

The Southeast European Era-Net  
SEE-ERA.NET

Zagreb  
December 2005

*“There is not a wise man in the world  
who cannot greaten his wisdom by useful things,  
and also there are hardly any men of small attainments  
who one cannot learn useful things from.”*

*Gróf SZÉCHENYI István: CREDIT (1830)*

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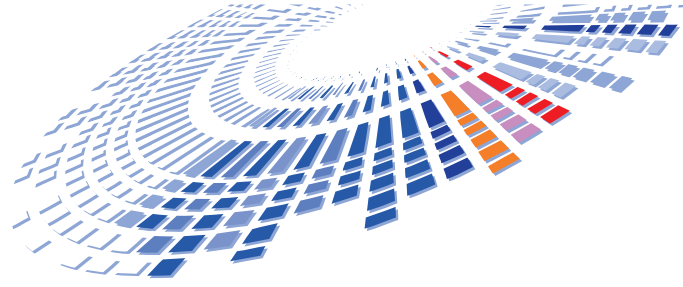
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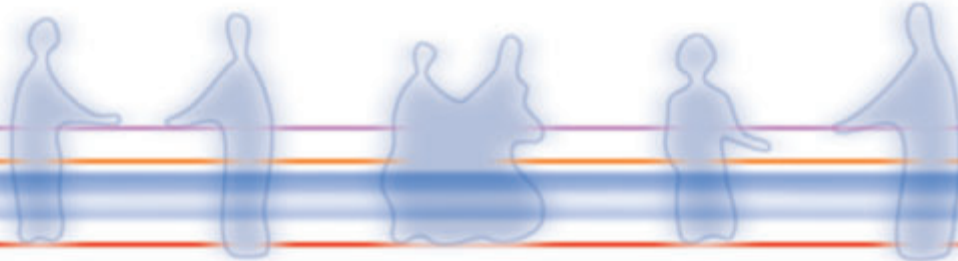


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# Executive summary



## Integrating and strengthening the European Research Area in Southeast Europe

SEE-ERA.NET is a co-ordination project running under the 6<sup>th</sup> Framework Programme of the European Union. It aims at structuring and expanding the European Research Area (ERA) to the Southeast European (SEE) countries by co-ordinating and supporting Research and Technological Development (RTD) activities conducted at bilateral level between 15 consortium members. The partners are from “old” and “new” member states, candidate countries and Western Balkan countries (WBC). The Austrian Centre for Social Innovation (ZSI) is the co-ordinator of the project.

The objectives of SEE-ERA.NET are

- to enhance research co-operation in Europe by fostering the integration of Southeast Europe into the growing European Research Area
- to add value to existing bilateral S&T agreements through multilateral co-ordination
- to improve interregional research co-operation following the principles of the Stabilisation and Association Process in Southeast Europe
- to contribute to the EU-Balkan countries Action Plan in Science and Technology adopted at the Thessalonica Ministerial Conference in 2003

These objectives will be met through

- systematic exchange and dissemination of information and best practice models on bilateral RTD activities contributing to a sound understanding of research systems and policy approaches in the SEE-ERA.NET partner countries
- needs analyses from scientists’ point of view, RTD organisations as well as policy makers in the target countries, concentrating on international RTD co-operation
- supporting of the policy dialogue
- identification of complementary approaches followed by the implementation of joint instruments and initiatives, including a joint evaluators database and two joint calls for research proposals – one in 2007, and one in 2008

The partners of the SEE-ERA.NET project, which started in 2004, are the relevant ministries in Austria, Bosnia-Herzegovina, Bulgaria, Croatia, France, Germany, Greece, Hungary, the Former Yugoslav Republic of Macedonia, Montenegro, Romania and Slovenia as well as the French



## Executive summary

National Centre for Scientific Research (CNRS), the German International Bureau of the Federal Ministry of Education and Research at the DLR<sup>1</sup> and the Austrian Centre for Social Innovation (ZSI) that co-ordinates the project. Albania and Serbia participate as observers.

This report analyses the management mechanisms applied and the funding tools available, including activities on both the national and multilateral level.

Though the political motivations and strategic orientations of the countries are different, all of the countries agreed that extending the bilateral S&T relationships based on bilateral and multilateral initiatives contributes significantly to stabilising the region and integrating it into a growing European Research Area (ERA).

For the most part, all of the countries give special attention to life sciences, information and communication technologies, environment, energy, sustainable development and material research, on both national and bilateral level. Social sciences and humanities are not given priority in bilateral programmes at the moment.

Managing bilateral S&T programmes today is based on a competitive approach similar to other EU programmes, though these programmes are much smaller in terms of both their duration and extent of financial support. Joint research projects are usually 2-3 years long. They are traditionally provided with additional support to finance the exchange of researchers only. Countries supporting their own researchers for carrying out research activities, acquiring new small research infrastructure and publishing results (Bulgaria, Greece, Germany, Romania, the Former Yugoslav

Republic of Macedonia and Montenegro) go beyond this. There are already examples for interlinking national programmes in Europe (Germany, France and Spain). Here substantial project funding is provided for common priorities.

The respective SEE-ERA.NET ministries and agencies manage the bilateral S&T programmes. In Austria, France, Germany and Slovenia the operative implementation is carried out by agencies appointed by the ministries. These operative tasks include the publication of the calls for proposals, their collection, evaluation and preparation for the meetings of the bilateral Joint Committees for S&T Co-operation.

Public research institutions and universities can apply for support in every country, while research units of industrial or commercial companies and small and medium sized enterprises (SME-s) can apply in most of the countries.

The selection procedures of bilateral project proposals differ from national ones in that the joint applications have to be submitted by both project leaders in their own countries. Applications are evaluated and ranked in the two countries completely independently of each other. Then the bilateral Joint Committee on S&T co-operation makes the decision. A contract is signed with the project leaders in both countries and payments are made respectively.

