk and benefits of innovation.
- EUREKA Umbrellas are thematic networks that focus on a specific technology area or business sector. The main goal of an Umbrella is to facilitate the generation of EUREKA projects in its own target area. All activities support involvement of SMEs.

**Fields/Areas of funding:**

- ICT
- Medical and bio-technology
- Robotics
- Transport
- Energy
- New materials etc.

**Budget:**

EUREKA does not provide any funding, financial support comes from national programmes of Member Countries. In case of Serbia, funding is available in the form of Grant. Universities and research centers can apply. The total budget of the scheme for this year is **0.2 M Euro**; the maximum amount of funding per project is **0.05 M Euro**.

**More information:**

<http://www.eureka.be>

**Corresponding to the following needs:**

- Enhancement of regional cooperation
- Definition of priority research areas
- Specific support to applied research
- Strengthen connection basic-applied research
- Enhancement of RTD capacity of industry and SME

#### **4.10. EUROSTARS**

**Introduction:**

The Eurostars Programme, which is launched on October 2007, is a European innovation programme managed by *EUREKA* and to be specifically dedicated to SMEs. Projects must aim development of a new product, process or service. At least 50% of the project's core activity should be carried out by SMEs.

**Duration:**

2007-2013

**Objectives:**

The Programme is the first European funding and support programme to be specifically dedicated to SMEs. Eurostars will stimulate them to lead international collaborative research and innovation projects by easing access to support and funding.

**Eligibility of WBCs:**

The main participant must be a research-performing SME from one of the 27 member countries. However each *EUREKA* member country (in WBC case Croatia and Serbia) is eligible to join to the Eurostars Programme according to decision of national *EUREKA* authorities. There must be a minimum of two participants established in two different Eurostars member countries. In addition, the main participant must be a research-performing SME from one of the member countries.

**Conditions for funding:**

There is no thematic restriction.

**Areas/fields for funding:**

No thematic specification is indicated.

**Budget:**

Estimated budget is 400 million euro. 560 projects for 7 years are targeted. Eurostars projects will be funded through national research schemes. The amount of funding and costs eligible for funding will therefore vary between member countries.

**More information:**

<http://www.eurostars-eureka.eu/>

**Corresponding to the following needs:**

- Enhancement of regional cooperation
- Enhancement of RTD Capacity of Industry and SMEs

#### **4.11. JOINT RESEARCH CENTRES**

##### **Introduction:**

The Joint Research Centre (JRC) is a research based policy support organisation and an integral part of the European Commission. As such, it is independent from national and private interests. The JRC carries out extensive research of direct concern to European citizens and industry. The work is split between institutional research in support of Commission policy-making, direct support for specific Directorates-General (DGs) and competitive activities in strategic relationships with the scientific and business communities.

The JRC's structure is based on seven specialised institutes, located throughout the European Union and employs about 2.700 staff.

##### **Duration:**

The JRC is directly associated to the European Commission, therefore the „life span“is linked to the Commission's financial periods. The current period is running from 2007 – 2013.

##### **Objectives:**

The objectives of the JRC is to provide customer-driven scientific and technical (S&T) support for the conception, development, implementation and monitoring of Community policies.

The JRC strongly supports the enlargement activities of the European Union and offers a wide range of participation possibilities for EU New MS, Acceding Countries, Candidate Countries and Potential Candidate Countries (NMS/AC/CC/PCC) by fostering collaboration with governmental organisations (or the like) from these countries, which will have an institutional role for providing S&T support to the implementation of policies, particularly through the associated scientific and technical organisations.

##### **Eligibility of WBC:**

Special attention is given to candidatures of experts from Croatia and the countries in the Western Balkan region (FYROM - Candidate Country and Albania, Bosnia-Herzegovina, Serbia and Montenegro - Potential Candidate Countries).

##### **Conditions for funding:**

The JRC's enlargement actions are composed of two main related instruments, which allow integration of researchers from WBC:

a) Workshops and Training Courses on Advanced Methods and Techniques for EU policies in order to:

- Assist the competent organisations in the WBC with the scientific and technical methods and techniques underpinning EU policy implementation
- Deepen ERA with all countries concerned.

b) Short-term opportunities for Seconded National Experts (Call for Expression of Interest; experts from countries not associated to FP7 are not eligible)

In conjunction with the previous activity, the JRC offers a number of short-medium-term job openings which are available for Seconded National Experts (with preference of 12 months depending on the position and area).

**Areas/fields for funding:**

Topics of consideration are:

- Sustainable development
- Climate change
- Food
- Energy
- Transport
- Chemicals
- Alternative methods to animal testing
- Research policy
- Information Technologies
- Reference methods and materials
- Biotechnology
- Risks, hazards and socio-economic impacts

**Budget:**

The JRC is financed from a special funding line in FP7. The whole budget for the JRCs (excl. nuclear actions) is: 1.751 M Euro.

**More information:**

<http://www.jrc.ec.europa.eu>

**Corresponding to the following needs:**

- Enhancement of regional cooperation
- Definition of priority research areas
- Implementation of EU standards/harmonization

#### **4.12. SEE-ERA.NET Calls**

##### **Introduction:**

The SEE-ERA.NET is a European Commission's networking project for the integration of the Southeast European countries into the European Research Area through the opening of bilateral programmes. It is a network of 14 ministries and 3 agencies in 14 European countries that includes all Western Balkan countries and works directly on the level of policy makers.

##### **Duration:**

2005 – 2009. Pilot Joint Call launched in 2007. The first Call for Project Proposals is planned for spring 2009.

##### **Objectives:**

- to contribute the efforts to enhance S&T cooperation with the Western Balkan countries; to facilitate their participation in project consortiums under the multilateral programs, such as FP7, Cost, Eureka;
- to foster individual mobility of young scientist of the region; also to contribute the efforts through increase in innovation capacity of the region.

##### **Eligibility of WBC:**

Researchers from all WBC are eligible to participate in projects subject to the Joint Pilot and Multilateral Calls.

##### **Conditions for funding:**

Throughout the Project, the following support mechanisms will be made available:

Funds, Preparatory Grants, Docking Grants for the collaborative research projects; benchmarking and trainee programs; mobility programs for young scientists; exploratory and partnering activities to extend innovation capacity of the institutions in the region. Funding will be available through calls for proposals.

##### **Fields/Areas of funding:**

Details will be announced in calls.

##### **Budget:**

The overall budget of the Project is 2.63 million euro.

##### **More information:**

SEE-ERA.NET project: <http://see-era.net>

SEE-ERA.NET/ Joint Action Plan

**Corresponding to the following needs:**

- Enhancement of regional cooperation
- Definition of priority research areas
- Support of mobility of researchers
- Institution building
- RTC Capacity of Industry and SMEs

#### **4.13. LIFE+**

##### **Introduction:**

LIFE+ contributes to the implementation, development and enhancement of the Community environmental policy and legislation as well as the integration of the environment into other EU policies. LIFE+ also supports the development of new solutions to environmental problems facing the EU.

##### **Duration:**

2007-2013

##### **Objectives:**

LIFE+ provides limited but focused funding for the development and implementation of Community environmental policy and legislation, in particular the objectives of the 6th EAP (Decision 1600/2002/EC) and resulting thematic strategies. It comprises three components:

- LIFE+ Nature & Biodiversity
- LIFE+ Environment Policy & Governance
- LIFE+ Information & Communication

##### **Eligibility of WBC:**

According to the Article 8 of the LIFE+ Regulation, LIFE+ shall be open to the participation of the Western Balkan countries included in the Stabilisation and Association Process provided that supplementary appropriations are received.<sup>22</sup>

##### **Conditions for funding:**

At least 78% of LIFE+ will be for the co-financing of project action grants, of which at least 50% will be for nature and biodiversity projects. The European Commission will use the remaining sum for operational expenses.

##### **Budget:**

The budget of the LIFE+ program for the period of 2007-2013 is 2.143 billion Euros.

##### **More information:**

<http://ec.europa.eu/environment/life/funding/lifeplus.htm>

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<sup>22</sup> Official Journal of the European Union. Regulation (Ec) No 614/2007 Of The European Parliament and of the Council of 23 May 2007 concerning the Financial Instrument for the Environment (LIFE+). 9.6.2007. Access: 5 February 2008.



**Corresponding to the following needs:**

- Enhancement of regional cooperation
- Definition of priority research areas: environment, biodiversity
- Implementation of EU standards/harmonization

#### **4.14. EUROPEAN INVESTMENT BANK**

##### **Introduction:**

The European Investment Bank is long-term lending bank of the European Union. The task of the Bank is to contribute towards the integration, balanced development and economic and social cohesion of the EU Member States. It provides Loans, technical assistance, guarantees and venture capital.

##### **Duration:**

2007-2013

##### **Objectives:**

In the EU and candidate countries: Support of Economic and Social Cohesion and Convergence in the enlarged Union; Implementation of the Innovation 2010 initiative (i2i); Development of Trans-European Networks (TENs); Support for SMEs; Environmental Protection and Sustainable Communities, and Support of Sustainable, Competitive and Secure Energy. Outside of the EU, the additional objectives are Pre-accession support; Private sector development; Infrastructure development; Security of Energy Supply; Environmental protection and improvements; and Support of EU presence.<sup>23</sup>

##### **Eligibility of WBCs:**

The EIB is also involved in lending operations in the Candidate countries (Croatia, Turkey and FYROM) as well as in the Potential Candidate countries (the remaining Western Balkan States) in order to support their economic development process and thus also prepare their potential transition to EU membership status.

##### **Conditions for funding:**

The main focus of EIB lending in the region is reconstruction and upgrading of the regional and municipal networks of basic infrastructure (transport, energy and the environment) support to SMEs; human capital through health and education. EIB lending in the enlargement countries takes the form of:

**Individual loans (direct loans):** are granted to projects where the total investment cost exceeds EUR 25 million (EUR 10 million in the case of ACP). The EIB may finance a maximum of 50% of the total cost of any project.

**Intermediated loans:** designed to permit the financing of projects with a total investment cost of less than EUR 25 million (EUR 10 million in the case of ACP). An EIB credit line may finance a maximum

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<sup>23</sup> EIB, Corporate Operational Plan 2008-2010. < <http://www.eib.org/about/publications/corporate-operational-plan.htm>>

of 50% of the total cost of any project. These institutions pass on the EIB funds to the promoters, generally SMEs and local authorities.

***Venture capital finance:*** EIF's venture capital instruments consist of equity investments in venture capital funds that support SMEs, particularly those that are in their early stages of development and those that are technology-oriented.

**Note:** There are currently no intermediaries in Albania.

**Funding Budget:**

EIB provides finances of EUR 8.7 billion under an external lending mandate for the countries in the enlargement region in the period 2007-2013. Note:

**More information:**

<http://www.eib.org/projects/regions/enlargement/index.htm>

[http://www.eib.org/cms/htm/en/eib.org/attachments/country/factsheet\\_western\\_balkans\\_en.pdf](http://www.eib.org/cms/htm/en/eib.org/attachments/country/factsheet_western_balkans_en.pdf)

**Corresponding to the following needs:**

- Upgrade of RTD infrastructure
- Upgrading and renewal of ICT networks
- Enhancement of RTD capacity of industry and SME
- Implementation of EU standards/harmonization
- Institution building

#### **4.15. INNOVATION 2010 (i2i Programme)**

##### **Introduction:**

The INNOVATION 2010 programme was set up by the European Investment Bank (EIB) to respond to the Lisbon Agenda and support Europe's competitiveness, innovation potential and knowledge-based economy.

##### **Duration:**

No period specified in the programme.

##### **Objectives:**

i2i focuses on three objectives paving the way for technological modernisation and the tailoring of human capital to the European economy of tomorrow. These objectives are:

- Improving access to quality Education and training
- Supporting excellence in Research, Development and Innovation
- Promoting the diffusion of Information and communications technology (ICT) networks, including audiovisual activities

Through the European Investment Fund (EIF), support to innovative SMEs and entrepreneurship is ensured, notably through venture capital activities.

##### **Eligibility of WBC:**

EIB support through the i2i programme is given to all Western Balkan Countries.

##### **Conditions for funding:**

Financing is facilitated through

- Senior loans
- Risk-sharing or structured loans through the Structured Finance Facility (SFF)
- EIF equity participations and counter-guarantees designed to stimulate the creation and development of innovative SMEs by providing equity in the form of venture capital or facilitating access to bank credit

##### **Funding Budget:**

The Bank's overall objective for i2i is to mobilise up to EUR 50 billion over the current decade. From 2000-2006, loans advanced under i2i had reached close to EUR 45 billion.