Project evaluation in most of the countries takes place in the form of traditional peer-reviews. In some countries this task is undertaken by experts from the ministries, in other countries thematic committees select and appoint scientists experienced in the relevant field. Evaluation criteria are similar to those of EU projects: scientific relevance, feasibility, significance of the co-operation, expected results, budgetary aspects, participation of young / female researchers,

<sup>1</sup> DLR – Deutsches Zentrum für Luft und Raumfahrt



regional dimensions, participation of SME-s, supplemented by special criteria e.g. national or bilateral priorities.

The annual expenditure of bilateral S&T programmes looks small compared to the R&D expenditure of a country, but its role as a catalyst is much more significant. Due to their bigger size and research capacity, the "old" EU member states invest more into bilateral relationships than the "new" member states and candidate countries. The other SEE countries contribute according to their economic possibilities.

The SWOT analysis shows that the main strength of bilateral S&T co-operation (in terms of mobility projects) is that it can be established easily and has low additional costs. The results can be scientific articles, new procedures or updated university curricula. Young researchers can achieve higher scientific grades and build up relationships.

But, most programmes do not provide financial support for research – only for mobility. Relationships are hindered from becoming stable and long-term by the fact that – except for a few cases – the agreements do not provide financial support for research costs. Not all of the countries allow small and medium sized enterprises (SME-s) to participate in the projects. And, the evaluation of the results is irregular and their dissemination to society is mostly absent.

On the other hand, more than 70 agreements concluded among the 12 countries provide opportunities for large-scale networking. It means that by gaining references in bilateral relationships one can quickly find partners for working in a multilateral project.

The main risks in the SEE region are instability, limited mobility due to the visa regime, outdated

and underdeveloped infrastructure, poor communication links and inadequate internal administrative procedures and structures. The war in the 1990s led to a significant increase in brain drain, and establishing relationships was also hindered by the development / knowledge gap and political changes.

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**The conclusions of the comparative analysis can be summarised as follows:**

- ▶ All of the SEE-ERA.NET countries **aim to increase their own competitiveness**, but the **R&D expenditure** – except for Austria, France and Germany – is **far lower** especially compared to the Barcelona objective of 3%.
- ▶ The **bilateral S&T relationships of the SEE-ERA.NET countries represent a significant potential** for the establishment of the European Research Area.
- ▶ The SEE-ERA.NET bilateral relationships, supplemented by the S&T co-operations between individual institutions, form a **network of research capacity** for the European Research Area.
- ▶ Most of the bilateral research is done at **university level** in the Western Balkan countries.
- ▶ The EU-Balkan countries Action Plan in S&T adopted at the Ministerial Conference in Thessalonica in 2003 resulted in **new initiatives, measures and programmes** in Austria, France, Germany, Greece, Slovenia. **New bilateral intergovernmental agreements have been or will be concluded** among EU member states, candidate countries and Western Balkan countries.
- ▶ The **main driving force of the Western Balkan countries** for the development of bilateral co-operations with EU member states is **to reintegrate into the scientific community of European countries**.
- ▶ The **effectiveness of bilateral S&T co-operation can be increased** by **supporting research costs** besides the mobility costs, and by **supporting the participation of SME-s**.
- ▶ There is an urgent need for **ex-post evaluation** on project and programme level after closing the projects.
- ▶ The meetings of Joint Committees on S&T co-operation provide **excellent opportunities for the leaders and decision-makers involved in science, research and innovation politics** to exchange information on changes in S&T policy, research infrastructure, new initiatives, and discuss issues concerning the research and innovation policy of the European Union.





# Introduction

SEE-ERA.NET is a co-ordination project running under the 6<sup>th</sup> Framework Programme of the European Union. It aims at structuring and expanding the European Research Area to the Southeast-European (SEE) countries by co-ordinating and supporting research and technological development (RTD) activities conducted at bilateral level between 15 consortium members. The partner countries are from “old” and “new” member states, candidate countries and Western Balkan countries. The Austrian Centre for Social Innovation (ZSI) is the co-ordinator of the project.

The SEE-ERA.NET project puts a special emphasis on bilateral RTD co-operation programmes. In fact, almost all member states exercise different bilateral intergovernmental RTD or S&T programmes with other European and third countries encompassing a broad range of rather different programmatic approaches and designs with distinctive regional foci. The objective of this Comparative Summary Report is to compare these individual approaches, including procedures of the partners, by analysing the operational environment of the existing bilateral S&T programmes, as well as the strengths and weaknesses of the co-operations, and on this basis to make recommendations on the strategies and methods of developing co-operations with the Western Balkan countries (WBC).

The analysis and the comparisons are made on the basis of the following criteria:

- 1 The political motivation, driving forces and strategic orientation of existing bilateral S&T programmes and further activities,
- 2 The research priorities of the bilateral S&T programmes, their contents and specific orientations,
- 3 Programme management issues (from the design stage to the final evaluation of the projects),
- 4 Existing evaluation practices,
- 5 Budgetary aspects and legal implications (including barriers) of the existing bilateral programmes, and
- 6 SWOT analysis<sup>2</sup> of bilateral S&T co-operation programmes.

After a summary of the methodology in the first section, the following section of the Comparative Summary Report compares the bilateral S&T co-operation, focusing on common grounds and major differences, with special regard to existing bilateral and EU relations. The third section summarises the findings of the SWOT analysis. Section four, focusing on best practices, draws conclusions on how to develop promising approaches for future co-operations. A brief explanation of the research system of the countries involved is provided in **Annex 1**.

<sup>2</sup> *Analysis of Strengths, Weaknesses, Opportunities and Threats*

# 1. Methodology

*12 countries, 15 institutions, more than 70 intergovernmental agreements, and several thousand institutional contacts: this is the scale of the magnitude of S&T co-operation among SEE-ERA.NET members. By analysing it, this study aims at comparing the results.*

In terms of methodology, the analysis was primarily based upon

- Document analysis (of existing national reports)
- Working group meetings of research programme makers and managers in order to be able to identify motivations, priorities, management and administration processes
- Techniques to perform a SWOT analysis implemented in national workshops with the support of an external consultant.