##### **More information:**

<http://www.eib.org/projects/topics/innovation/index.htm>

**Corresponding to the following needs:**

- Upgrade of RTD infrastructure
- Upgrading and renewal of ICT networks
- Specific support of applied research
- Enhancement of RTD capacity of industry and SME

## **4.16. INTERREG IV**

### **4.16.1. INTERREG IVB**

#### **Introduction:**

The Transnational Co-operation Programme South East Europe (SEE) is a descendant of the former INTERREG IIIB CADSES Programme. The programme area covered by South East Europe (SEE) Programme is a large geographical area of 1.9 million square km including 16 countries with a total population of 200 million.

#### **Duration:**

2007-2013.

#### **Objectives:**

The programme shall improve the territorial, economic and social integration process and contribute to cohesion, stability and competitiveness through the development of transnational partnerships and joint action on matters of strategic importance. The integration of potential and current candidate countries as well as of third countries will be crucial for the South East Europe co-operation area.

#### **Eligibility of WBC:**

All countries of the WB participate in the SEE Program. Austria, Bulgaria, Croatia, Greece, Hungary, Moldova, Romania, Slovakia, Slovenia participate with their whole territory and Italy and Ukraine with some regions. WBCs participate by using IPA funding, whereas member countries use ERDF and third countries use ENPI Funds.

#### **Conditions for funding:**

Partnerships should involve at least three countries from participating states, of which at least one shall be an EU member state. In addition, the mainstream way of programme implementation is the publication of open calls. However strategic top-down component ("targeted calls") will also be applied.

Eligible project partners are public authorities; public equivalent bodies and any legal body governed by public or private law not having an industrial or commercial character.

#### **Fields/Areas of funding:**

Transnational co-operation supporting integrated territorial development in the co-operation area shall concentrate on four priority areas: Facilitation of innovation and entrepreneurship, protection and improvement of the Environment, Improvement of the Accessibility (and attractiveness of the region)

and development of transnational synergies for sustainable growth areas and technical assistance will be provided to support implementation and capacity building.

**Budget:**

The European Regional Development Fund (ERDF) is the main funding source of the programme. The Programme has a total available ERDF budget of Euro 206,7 million for the 2007 – 2013 period. This amount is supplemented by national public funds finally amounting to Euro 245,1 million. Funding for non-member state project partners shall come from other EU sources.

**More information:**

<http://www.wbc-inco.net/attach/B11South-EastEuropeapproved.pdf>

**Corresponding to the following needs:**

- Enhancement of regional cooperation
- Upgrade of RTD infrastructure
- Identification and concentration of priority areas
- Enhancement of RTD capacity of industry and SME
- Institution building

#### **4.16.2. INTERREG IVC**

##### **Introduction:**

The INTERREG IVC Programme is an EU programme that helps regions of Europe work together to share their knowledge and experience. The programme provides funding for all regions of Europe plus Switzerland and Norway (regional and local public authorities) to exchange and transfer knowledge and good practice.

##### **Duration:**

2007-2013.

##### **Objectives:**

The overall objectives of the Program are to exchange and transfer of the experiences of the regions and jointly develop approaches and instruments that improve the effectiveness of regional development policies and contribute to economic modernisation. Two main Priorities are defined:

**Innovation and the knowledge economy**, focusing mainly on the subthemes

innovation, research and technology development, entrepreneurship and SMEs, the information society, and employment, human capital and education.

**Environment and risk prevention**, most notably the sub-themes natural

and technological risks, water management, waste prevention and management, biodiversity and preservation of natural heritage, energy and sustainable transport, and cultural heritage and landscape.

##### **Eligibility of WBC:**

Partners from IPA countries can participate in operations using IPA funding, without receiving ERDF co-financing. However, there is currently no agreement on the harmonised use of EU funds between INTERREG IVC and IPA / ENPI.

##### **Conditions for funding:**

Not specified.

##### **Fields/Areas of funding:**

No thematic restrictions exist.

##### **Budget:**

Total budget is 405 Million Euro. ERDF budget is 321 million Euros. The rest comes from national funding.



**More information:**

<http://www.interreg4c.net/index.html>

[http://www.interreg4c.net/load/EC\\_Decision\\_C\(2007\)\\_4222\\_EN\\_with\\_Annexes.pdf](http://www.interreg4c.net/load/EC_Decision_C(2007)_4222_EN_with_Annexes.pdf)

<http://www.interreg4c.net/faqs.html>

**Corresponding to the following needs:**

- Enhancement of regional cooperation
- Identification and concentration of priority areas
- Enhancement of RTD capacity of industry and SME

#### 4.17. NATO SCIENCE FOR PEACE PROGRAMME

**Introduction:**

The programme aims to link science and society through projects in security, environmental sustainability and other defined priorities of its Partner nations. The SPS Programme enables NATO to demonstrate its commitment to practical, visible projects with tangible output and to contribute to security, stability and solidarity among nations, by applying the best technical expertise to problem solving.

**Duration:**

Ongoing programme

**Objectives:**

Grant mechanisms:

**A) Collaborative Grants In Priority Research Areas**

*Advanced Research Workshops (SPS ARWs):* grants to organise expert workshops to exchange of views at the frontiers of a subject aims at identifying directions for the future research and to promote working relationships between scientists from different countries and with different professional experience.

*Advanced Study Institutes (SPS ASIs):* grants to organise high level tutorial courses to make in dept analysis on a subject to advance together with the internationally recognized lecturers.

*Advanced Training Course (SPS ATC):* designed to enable specialists in NATO countries to share their expertise with trainees from Partner and Mediterranean Dialogue countries.

*Collaborative Linkage Grants (SPS CLGs):* to provide assistance to research groups or institutions in the Euro-Atlantic Partnership Council and the Mediterranean Dialogue to collaborate on research projects.

*Science for Peace projects (SPS SFPs):* grants to collaborate on multi-year applied R&D projects in Partner or Mediterranean Dialogue countries.

**B) Computer Networking and Electronic Communication support for Partner Countries**

*Advanced Networking Workshops (SPS ANWs):* grants to enable workshops to be organized in Partner countries to harmonize network policy at a national and international level, to enable the training of qualified network managers and to convene expert meetings to enhance the use of electronic communication.

*Networking Infrastructure Grants (SPS NIGs):* grants to enable research institutions in Partner countries to improve their telecommunication facilities and to enhance the use of such facilities.

**Eligible Countries in WBC:**

All WBCs are so-called „NATO Partner Countries“, which are eligible to participate in the NATO SPS activities but are not NATO Members.

Participation rule: 1 researcher from NATO country, 1 from eligible partner country

Projects can be submitted always throughout the year. Three deadlines are set each year to meet the three review sessions of the scientific advisory panels.

**Conditions of funding:**SPS Programme Priorities Identified by the Partner Countries

**Albania:** Environmental Security, Information Technology, Biotechnology-Bioscience, Forecast and Prevention of Catastrophes, Human & Societal Dynamics, Food Security.

**Bosnia & Herzegovina:** Environmental Security, Information Technology, Forecast and Prevention of Catastrophes, Defence Against Terrorism.

**Croatia:** Environmental Security, Forecast and Prevention of Catastrophes, Human & Societal Dynamics, Border Security / Transport Security.

**Montenegro:** Environmental Security, Information Technology, Biotechnology-Bioscience, Forecast and Prevention of Catastrophes, Human & Societal Dynamics.

**Serbia:** Environmental Security, Information Technology, Biotechnology-Bioscience, Forecast and Prevention of Catastrophes, Human & Societal Dynamics, Food Security, Advance Technology, Defence Against Terrorism.

**FYR of Macedonia:** Environmental Security, Information Technology, Biotechnology-Bioscience, Human & Societal Dynamics, Food Security, Advance Technology.

**Budget:**

The amount of funding of many of the funding types is decided on a case-to-case basis.

**More information:**

General information on the programme:

<http://www.nato.int/science/>

Grant mechanisms: [http://www.nato.int/science/nato\\_funded\\_activities/grant\\_mechanisms.htm](http://www.nato.int/science/nato_funded_activities/grant_mechanisms.htm)

[http://www.nato.int/science/nato\\_funded\\_activities/pdf/country\\_priorities.pdf](http://www.nato.int/science/nato_funded_activities/pdf/country_priorities.pdf)

**Corresponding to the following needs:**

- Upgrading and renewal of ICT infrastructures
- Enhancement of regional cooperation
- Definition of priority research areas
- Measures against brain drain/brain waste

- Support of mobility of researchers
- Specific support to basic research
- Specific support to applied research
- Strengthen connection between basic and applied research

#### **4.18. TEMPUS IV**

##### **Introduction:**

The Tempus programme funds cooperation projects in the areas of curriculum development and innovation, teacher training, university management, and structural reforms in higher education. It puts special emphasis on the mobility of academic and administrative staff from higher education institutions, both from the EU and the partner countries.

##### **Duration:**

TEMPUS is bound to the financial periods of the European Union, currently 2007 – 2013.

##### **Objectives:**

TEMPUS objectives aim to foster:

- Mutual understanding through strengthening cooperation in higher education between the EU and its partner countries from the Western Balkans, Eastern Europe and Central Asia, the Mediterranean region and through enhancing understanding between cultures.
- Cooperation, Tempus promotes the “people to people” approach: its added value lies in its promotion of international and regional co-operation, which generates better communication and new networks of personal and professional contacts between the academic worlds of the EU and the partner countries.
- Higher Education modernisation is achieved by supporting the transition and modernisation processes in higher education through a range of interventions.

##### **Eligibility of WBC:**

All WBC are eligible to participate in activities under the Tempus programme.

##### **Conditions for funding:**

Tempus finances two types of action:

- 1) **Joint Projects** are based on multilateral partnerships between higher education institutions in the EU and the partner countries. They can develop, modernise and disseminate new curricula, teaching methods or materials, boost a quality assurance culture, and modernise the management and governance of higher education institutions
- 2) **Structural Measures** contribute to the development and reform of higher education institutions and systems in partner countries, to enhance their quality and relevance, and increase their convergence with EU developments.

Tempus also finances certain 'accompanying measures'. Unlike Joint Projects and Structural Measures, these are funded through calls for tender or framework contracts. They comprise dissemination and information activities such as thematic conferences, studies and activities aiming at the identification and exploitation of good practice, consultation of stakeholders, etc.

**Fields/Areas of funding:**

No specific areas are addressed in the programme.

**Budget:**

The indicative total budget for the first Call amounts to approximately 51 million Euro in total, and for individual projects from 0.5 to 1.5 million Euros. Total budget allocated to WBC is 15.65 million Euro and approximately 25 project expected to be funded.

**More information:**

[http://ec.europa.eu/education/programmes/tempus/index\\_en.html](http://ec.europa.eu/education/programmes/tempus/index_en.html)

[http://ec.europa.eu/education/programmes/tempus/call08/call\\_en.pdf](http://ec.europa.eu/education/programmes/tempus/call08/call_en.pdf))

**Corresponding to the following needs:**

- Upgrading and renewal of ICT infrastructure
- Enhancement of regional cooperation
- Support of mobility of researchers
- Implementation of EU standards/harmonization
- Institution building
- Support of research career development
- Support of transition of universities from teaching to research institutions

#### **4.19. LIFE LONG LEARNING PROGRAMME**

##### **Introduction:**

The new Lifelong Learning Programme 2007-2013 replaces the existing Socrates, Leonardo da Vinci, and eLearning programmes which expired at the end of 2006.

##### **Duration:**

The Life Long Learning Programme is implemented for 2007-2013.

##### **Objectives:**

Aim: to contribute through lifelong learning to the development of the Community as an advanced knowledge society by fostering interaction, cooperation and mobility between education and training systems within the Community.

##### 4 sectoral programmes:

- School education (Comenius),
- Higher education (Erasmus),
- Vocational training (Leonardo da Vinci) and
- Adult education (Grundtvig),

##### 1 transversal programme focusing on

- Policy cooperation,
- Languages,
- Information and communication technology and
- Dissemination and exploitation of results.

##### Final element to the new programme:

- Jean Monnet action: support for teaching of European integration as a subject at universities, and support for certain key institutions and associations active in the field.

##### **Eligibility of WBC:**

All WBC are eligible to participate in activities under the Life Long Learning Programme.

##### **Conditions for funding:**

The implementation of the objectives of the programmes is achieved through actions such as:

- Mobility of students, teachers, university staff
- Thematic Networks and university networks
- Multilateral projects
- Accompanying measures
- Studies, comparative research, etc.

Financial support is given for travel expenses, subsistence costs (daily, weekly, monthly) and staff costs.

**Fields/Areas of funding:**

The programme is focused on the education sector, within which no specific areas are addressed.