The systematic and comparative analysis of documents was ensured by a **“Questionnaire about the bilateral S&T programmes”**, which included the following issues:

- 1 Bilateral S&T programmes targeting Southeast Europe (i.e. Bosnia-Herzegovina, Croatia, Montenegro, FYRo Macedonia, Serbia, Bulgaria, and Romania)
- 2 Research priorities
- 3 Programme management issues
- 4 Evaluation practices
- 5 Budgetary aspects
- 6 Legal implications

After the approval of the methodology, the SEE-ERA.NET Steering Board members evaluated and

finalised their answers given to the questions above. It means that the institutions responsible for the given bilateral S&T co-operation authorised all data given for the Questionnaires and cited in this Comparative Summary Report.

At the same time a **SWOT – Guideline** was prepared, which helped the partners to assess the strengths and weaknesses of their system, look for opportunities for developing bilateral S&T relationships, and assess risks endangering the development of these relationships within the country or the region. The partners also evaluated their programme management, the different phases of application procedures and funding on a scale of 1 to 7.

The opportunities and risks of building international S&T relationships in a country mainly depend on how committed the country is to research and development. When assessing the research system of SEE-ERA.NET partner countries, we focused on the following fields:

- 1 Science and technology policy
- 2 Main science indicators (2001-2004)
- 3 International relations

**Chapter 2** uses answers given to the **“Questionnaire about the bilateral S&T programmes”**. Considering that the SEE-ERA.NET partner countries differ significantly in size, scientific significance as well as their experience gained in international S&T co-operation, for some questions the Report deals separately with the bilateral S&T co-operation practices of old and new EU member states, candidate countries and Western Balkan countries. The analysis based on the SWOT Guidelines (**Chapter 3**) proves, with little divergence, the appropriateness of this approach. **Annex 1** of the Comparative Summary Report carries out the comparison on the basis of answers given to the **“Questionnaire about national research system”**.



## 2. Structures and procedures of existing national S&T programmes targeting SEE

*S&T programmes targeting SEE cover to a large extent bilateral RTD co-operation and programmes. When comparing the structure of bilateral S&T co-operation of the countries involved, we distinguish between the older member states Austria, France, Germany and Greece, the new member states Hungary and Slovenia, the acceding countries Bulgaria and Romania and the Western Balkan countries Bosnia-Herzegovina, the Former Yugoslav Republic of Macedonia, Serbia and Montenegro, Albania and the new candidate country Croatia. The reason for this is that in these countries bilateral S&T relationships started in different historical and political eras and consequently there were significant differences in the political motivations and strategic orientations of bilateral co-operations.*

### 2.1 Political motivations, driving forces and strategic orientations

The enlargement of the European Union had a great impact on the institutional development of bilateral S&T relationships in old member states. It did not only appear in political rhetoric but also in the actions of the four countries of Austria, France, Germany and Greece. All of them were politically involved in facilitating the integration of the associated countries as well as in including the Southeast part of Europe in exchanging expertise, technology and innovation. The statement created by Greece, which is now one of the objectives of all bilateral S&T agreements, that "S&T contributes to the establishment of peace in the region and the peaceful development of S&T will establish an equilibrated region", gained a new and important meaning after the events in the former Yugoslavia.

**Austria** in line with specific support activities for the Western Balkan countries as a priority of the forthcoming Austrian Presidency in the first half of 2006 and in accordance with the EU-Balkan countries Action Plan in S&T adopted at the Ministerial Conference in Thessalonica in 2003, is

willing to strengthen its S&T co-operations with the SEE countries first of all with Bulgaria and Romania which were not active during the past years. As a special Austrian initiative, two "Austrian Science and Research Liaison Offices" (ASO-s) are operating in the region, one in Sofia and one in Ljubljana. They are explicitly mentioned in the intergovernmental Cultural Agreements concluded between Austria and Bulgaria and between Austria and Slovenia. In winter 2004/2005, the ASO-s launched for the first time a call for proposals for S&T collaboration with Southeast Europe on behalf of the Austrian Ministry of Education, Science and Culture. The ASO-s are local branches of the Centre for Social Innovation, the SEE-ERA.NET co-ordinator.

The political commitment of **France** to SEE countries is well demonstrated by the fact that it has bilateral intergovernmental co-operation with 6 countries<sup>3</sup> and integrated Bosnia-Herzegovina in the ECO-NET research programme.

<sup>3</sup> Bulgaria, Romania, Croatia, FYRo Macedonia, Serbia and Montenegro

## 2. Structures and procedures

Through these relationships France intends not only to develop bilateral scientific exchanges, but also to facilitate know-how transfer and capacity building, to support the setting up of new research networks and to provide assistance for the development of European research project proposals. The National Centre for Scientific Research (CNRS) also concluded bilateral exchange agreements with Bulgaria and Romania, and co-operation agreements with Slovenia and Serbia.

The Federal Government of **Germany** attributes great importance to international co-operation in science and technology. Internationality has always been an integral part of the German research policy and is part of the government response to the challenge of globalisation. The research institutes as well as the universities (funded by the Federal Government and the Länder) in general actively engage in international relations and research co-operation activities with their partners abroad. Germany actively endorses agreements on international co-operation in research and technology. International co-operative S&T is designed to strengthen the scientific community as a whole, to promote competitive research, mobility, and partnership, and to foster the development of society across national borders.

Bilateral co-operation with European countries in important areas of research policy paves the way for European programmes. It contributes to the European Integration Process and to the development of the European Research Area. The research promotion programmes set up by the Federal Ministry of Education and Research (BMBF) are open to international co-operation.

In 2004, the BMBF started a new strategic initiative intended to strengthen the international and European focus of German research institutions, to improve their competitiveness generally, and

to support the continuing integration of the Central and East European (CEE) and Southeast European (SEE) states in Europe. The new programme entitled "BMBF Announcement CEECs/SEECs: International Co-operation in Education and Research – Central, Eastern and Southeastern European Region". This Regional Call encourages increased participation with national and European Research programmes. It complements the traditional funding instruments for the stimulation of international co-operation (e.g. supporting workshops, short-term pilot-projects, co-financing of personnel, etc.)

Alongside the BMBF, there are important autonomous institutions (e.g. DAAD<sup>4</sup>, AvH<sup>5</sup>, DFG<sup>6</sup>) acting as a public intermediary for funding S&T activities. They pursue their own international strategies based primarily on the needs of the scientific community.

By giving funding programmes of the BMBF an international profile, linking them to similar funding programmes in the partner countries, and focusing on key areas which are of mutual interest, it is intended to generate an added value at both a bilateral as well as a European level with regard to the EU's Lisbon targets.

**Greece**, whose natural co-operation partners – due to its geographic position – are its northern neighbours, has determined to contribute to the maintenance of peace, development and cohesion of the region by all means, diplomatic, funding support and scientific co-operation. For this purpose, Greece intends to enhance scientific infrastructures in the Western Balkan countries Croatia, Montenegro, the Former Yugoslav Republic of Macedonia and Bosnia-Herzegovina by national funding sources in the framework of its

<sup>4</sup> German Academic Exchange Service

<sup>5</sup> Alexander von Humboldt Foundation

<sup>6</sup> German Research Foundation



relevant national, bilateral and multilateral programmes.

**Hungary** was interested in the SEE area due to several political factors. Besides elaborating common strategies in the field of science and technology, forming the means and tools for the research and innovation policy at regional level, the potential technology transfer and, last but not least, the representation of their own interests in the region motivated the country to establish closer links with their Southeast European neighbours. Hungary signed a bilateral intergovernmental S&T agreement with Croatia in 2002 and with Serbia and Montenegro in 2005.

The main goal of **Slovenian** S&T policy is full integration of the Western Balkan countries into all research activities and programmes of the EU. Therefore Slovenia has always supported the inclusion of the WBC, especially in the process of implementing FP6 and preparing FP7. In addition, Slovenia has supported the integration of the region in S&T activities at all EU levels because of its great potential in the ERA. This is important from many aspects: the WBC are part of Europe and they have great research potential with a lot of possibilities and it is also crucial from the stabilisation and security perspective. Even during the Balkan wars, Slovenia co-operated with countries in the region and this is the reason why there are good scientific relations between many Slovenian researchers and researchers from the WBC.

Together with Austria and Greece, Slovenia was one of the main actors in the creation of EU-Balkan countries Action Plan in S&T adopted at the Ministerial Conference in Thessalonica in 2003. The Action plan resulted in new initiatives, measures and programmes in the co-operation between Slovenia and the WBC. The political motivation of Slovenia is well demonstrated by the fact that it has bilateral co-operation pro-

grammes with all SEE countries, with exception of Albania with whom an agreement was signed in 2005, and Bulgaria where the agreement is in preparation. In addition to mobility costs, the Slovenian Ministry of Higher Education, Science and Technology also finances the organisation of info days in the WBC, the training of policy makers and National Contact Points (NCP).

**Bulgaria** and **Romania** are well aware of the programmes of the EU and their objectives and priorities. They know that they can obtain significant expertise, technology, research capacity and useful relationships by participating in international co-operation. The political motivation behind strengthening and increasing bilateral S&T co-operation is to help develop a coherent research policy in one's own country and to raise awareness of the importance of S&T in society as a whole. Besides this, it should also enhance mutually advantageous regional relationships with neighbouring countries.

The reasons behind the existing bilateral programmes of **Croatia** is the policy of creating an efficient and stimulating system of science and technology based on the EU model. The strategic orientation is to facilitate co-operation with Southeast Europe by enabling the more efficient use of the large research equipment thus creating regional networks of excellence.

Southeast European countries like **Bosnia-Herzegovina, FYRo Macedonia, Serbia** and **Montenegro** became completely isolated from the Western and Central European countries because of the war in the region. It is a matter of course that they wish to reintegrate into the scientific community of European countries. An excellent way to achieve this is to exchange researchers, familiarise themselves with EU opportunities as well as to adopt best practices. Due to their apolitical nature, scientific relationships may sup-

## 2. Structures and procedures

**Table 2.1** Bilateral S&T relationships of the SEE-ERA.NET partners

	AUSTRIA	BOSNIA-HERZEGOVINA	BULGARIA	CROATIA	FRANCE	GERMANY	GREECE	HUNGARY	FYRo MACEDONIA	MONTENEGRO	ROMANIA	SLOVENIA	ALBANIA	SERBIA
AUSTRIA	-		(p)	x	x			x			(p)	x		
BOSNIA-HERZEGOVINA		-	(p)	(p)	(p)	(p)	(p)	(p)	(p)	(p)		x	(p)	(p)
BULGARIA		(p)	-	(p)	x	x	x		(p)	(p)	x	(p)		
CROATIA	x	(p)		-	x	x		x	x	(p)	(p)	x		x
FRANCE	x	(p)	x	x	-	x	x	x	x	x	x	x		x
GERMANY		x	x	x	x		x	x	x	x	x	x	x	x
	BMBF Announcement "CEECs/SEECs' International Co-operation in Education and Research – Central, Eastern and Southeastern European Region (Regional call)" (not applicable for Austria, France and Greece)												Regional call	
GREECE		(p)	x	(p)	x	x	-	x	(p)	(p)	x	x	x	x
HUNGARY	x	(p)		x	x	x	x	-	(p)	x	x	x		x
FYRo MACEDONIA	(p)	(p)	(p)	x	x	x	(p)	(p)	-	(p)	(p)	x	x	x
MONTENEGRO	(p)	(p)	(p)	(p)	x	x	(p)	x	(p)	-	(p)	x		
	Increased networking through bilateral and multilateral co-operation is planned													
ROMANIA		(p)	x	(p)	x	x	x	x	(p)	(p)	-	x		x
SLOVENIA	x	x	(p)	x	x	x	x	x	x	x	x	-	x	x
ASO		x	x	x					x	x	x	x	x	x
CNRS			x	x							x	x		x

port peace and stability in the region and will have an impact on future economic development.