**Budget:**

7 billion Euros for the 2007 -2013 period

**More information:**

[http://ec.europa.eu/education/programmes/newprog/index\\_en.html](http://ec.europa.eu/education/programmes/newprog/index_en.html)

**Corresponding to the following needs:**

- Enhancement of regional cooperation
- Support mobility of researchers
- Implementation of EU standards/harmonization
- Institution building



#### **4.20. ERASMUS MUNDUS**

##### **Introduction:**

The main purposes of the programme are enhancing the attractiveness and visibility of European higher education worldwide and promoting mobility between Europe and third countries.

##### **Duration:**

The current Erasmus Mundus programme (2004-2008) will end in 2008. The second phase of the Erasmus Mundus programme will start in 2009 and continue until 2013.

##### **Objectives:**

The second Phase of Erasmus Mundus Program would continue the activities of the first Erasmus Mundus programme, incorporate its External Cooperation Window more directly, extend its scope to all levels of higher education, improve funding opportunities for European students and offer enhanced possibilities for co-operation with HEIs located in third countries.

##### **Eligibility of WBCs:**

Within the current program, all WBCs (except FYROM) are considered as "third countries" and therefore are eligible to participate in Action 2, 3 and 4.

As it is stated in the Slovenian Presidency's Work Program on Education, within the preparation process of the new Phase of Erasmus Mundus (2009-2013), WBCs participation on an equal footing particularly stressed.

##### **Conditions for Funding:**

Action 1 Erasmus Mundus Master courses

Action 2 Erasmus Mundus scholarships

Action 3 Partnerships

Action 4 Enhancing attractiveness of the European Higher Education Area

Within the framework of Action 2, additional funds for third-country students and scholars are made available from the Community's external relations budget. The 'Windows' do not diminish the possibility of third-country students coming from other countries to obtain an Erasmus Mundus scholarship, as the "Windows" scholarships are additional to the "normal" scholarships.

Also Action 3 (Partnerships) allow for the outgoing mobility of graduate EU students and scholars involved in the Erasmus Mundus Masters Courses to third country partner institution, teachers' exchanges, development and dissemination of new methodologies in higher education, etc. Action 4 also provides assistance to institutions in third countries quality assurance related fields such as credit recognition, curriculum development, mobility.

**Fields/Areas of funding:**

The program provides various types of opportunities for higher education institutions (funding for the EM Courses, other accompanying measures) and graduate students (scholarships) at master level.

**Budget:**

The current Erasmus Mundus programme has a budget of **230 million Euros**, 90% of which go into scholarships. 4 M Euro has been earmarked to provide scholarships to students from WBCs.

The overall budget for the entire programming period (2009-2013) for Action 1 and Action 3 (joint masters and doctoral programmes, including scholarships, and attractiveness projects) amounts to 493.69 million Euros. Action 2 (co-operative partnerships with HEIs in specific third countries, including mobility) is funded through external co-operation instruments according to the rules and procedures provided by these instruments.

**More information:**

[http://ec.europa.eu/education/programmes/mundus/index\\_en.html](http://ec.europa.eu/education/programmes/mundus/index_en.html)

[http://ec.europa.eu/education/programmes/mundus/doc/com395\\_en.pdf](http://ec.europa.eu/education/programmes/mundus/doc/com395_en.pdf)

**Corresponding to the following needs:**

- Enhancement of regional cooperation
- Support mobility of researchers
- Implementation of EU standards/harmonization
- Institution building

#### **4.21. UNESCO'S ACTIONS (For Strengthening Scientific Capacities In See)**

##### **Introduction:**

Science is an instrument for stimulating dialogue; it creates bonds of cooperation across borders and between peoples. UNESCO's strategy is to promote scientific cooperation for peaceful purposes.

##### **Duration: -**

##### **Objectives:**

Based on several policy initiatives and statistical analyses of the RTD situation in WBC, UNESCO set strategic objectives to support science in SEE through:

- Electronic connectivity between academic SEE institutions
- Research infrastructures
- Human potential in research
- Thematic regional networks of research centres and laboratories

Activities include training workshops, conferences, exchange visits, mobility grants, investment in RTD infrastructure, etc.

##### **Eligibility of WBC:**

UNESCO supports activities in all WBC.

##### **Conditions for funding:**

UNESCO's actions are based on not-refundable grants.

##### **Fields/Areas of funding:**

No thematic restrictions are applied.

##### **Budget:**

Concrete financial information is not known.

##### **More information:**

<http://www.unesco.org/science>

##### **Corresponding to the following needs:**

- Upgrade of RTD infrastructure
- Upgrading and renewal of ICT networks
- Enhancement of regional/cooperation
- Support of mobility of researchers
- Support transition of university from teaching to research institutions

## 4.22. **BILATERAL S&T PROGRAMMES**

### **Introduction:**

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 Western Balkan countries.

### **Duration:**

The duration varies between 2 – 4 years.

### **Objectives:**

The aims of S&T agreements are:

- To foster international and regional cooperation between signatory countries
- To stimulate exchange of researchers; know how, capacities, etc.
- Networking

### **Eligibility of WBC:**

#### **Bilateral S&T agreements between WBC – WBC/ WBC - INT**

	Albania	BiH	Croatia	FYR of Maced	Monten egro	Serbia
Austria			X	(p)	(p)	(p)
Belgium					(p)	(p)
Bulgaria			(p)	X	(p)	(p)
Czech Rep.						(p)
Cyprus				X		X
France			X	X	(p)	X
Germany		X	X	X	(p)	X
Greece	X	(p)	X	(p)	X	X
Hungary			X		(p)	(p)
Italy	X	(p)		(p)	(p)	
Poland	X				(p)	
Portugal						(p)
Romania	X	(p)	(p)	(p)	(p)	(p)
Slovenia	X	X	X	X	(p)	X
Slovak Rep.						X
UK				X		
Albania		(p)	X	X	(p)	

BiH	(p)		(p)	(p)	(p)	(p)
Croatia	X	X		X	(p)	X
FYROM	X	(p)	X		(p)	X
Montenegro		(p)	(p)	(p)		
Serbia			X	X	(p)	
Argentina						(p)
Belarus						(p)
China				X		(p)
Cuba						(p)
India						(p)
Israel				X		(p)
Japan				X		(p)
Norway						X
Russian Fed.				X	(p)	(p)
Switzerland				X	(p)	X
Turkey	X*	X**	X***	X	X****	X****
Ukraine						(p)
US						(p)

*X: agreement in force (p): agreement in preparation: <sup>24</sup>*

*X\* signed but not fully approved yet.X\*\* Only institutional level MoU on Metrology field.;*

*X\*\*\* There is an agreement but it is not such project level.*

*X\*\*\*\*Agreement with Fr.Yugoslavia*

Kosovo: With the support of The Federal Ministry of Foreign Affairs of the Republic of Austria, the Austrian Federal Ministry of Education, Science and Culture (bmbwk) and financed by Austrian Development Agency a comprehensive 3 year reform project was started. Project will focus on the following areas: accreditation of higher education institutions and academic recognition, training of the staff in managerial, teaching and research capacities, implementation of the Kosovo Council of Research and Technology, development of science-industry links through the establishment of a Centre for Innovation Support and Technology Transfer at the MEST, connection of the Kosovar

<sup>24</sup> White Paper on Gaps, Overlaps, and Opportunities in View of the Extension of Bilateral RTD Programmes and Initiatives towards Multilateral Approaches. Transition Studies Review (2007) 14 (2): 205–261.Pg.22.