When summarising the bilateral S&T relationships of the Southeast European (SEE) region, the SEE-ERA.NET observers **Albania** and **Serbia**<sup>7</sup> cannot be ignored. France, Hungary, Romania and Croatia have already entered into bilateral co-operation agreements with Serbia, Slovenia did the same with Albania.

<sup>7</sup> Due to political circumstances in Albania and Serbia at the initial application stage of SEE-ERA.NET, both countries were not full members at the time of writing this report. However, they had observer status and were able to contribute to selected project activities.

**Table 2.1** provides a summary of already started (x) and planned (p) bilateral scientific co-operations, between the countries on governmental level. On the left-hand side information about SEE-ERA.NET members can be found, and on the right-hand side information about Albania and Serbia.



## 2.2 Research priorities

The research priorities of bilateral S&T co-operation are determined by several factors. The national priorities of the two co-operating countries may be crucial but in some countries (e.g. in France) the research co-operation projects financed are based on excellence criteria more than on the national research priorities. In addition, all partners will adapt to co-operation needs and expectations of the other ones. There are some special fields that can only be studied by two specific countries (e.g. cross-border environmental damage or assessing the pollution of border waters).

Usually, all of the countries give special attention to life sciences, information and communication technologies, environment, energy and sustainable development and material research on both national and bilateral level. In addition, partners can agree on special priorities in fields of mutual interest. Austria gives priority and Germany gives additional support to the preparation of projects relating to the thematic priorities of the 6<sup>th</sup> RTD Framework Programme of the EU. In France, the research co-operation is determined more by geographic considerations than by research fields. In Greece, the marine sciences and the natural hazards are also among the priorities as well as those mentioned above, while special attention is paid to the issue of Cultural Heritage.

Bilateral S&T co-operation underwent a long development, until in some countries – mainly as a result of the thematic priorities of EU framework programmes – social sciences appeared in the co-operation priorities. It is not by chance that it is mainly the old EU member states (especially France and Germany) that included this area in their bilateral S&T co-operation. From the new member states, Slovenia is outstanding in this

field, as it gives priority to social sciences and humanities in both its national and bilateral relationships.

Hungary, due to its special research support system<sup>8</sup> occasionally supports interdisciplinary research including economic topics in bilateral intergovernmental S&T co-operation. Besides Hungary, it is also true for Greece and Croatia that the social sciences and humanities are under-represented in bilateral co-operation.

In the co-operation of the Former Yugoslav Republic of Macedonia with Slovenia – besides the fields of research mentioned above – the focus is on the issues of natural sciences, ecology, agriculture, and biotechnology, economics, law and business, while the issues of natural sciences, ecology, agriculture and biotechnology economics, civil engineering including natural hazards reduction and management are given priority in their co-operation with Bulgaria due to recent priorities negotiated in the Joint Committee meetings. Obviously, the Former Yugoslav Republic of Macedonia does not only focus on the fields of technical and natural sciences as well as medicine but would also like to obtain the knowledge and experience necessary to develop the economy, so that it can start the appropriate preparatory measures as soon as possible towards becoming fully integrated into the EU in the near future.

Montenegro's actual financing strategy is to start financing the most promising fields in the development of the human potential and infra-

<sup>8</sup> *The Hungarian Academy of Sciences co-ordinates and finances research and international co-operation in social sciences and humanities on national levels.*

## 2. Structures and procedures

structure; at the moment humanities and basic research do not fit in that strategy.

Montenegro – besides research in information and communication technologies and environment, especially water management – prefers the co-operation on agribusiness and biotechnology

with the countries from the similar geographical area. By exchanging similar experience, they can more easily solve problems arising in these fields.

**Table 2.2** summarises the general thematic priorities of the SEE-ERA.NET countries.

**Table 2.2** General thematic priorities of the partner countries

	ICT	NANOTECHNOLOGY	NEW MATERIALS	SPACE RESEARCH	ENERGY + SUST.DEV.	AGRI-CULTURE BUSINESS	BIO-TECHN. FOOD	BIO-MEDICINE	LIFE SCIENCES	GENOMICS	IMPR. THE QUALITY OF LIFE	ENVIRONMENT. RESEARCH	WATER RESOURCES	OTHER
AUSTRIA	x	x	x	x	x	x	x	x	x	x	x	x	x	Social sciences
BOSNIA-HERZEGOVINA	x		x		x	x	x				x	x	x	
BULGARIA	x	x	x		x	x	x		x	x				Foresight
CROATIA	x	x			x	x	x	x	x	x		x	x	
FRANCE	x	x		x	x				x			x		Social sciences
GERMANY	x	x	x	x	x		x	x	x	x	x	x	x	Transport Social sciences
GREECE	x	x		x	x		x			x		x		Marine sciences Natural hazards Cultural heritage
HUNGARY	x		x			x	x				x	x		
FYRo MACEDONIA	x		x		x	x	x					x	x	Transport Ecology Chemistry
MONTENEGRO	x		x			x	x				x	x	x	
ROMANIA	x	x	x			x	x	x	x		x	x	x	
SLOVENIA	x	x	x		x		x	x						Social sciences





## 2.3 Programme management

Well-known research support funds such as the German Research Foundation (DFG) and the American National Science Foundation (NSF) have had a significant role in the development of the programme management of the S&T co-operation in Central Europe. The application, evaluation and selection procedures as well as their financing practices served as models for Central European countries (e.g. Hungary) and enabled them to replace the scholarship-based study tours in pre-arranged topics with today's modern, competitive and project-oriented programme management in bilateral S&T co-operation. There may be minor differences from country to country due to differences in institutional structure or the long-term strategy of partners, but the basic principles are the same. This is what makes the programme management of the different countries comparable.

### *What is supported?*

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

Subsidies to the costs of co-operation are paid from national budgets as a grant by the co-operating countries through the institutions responsible for implementation of the programme. Each country pays the costs of mobility of researchers

incurred in its territory (travel expenses, accommodation or costs of events organised) to the extent agreed on with the partner in the bilateral Joint Committees. In case of countries whose currencies are different, it is called exchange of researchers on no-exchange-of-funds basis. It means that the grants are always payable in national currencies.

Other **supported forms** of co-operation include **bilateral conferences or workshops**, where the aim may be learning about the research system of the partner in order to prepare for a co-operation agreement, but it may also be the dissemination of research results or looking for partners to plan multilateral projects. Partners usually agree on organising and financing these kinds of conferences in advance, when agreeing on 2-3-year co-operation work plans. The costs of researchers' mobility are financed like in projects, and the costs of organising the event are born by the country where it is held.

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

In Germany national research programmes are always open for international co-operation, but usually without funding opportunities for foreign partners. However, with regard to the new instrument introduced known as Regional Call funding

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may now include the co-financing of preparatory missions, meetings of experts, thematic workshops, short-term investigations of feasibility (up to a maximum of 4 months) and pilot investigations (maximum of 12 months). The following types of expenditure are eligible for grants: travelling expenses incurred by German experts, cost of visits by foreign experts to Germany. In special cases:

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

As mentioned before, there are autonomous institutions like DAAD, AvH or DFG running their own international programmes, like the PPP-programme<sup>9</sup> of DAAD for example, in which usually the no-exchange-of-funds system is applied.

**Table 2.3** summarises what the countries support in the framework of the bilateral S&T programmes, and which institution governs the bilateral S&T co-operation.

COUNTRY / RESPONSIBLE INSTITUTIONS	
AUSTRIA Ministry for Education, Science and Culture (BMBWK)	
BOSNIA-HERZEGOVINA Ministry of Foreign Affairs (MVP)	
BULGARIA Ministry for Education and Science (MON)	
CROATIA Ministry of Science, Education and Sports (MZOS)	
FRANCE Ministry of Foreign Affairs (MAE)	
GERMANY	Federal Ministry of Education and Research (BMBF)
	Other institutions (e.g. DAAD, DFG)
GREECE Ministry of Development – General Secretariat for R&T (GSRT)	
HUNGARY National Office of Research and Technology (NKTH)	
FYRo MACEDONIA Ministry of Education and Science (MONMK)	
MONTENEGRO Ministry of Education and Science (MPIN)	
ROMANIA Ministry of Education and Research (MEC)	
SLOVENIA Ministry of Higher Education, Science and Technology (MHEST)	
AUSTRIA Centre for Social Innovation (ZSI)	
FRANCE CNRS	

<sup>9</sup> PPP – Project related personnel exchange

<sup>10</sup> Funding of foreign partners is usually implemented by subcontracting.

<sup>11</sup> Support through regular budget of permanent researchers.



Support provided in bilateral S&T programmes and other international project related activities

Table 2.3

MOBILITY Costs of travelling and daily/monthly allowances	RESEARCH INFRASTRUCTURE Equipment and consumables	RESEARCH ACTIVITY Personnel	OTHER
x			
x			
x	x	x	Cost for patent research and application, Scientific publications, Scholarships, Participation fees
x			
x			
x	x	x <sup>10</sup>	Mobility, Feasibility study, Costs of events, Consumables
x			Project-based exchange of academics programme (DAAD), International Research Training Groups (DFG)
x	x	x	Scholarships Publications
x			
x		x	
x	x	x	
x		x	Research activity is indirectly supported
x	x (only with France in PICS projects)		Longer staying of researchers from Western Balkan countries, training of policy makers and NCP's
		Scientific training, Dissemination (workshops, publications), Case studies, Adoption of research results, Preparation of new projects	
x	x <sup>11</sup>	x	



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### ***Which and what kind of an organisation deals with the programme management?***

In eight countries ministries are responsible for the implementation of intergovernmental S&T agreements<sup>12</sup>. In four countries<sup>13</sup> strategic management and operative implementation is separated. The latter is carried out by agencies appointed by the ministries. In the SEE countries management and operative implementation is the responsibility of the relevant ministries, and in Hungary a government office carries out both<sup>14</sup>.

There are wide ranges of bilateral S&T co-operation programmes financed with public funds, which are not covered by intergovernmental agreements. A comprehensive analysis of them cannot be undertaken in this Comparative Summary Report; therefore we only mention the most significant ones.

The German Research Foundation (DFG) we already mentioned, encourages international collaboration in science and research through its funding instruments. The programmes of the German Academic Exchange Service (DAAD) offer various options to create a personnel and institutional basis for international research co-operation. The Max Planck Society (MPG) launched a specific strategic initiative for intensification of the existing and establishing new research co-operation with the Central-European and Southeast European Countries. The Helmholtz Association (HGF) consisting of 15 national research centres supports the integration of the accession countries through Matching Workshops. The Fraunhofer Society (FhG) strengthens its commitment in the context of the enlargement

process of the European Union since 1990 into the CEEC. The Leibniz Association (WGL) consisting of 84 legally independent research institutes attaches a growing importance to international co-operation. We can also include here the Hungarian Academy of Science, which manages a wide range of bilateral international co-operation programmes in the field of basic research and continuously develops its relationships with SEE countries.

**Table 2.4** includes the names of institutions managing bilateral intergovernmental S&T co-operation programmes.

<sup>12</sup> *Bosnia-Herzegovina, Bulgaria, Croatia, Greece, FYRo Macedonia, Montenegro, Romania, Slovenia*

<sup>13</sup> *Austria, France, Germany, Slovenia*

<sup>14</sup> *National Office of Research and Technology (NKTH)*



Institutions managing bilateral intergovernmental S&T co-operation

Table 2.4

COUNTRY	MINISTRY	AGENCY
AUSTRIA	Ministry for Education, Science and Culture (BMBWK)	Austrian Exchange Service (ÖAD) Department of Academic Co-operation and Mobility Unit (ACM)
BOSNIA-HERZEGOVINA	Ministry of Foreign Affairs (MVP) Department for International Scientific, Technical, Educational and Cultural Co-operation	
BULGARIA	Ministry for Education and Science (MON)	
CROATIA	Ministry of Science, Education and Sports (MZOS)	
FRANCE	Ministry of Foreign Affairs (MAE) Directorate general for international co-operation and development Ministry of National Education, Higher Education and Research International Relations Department Science Technology and Pedagogy Mission	EGIDE – Public agency for scientific exchanges management
GERMANY	Federal Ministry of Education and Research (BMBF)	International Bureau of the Federal Ministry of Education and Research at the DLR and other Project Management Organisations in selected fields
GREECE	Ministry of Development General Secretariat for Research and Technology (GSRT)	
HUNGARY		National Office of Research and Technology (NKTH)
FYRo MACEDONIA	Ministry of Education and Science (MONMK)	
MONTENEGRO	Ministry of Education and Science (MPIN)	
ROMANIA	Ministry of Education and Research (MEC)	
SLOVENIA	Ministry of Higher Education, Science and Sport (MHEST)	Slovenian Research Agency