[http://www.see-era.net/attach/203\\_262\\_11300\\_14\\_2.pdf](http://www.see-era.net/attach/203_262_11300_14_2.pdf)

Nedovic,Viktor. S&T in Serbia.December 17 2007. Access: 30 January 2008. <<http://www.see-science.eu/news/2629.html>>

Southeast Times. 19/11/2007. Access: 4 February 2008.

<[http://www.setimes.com/cocoon/setimes/xhtml/en\\_GB/features/setimes/roundup/2007/11/19/roundup-st-03](http://www.setimes.com/cocoon/setimes/xhtml/en_GB/features/setimes/roundup/2007/11/19/roundup-st-03)>

higher education and research system to European processes, promotion of collaborative RTD in the region, direct support for the MEST in terms of sector programming.<sup>25</sup>

**Areas of intervention:**

Usually, S&T agreements support the mobility of researchers and costs for organising bilateral conferences and workshops. In some cases, research activities and the purchase of small-scale research equipment and infrastructure are also financed.

**Fields/Areas of funding:**

The areas of cooperation depend on the priorities and the mutual benefit of the signatories. In general, natural sciences top the list of priorities, followed by environmental protection, ICT, materials, agriculture etc. A general weakness of bilateral S&T agreements is, that SMEs participation is not considered. Also, the eligibility of funded expenses (usually only mobility and organisation costs) is limited.

**Budget:**

Budget varies according to S&T agreements.

**More information:**

<http://www.see-science.eu>

**Corresponding to the following needs:**

- Enhancement of regional cooperation
- Identification and concentration on priority research areas
- Support of mobility of researchers
- Specific support of basic research

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<sup>25</sup> Schuch, Klaus. Structuring Research and Higher Education in Kosovo. Mar 05, 2007. Access: 28 January 2008. <<http://www.see-science.eu/news/1050.html>>

#### **4.23. NATIONAL, UNILATERAL S&T PROGRAMMES**

##### **Introduction**

National, unilateral S&T programmes are designed to foster cooperation between the initiating country and the Western Balkan. Different aspects of cooperation are supported, like project preparation, common RTD projects, organisation of conferences and seminars, exchange of staff etc.

##### **Period**

The duration of projects funded by national, unilateral programmes vary according to donor country strategy.

##### **Objectives:**

Following national funding programmes exist:

###### Austria:

- a) the Austrian Science and Research Liaison Offices in Ljubljana and Sofia (ASO) are the main focal point to promote RTD collaboration between Austria and the WBCs. Scientific networking, exchange of research results and RTD cooperation in common projects is addressed in different scientific areas.
- b) Austrian Development Agency (ADA) focuses on the following issues in WBCs: private sector development and promotion of SMEs, higher education and vocational training, environment, water and energy.

###### Switzerland:

- a) by Swiss National Science Foundation/SCOPES Program promotes researchers cooperation between WBCs and Switzerland.
- b) by Swiss Agency for Development and Cooperation, and the University of Fribourg / Regional Research Promotion Programme in the Western Balkans (RRPP) aims at strengthening research capacities in WBCs.

###### Germany:

The programme "International Cooperation in Education and Research - Central, Eastern and South Eastern European Region" funds preparation activities for projects of applied research and development for the involvement into projects (either new or ongoing) of other German RTD programmes or into FP7 projects. In addition, funds are allocated for joint research bases.

##### **Eligibility of WBCs:**

Programmes are targeted towards RTD collaboration with all WBCs.

### **Conditions for funding :**

#### Austria:

ASO: Proposals have to foster regional cooperation and include 1 partner from AT, SI or BG and at least one partner from WBC.

ADA: operates through country programmes.

#### Switzerland:

SCOPES: WBCs must have a partner in Switzerland who is employed at one of the Swiss Research institution. SCOPES calls include the following instruments Joint Research Projects (JRP), Institutional Partnerships (IP), Conference Grants (CG), Preparatory Grants (PG) and Valorisation Grants (VG).

RRPP: No detail is available at the present time.

#### Germany:

The consortium should include one German and one WBC partner institution. Special attention is given to the involvement of SMEs.

### **Fields/ Areas for funding:**

#### Austria:

ASO: different topics for each call

ADA: Each country programme has different thematic focuses and priorities.

#### Switzerland:

SCOPES: All scientific disciplines of basic research are included. However, Research activities to be selected for funding should not be of academic interest only, but rather be thematically oriented on important issues of the transition process and its consequences.

RRPP: support for development of research capacities in the area of social sciences, especially in transformation-relevant topics

#### Germany:

New technologies, Life Sciences and Sustainability

### **Budget:**

#### Austria:

ASO: The total budget usually lies between 100.000 – 130.000 Euro, with the average budget per project of 12.000 Euro

ADA: There are annual budgets allocated to countries.

#### Switzerland:

SCOPES funds conference participation (travel, accommodation) with a flat rate of CHF 1.500, -

RRPP: Information is not available at the present time.



Germany:

Researchers from WBC involved in project preparation activities with German research partner institutions receive grants for daily allowances.

**More information:**

Austria:

<http://www.aso.zsi.at/de/all/ausschreibung/303.html>

[http://www.ada.gv.at/view.php3?f\\_id=9214&LNG=de&version](http://www.ada.gv.at/view.php3?f_id=9214&LNG=de&version)

Switzerland:

<http://www.snf.ch/e/international/abroad/scopes/seiten/default.aspx>

Germany:

<http://www.internationales-buero.de>

**Corresponding to the following needs:**

- Enhancement of regional cooperation
- Identification and concentration on priority research areas
- Specific support of basic research
- Specific support of applied research

#### **4.24. NATIONAL, UNILATERAL INNOVATION/BUSINESS PROGRAMMES**

##### **Introduction:**

The only programme currently open is CIR-CE. The Austrian Federal Ministry of Economics and Labour launches the CIR-CE (Cooperation in Innovation and Research with Central and Eastern Europe) programme. It aims to identify and in a further step profit of synergies and complementarities between Austria and partner countries in Central-, East and South-East Europe. Technology oriented enterprises, their needs and chances are the main target group. The strategic aim is to build a common axis with an improved position in a globalized world.