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### ***What are the tasks of the ministry and of the agency?***

Typically, ministries decide on the policy and strategy, develop the programme and specify the budget for the co-operation. In some countries it is the ministries<sup>15</sup>, in others the agencies<sup>16</sup> that carry out the operative tasks, e.g. publish the calls for proposals, collect the proposals, have the application evaluated, and prepare the decision of the Joint Commissions for S&T co-operation which makes the decisions on applications. After the decision of the Joint Commissions, the institution responsible for the implementation signs a contract with the applicants, manages payment and accounting, and collects the scientific and financial reports.

In France, besides the Ministry of Foreign Affairs, the Ministry of National Education, Higher Education and Research also participates in managing co-operation. The former is in charge of the political issues of the co-operation (e.g. preparing for and concluding new agreements), while the latter is in charge of the scientific and research strategy of the co-operation. Besides the administrative tasks listed above, publishing results is also the tasks of EGIDE.

The Austrian Ministry for Education, Science and Culture (BMBWK) – as well as the above-mentioned tasks – organises an accompanying evaluation of the S&T programmes; the Greek General Secretariat for Research and Technology is monitoring the peer-evaluation of the scientific results also.

<sup>15</sup> Bosnia-Herzegovina, Bulgaria, Croatia, Germany, Greece, FYRo Macedonia, Montenegro, Romania

<sup>16</sup> Austria, France, Hungary, Slovenia

<sup>17</sup> Bosnia-Herzegovina, France, Germany, Greece, Hungary, FYRo Macedonia, Montenegro, Romania, Slovenia

### ***Who may apply?***

In the early 1990s basic research was characteristic of bilateral S&T co-operations and therefore only public research institutions and universities could apply for support. In Central and Eastern European countries, due to the changeover to the market economy, there has been increasing demand for newly founded small enterprises and spin-off companies to join bilateral S&T projects in order to adopt the results of research. Today public and private research institutions, higher education, non-university research establishments and hospitals may submit applications for project funding.

In 9 countries<sup>17</sup> research units of industrial or commercial companies and small and medium sized companies (SME-s) can apply for support in all bilateral co-operations. In Romania, the SME-s applying should have an R&D profile.

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

Austria and Croatia exclude applicants from industry or SME-s. Bulgaria does not exclude them; it is possible for industry to participate in the intergovernmental S&T co-operation but only at its own expense.

The CNRS provides financial support only for CNRS units, and the ZSI for universities and non-university research organisations, industry and SME-s are excluded from the circle of applicants.



Who may apply?

Table 2.5

COUNTRY	PUBLIC RESEARCH INSTITUTION	HIGHER EDUCATION INSTITUTES	PRIVATE RESEARCH INSTITUTES	R&D UNIT OF INDUSTRIAL/ COMMERCIAL COMPANIES	SME-s	PRIVATE PERSONS
AUSTRIA	x	x	x			
BOSNIA-HERZEGOVINA	x	x	x	x	x	
BULGARIA	x	x	x	x	x	
CROATIA	x	x				
FRANCE	x	x	x	x	x	
GERMANY	x	x	x	x	x	
GREECE	x	x	x	x	x	
HUNGARY	x	x	x	x	x	
FYRo MACEDONIA	x	x	x	x	x	
MONTENEGRO	x	x	x	x	x	
ROMANIA	x	x	x	x	With R&D profile	
SLOVENIA	Any legal entities or private persons. Restrictions see in the text.					

**Table 2.5** summarises who may apply for support in the framework of the bilateral S&T cooperation in the different countries.

**What has to be submitted?**

It is a basic principle that co-operating partners in both countries have to submit **applications with the same content**, which they had previously agreed on. The form of the obligatory application forms may be different in each country but all application forms have to contain data concerning the applicants (name, address, contact details) and the projects (title, starting and finishing date, working programme, mobility data and short summary etc.), the description of the project and references of the applicants (CV, list of publications related to the topic), and the budget.

The project managers of the two countries agree on the application in the language they use as **common language** and then – with a few exceptions – each of them submits it in their own countries in their own language and one copy in the common language, mostly in English. In Germany it is a requirement to submit the application in English and its summary in German, while in Greece some sections of the otherwise Greek language application must be submitted also in English. In Bulgaria, Hungary, FYRo Macedonia, Montenegro, Romania and Slovenia besides submitting the application in the native language, one copy has to also be submitted in English.

The French partners have to submit an **on-line application** which they access from EGIDE's Internet website. This on-line system was set up in March 2004. The foreign partners submit their application according to their internal rules.



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### ***What should the proposal consist of?***

The institutions responsible for implementing the bilateral S&T programme agree on requirements concerning the content of the application in the Joint Committee. Therefore some differences may occur in the actual content. All partners require the submission of the following data but it may be in a different (more detailed) form:

- Co-ordinators in the two countries, partners involved and their qualifications (CV, most relevant publications/patents),
- Participating institutions (contact data, short description of infrastructure existing and that needed for implementation of the project),
- Motivation of the co-operation (background, previous co-operation related to the project, problems to be solved, reasons for co-operation with special regard to the complementary character of the research groups, expected benefit for the partners),
- The innovative character, originality and the comprehensive description of the proposal (title, theme, scientific objectives, work programme, time schedule, monitoring points, methodology, deliverables),
- Co-operation perspectives (capacity-building opportunities through research, expected results, European perspective, other international perspective, expected industrial utilisation),
- Detailed financial contribution requested and co-funding.