##### **Duration:**

The CIR-CE programme is the successor of the STRAPAMO initiative. It started at the beginning of 2005. Calls for proposals are set annually.

##### **Objectives:**

CIR-CE supports cooperation and consortia between innovative Austrian enterprises and their counterparts in the target region.

##### **Eligibility of WBC:**

Enterprises and intermediaries from all Western Balkan Countries are eligible for funding under the CIR-CE programme.

##### **Conditions for funding:**

The main target group supported in the CIR-CE programme is the enterprises sector, especially SMEs.

Three different types of projects exist:

- Network projects: this project type aims to initiate networks, as the primary step to start cooperation. The intermediary organisations play an integral role here, still the focus is to integrate and actively involve enterprises. The consortium consists of 3 Austrian partners and 3 partner countries-partners.
- Innovation projects: this project type is the next step in the process where the enterprise takes over the leading role. The projects should result in new S&T products and processes, technology transfer and quality assessment procedures.. The consortium has to consist of two enterprises from Austria and min. one from a partner country.
- Training projects: this project type can be an optional part of either of the above mentioned project types.

Following institutions can apply for funding:

- Intermediaries: “impulse centres“, centres of competence, start-up centres, enterprise cluster, cooperative research institutions, etc.
- Research institutions: which take over the role of an intermediary
- Enterprises

**Fields/Area of funding:**

- Material sciences and technologies
- ICT, Telematics
- Electrotechnics, Electronics
- Micro- and Nanotechnologies
- Life Sciences and Food Technologies
- Health, Medicine
- Environment, Sustainable Development
- Energy
- Transport, Automotive Engineering
- Social Sciences and Humanities
- Natural Sciences (Physics, Mathematics, Chemistry etc.)

**Budget:**

For network projects funding amounts to max. 150.000 Euro, with 75 % of the total project budget being funded. Innovation projects can receive max. 400.000 Euro financial support. The CIR-CE share covers 45 % of the total project budget. A maximum of 40 % of CIR-CE funding for a project can be allocated to partners in partner countries.

**More information:**

[http://www.bmwa.gv.at/BMWA/Schwerpunkte/Wirtschaftspolitik/InnovaTechnol/Foerderungen/103\\_circ\\_e.htm](http://www.bmwa.gv.at/BMWA/Schwerpunkte/Wirtschaftspolitik/InnovaTechnol/Foerderungen/103_circ_e.htm)

<http://www.cir-ce.at>

**Corresponding to the following needs:**

- Enhancement of regional cooperation
- Definition of priority research areas
- Specific support of applied research
- Enhancement of RTD capacity of industry and SME

## 5. CONCLUSIONS

This report focuses on the correspondence between specific needs of WBCs in RTD and available international RTD funding programmes, which allow participation of WBC.

The two components were set into a matrix and correspondence factors (ranging from full correspondence of the need with the programme (\*\*\*\*\*) to no correspondence but positive effects possible (\*) used in order to qualify the relation. In addition, as the impact of programmes depends very much on the budget available, the matrix also includes a set of quantification factors (programme budget in scale Euro / average project budget in scale of Euro).

This set of qualification and quantification factors allows to analyse better following questions:

- To which extent are the needs covered
- Where are the main gaps
- Where is area for improvement?

### Upgrading of RTD infrastructure:

This is one of the most virulent needs of almost all WBCs, specifically in Albania and BiH. As international donor support focused more on the upgrading of infrastructure in general, renewal of RTD facilities, industry and university laboratories were mostly neglected. Future will show how much funds of FP7/Research Potential and RTD infrastructure can be used to improve the situation in WBCs. Also, the new IPA programme does not respond to the need of upgrading RTD infrastructure in the extent necessary. Only recently, this need was acknowledged and mentioned in the IPA working documents, still, future will show how much support will come from this fund. The i2i programme's objectives refer to this need, enough capital is also available but as financing is carried out through loans and credits, it is difficult for mainly the smaller countries in the western Balkans to guarantee payback to use i2i support. Promising financial support comes from UNESCO focusing on the upgrading of RTD infrastructure. The Governments of WBCs have to increase the budget allocations for S&T investments. Projects and other funding programs offer purchase of only limited equipment/materials.

### Upgrading and renewal of ICT infrastructure/internet:

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.

The NATO SPS offers financial support for computer networking and electronic communication. Also, UNESCO aims to improve electronic connectivity amongst SEE research institutions.

Unfortunately, the intended GEANT connection within the SEEREN2 project did not work out properly in all WBCs, since some of the countries were not able to financially carry the continuation of the connection. Here, IPA could provide funds, which is the hope of many policy makers in the region.

#### Enhancement of regional cooperation:

Scientific collaboration amongst scientists as well as coordination of policy-makers from different WBCs for the sake of strengthening the international position of WBCs, creates bonds and can contribute to long-lasting stability in the region. This has been recognised and is reflected in some major funding programmes, which require the involvement of actors from different WBCs: in the FP7 International Cooperation programme, the SEE-ERA.NET programme, the INTERREG IVC and CIR-CE programme (national, unilateral innovation/business programme). As these funding programmes offer strong financial support, regional cooperation will be fostered even more. In all the other funding programs cooperation (partnerships) is essential. WBCs should eager to take part in these partnerships and project consortiums. Eventhough the funding is not substantial, the knowledge transfer and networking comes with it.

#### Identification and concentration on priority research areas:

The identification of strengths in certain RTD areas is necessary for WBCs with respect to the limited national funds and resources available. The WBCs have recognized this fact and have prioritized certain areas (ICT, Life Sciences, Sustainable Development, Water Resources Management, etc.). As the COOPERATION programme and all ten thematic areas are open for participation of WBCs, it is a very good opportunity to make use of this big funding programme and engage in projects in the key areas of interest. Despite generally low participation in FP6, WBCs should use the opportunity now and focus on their strengths in the respective areas. Other programmes (COST, EUREKA, JRC) also offer the possibility to engage in specific RTD areas, but funding for RTD activities themselves is not given. For partner countries of the NATO SPS, RTD activities in key areas receive strong financial support. 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.

#### 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 future in other professions. Therefore, all funding programmes can contribute to ameliorate the situation but cannot prevent brain drain and brain waste directly.

#### Support to mobility of researchers:

Mobility of researchers is very important to provide opportunities for researchers to come together in conferences, workshops, etc to follow the scientific agenda as well as to present own studies and make connections. Almost all programmes 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, Life Long Learning, Erasmus Mundus) are given. An agreement relieving visa restrictions for citizens of Albania, Bosnia and Herzegovina, Macedonia, Montenegro and Serbia travelling to the EU entered into force on January 1st. The agreement will be applied in all EU member states except Denmark and the UK.

#### Support of transition 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. Bologna Process aims to bring European Research Area and European Higher Education Area together to respond the needs of the changing world. It provides guidelines and measures to achieve this goal. This is a challenge not only for WBCs but also many Universities in the region.

TEMPUS funds are of respective size to support the modernization and restructuring of universities in WBCs. UNESCO also recognized the need for support to implement Bologna rules. Erasmus Mundus Program provides scholarships for students coming from third countries to enrol in Master courses offered by EU consortiums. (Special budget is allocated for WBCs) These students later bring their knowledge and experiences back to their countries to contribute the improvements in teaching and research in their fields.

#### Specific support of basic research:

Per definition, basic research is the foreground for RTD development and source of new findings. Therefore, support in this area is of crucial importance for WBCs to strengthen their RTD capacity and performance. The FP7 Cooperation and Ideas programme offer strong funding for basic research, but as both programmes are highly competitive, WBCs have difficulties to get involved in these international projects. Another possibility is applying for projects under the NATO SPS, which provides extensive funding for basic research activities in areas of mutual interest. Although COST is specifically designed for basic research on the European level, no funding is available for the RTD activity itself.

Concluding, basic research in WBC needs stronger support from international programmes, helping to step on their own feet in order to become competitive, be able to get a piece of the big FP7 cake and to be internationally more visible and connected. Also here, IPA could play a path-preparing role, as have PHARE funds done in Poland and other eastern European Member States.

#### Specific support of applied research:

Applied research drives economies and contributes to the welfare of countries. This sector of the innovative circle remains weak in WBCs. With the new CIP programme, which is open for all WBCs, strong funds are offered to strengthen applied research and boost RTD output of WBCs. Time will show how much WBC SMEs and industry will engage in this programme. Also, the EUREKA

programme is open for WBC participation, but financial support depends on national funds, limiting the positive effects of the programme. The CIR-CE programme by the Austrian Federal Ministry of Economics and Labour offers a sound financial basis for innovation projects, which foster applied research.

#### Strengthen connection between basic and applied research:

Disrupted ties between the various components of the RTD system impede the development and progress of the whole system. Unfortunately, international programmes have not recognized this need yet, only the CIR-CE programme specifically demands the involvement of universities/basic research actors and applied research sector in common projects. Here, the demand for more international support is obvious. The connections between University and Industry should be established and promoted. The traditional teaching and (individual) research has shifted towards output oriented research and partnerships. Institutions and companies of WBCs must collaborate among themselves and with others within the region.

#### Enhancement of RTD capacity of industry and SME:

The innovative capacity of the business and industry sector in many WBCs is rather weak, only Croatia is advanced in terms of scientific output of the industry sector. Often, policy makers in WBCs lack the understanding of the necessity of a strong innovation system.

Also, international programmes do not respond to this need to necessary extent. As the CIP programme just started, predictions cannot be made on the applicability of the programme in WBCs (although strong financial support is offered and it is recommendable for WBCs' business sector to thoroughly engage in the programme). Again, the CIR-CE programme is the only one really focusing on this need with respectable funds. Eurostars Programme also provides support for SMEs for the development of new product, process or service. However, WBCs participation is currently limited.

#### Implementation of EU standards and harmonization:

All countries of the WB have given the perspective of becoming EU member. This is very important impulse. The legal regulations are very important and of top priority. However implementation process is always the most important and challenging part. Therefore being involved in any kind of EU related Program and/or project will help institutions, individuals to adopt themselves to the Community's values and standards. IPA supports the implementation of EU standards for Candidate Countries, such as Croatia and FYR of Macedonia also for potential candidate countries under certain conditions.

#### 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. Probably this is the reason, why international programmes are rare to cover this need, only the financially strong FP7 People and Ideas programme support the human resource aspect of RTD.



Support to institution building:

A strong institutional basis, capable of reacting to and absorbing international trends is necessary for the RTD system in WBCs. Here again IPA is challenged to come up with strong strategies and practical support for institutional set up in WBCs. The FP7 International Cooperation programme supports coordination in S&T policy between EU and WBCs and hence contributes to institution building.

In general, international funding programmes cover all needs. Major obstacles remain that access to the funds is often difficult especially for those WBCs, which are smaller, have lower research capacity, inappropriate and/or devastated RTD infrastructure and cope with international isolation. Hence, participation in competitive programmes, such as FP7, which offer the biggest amount of financial support, is still impeded. Having the chance of being on equal foot with other EU countries, WBCs must force their limits to involve in as many projects as possible.

Concerning IPA, expectations in respect to support for RTD in WBC have not been fulfilled. 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 WBCs 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.

## 6. ACKNOWLEDGEMENTS

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This report is based on the outcomes of several studies conducted to identify and analyse the needs of WBCs in RTD:

- UNESCO Science policy series: Assessing and disseminating scientific information in SEE
- UNESCO Science policy series: Guidelines for a Science and Research Policy in BiH
- UNESCO Science policy series: Science, technology and economic development in SEE
- SEE-ERA.NET report: National systems of research and development in Western Balkan Countries
- SEE-ERA.NET: Report on the RTD needs of the West Balkan Countries
- SEE-ERA.NET report: National RTD programmes for Southeast Europe

Thanks to the information on programmes in the web, extensive data could be provided here.

Also, many thanks to the support of colleagues from FFG, the project partners from the ZSI and friends in WBC, who were always helpful in providing data and documents for the report.

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The successor project, ERA WESTBALKAN+, is based on her initiative. Also, together with her colleague from FFG, she initiated the West Balkan Roundtable, bringing together all Austrian key-players engaged in RTD with WBC twice a year. In 2007, she left Austrian Research Promotion Agency (FFG) to work in Madrid/Spain for the RTD system there.

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