In addition, new German applications must also include:

- Proposed utilisation of future project results,
- Structured financial plan with details of own funds employed

The applications submitted by Romanian partners have to contain:

- The written proof of willingness of the foreign partner to co-operate,
- The copy of the internal research contract covering the research activity cost.

In Hungary, the research contract does not have to be attached to the application, but in the application the source of funding of the research that the bilateral S&T project joins has to be provided (e.g. budget of the institution, number or title of application approved by the Innovation Funds or National Scientific Research Funds etc.).

### ***Procedure of selection of the project-proposals***

The application procedure includes the following basic steps in each of the countries:

#### *Call for proposals – draft and publication*

The text of the call will be drafted separately in the partner countries. It should contain the name of the bilateral research programme, title and objective of the call, eligible participants, conditions of funding, deadline of submission, source of the application form and the guidelines for participants.

The call will be published usually 6 months before the next Joint Committee meeting and is open for 3 months. The German programme Regional Call is continuously open for applications.

#### *Development of project proposals*

After publishing the call for proposals, the two project co-ordinators (one project leader of each country) jointly prepare a proposal describing the common project. The two partners will cover the cost of the preparation of the project proposals.

#### *Submission of project proposals*

The application must be submitted parallel in both countries to the institution responsible for





implementation of the research programmes by the deadline.

#### *Evaluation*

The completeness of the application and the eligibility of the participants will be tested first. The scientific evaluation practice differs from country to country. The details of the evaluation practices are outlined in the next chapter. It usually takes two months.

#### *Internal ranking*

On the basis of the scientific evaluation, Austria, France and Hungary rank the proposals according to the internal priorities of the country in the categories of "very good", "can be approved depending on the budget for the given partner", and "weak". It helps at the final decision to select the best proposals from both sides and allow the possibility to compromise in selecting a second rank proposal or to refuse the third one.

#### *Decision taken by the Joint Committee*

The Joint Committee for S&T co-operation (JC) has the right to take the final decision selecting proposals for funding. The members of the JC are the nominated representatives of the responsible ministries of the two countries<sup>18</sup> who are authorised to make decisions. The representatives of the agencies (in Austria, France, Germany and Slovenia) and the representatives of other competent ministries of the two countries, who are involved in the co-operation in certain field, are the participants in the meeting. The bilateral JCs have meetings alternating every first, second and third years. The officers responsible agree the date of the meeting in advance. However, voting can be accomplished in a written procedure as well.

<sup>18</sup> In case of Hungary the nominated representative of the National Office of Research and Technology (NKTH) is the member of the JC.

#### *Contract with the project providers*

Two to four weeks after the decision, the implementing ministry or agency will sign a contract with the project provider in each country separately. The contract contains all obligations of the project providers and the conditions of implementation (deadlines for reporting, accounting, monitoring, claiming for payment etc.).

#### *Payment*

The ways and methods of the payment depend on the internal regulations of the countries but usually meets the needs of the project implementation in a flexible way. Austria transfers the requested amount to the institution of the project co-ordinators a week after the grant is called in, who reports on its use according to the obligatory reporting procedure.

In Germany, there are a number of specific rules regarding payments and reporting. In Hungary, the Science and Technology Fund, managing the finances of bilateral S&T projects, opens a separate sub-account for each project, from where project co-ordinators call in the necessary sums when they are needed (for example for a journey or a reception).

#### *Scientific and financial reporting*

During the project implementation, annual reports and financial statements must be submitted, followed by a final scientific and financial report after the completion of the project. In Greece, the certified closure of the project is a prerequisite for the final reimbursement. In Bulgaria, a prerequisite for the 2<sup>nd</sup> and 3<sup>rd</sup> year funding is the production of a scientific and financial report approved by a Scientific Committee.

#### *Administrative conditions*

The **duration of projects** may be 2-3 years depending on the countries' agreement. In Ger-

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many, projects submitted to the Regional Call have an average duration of 2-3 months, but a maximum period of up to 12 months is feasible. The project-based exchange of academics programme (PPP) of the DAAD allows a time span of up to 2 years.

**Mobility** of researchers may be short-term (up to 14 days) or long-term (1-3 months). The number and length of the visits will be determined on the basis of reciprocity and indicated in the application form. The approved number and length of journeys generally cannot be modified without the approval of the implementing agencies. The project partners can determine the date of the visits. Any **change in the research team** must be officially notified to the ministries.

In contrast to the general administrative requirements above, in France the project proposals must be submitted on-line, and in Greece extension of the project can be provided for up to 8 months.

The **application has to be submitted in both countries** in the required form and language by

the specified deadline. In order to prove that the applications are identical, the submitted application (or the version prepared in the common language) has to be signed by the project leaders of both countries and an authorised person (e.g. the director of the institution).

Annual project **progress reports and financial statements** have to be prepared and submitted to the implementing institution during the implementation of the project. After the completion of the project, a **final report** is written about the scientific results and a **final account** is made concerning the use of the financial support received. In Greece, the certified closure of the project is a prerequisite for the final reimbursement.

The Joint Commission is usually informed about the results of the projects accomplished annually through the reports of the ministries responsible and its representatives in the Joint Commission. In Greece, the Joint Committee is informed by a synthetic presentation during the Joint Committee Meeting or by the organisation of assessment workshops (i.e. Greek-Albanian and Greek-Bulgarian co-operation).

### 2.4 Evaluation practices

When comparing the evaluation procedures of bilateral S&T projects, we were trying to find answers to questions like how applications are evaluated, who does the evaluation and what are the advantages and disadvantages of methods used according to the partners. The main evaluation criteria are the same for each partner, but in the case of some partners there are some criteria that can positively influence the decision or entail extra points.

#### *Who manages the evaluation?*

Managing the evaluation procedure of the applications is handled in 7 countries by the ministry<sup>19</sup>, and in three countries<sup>20</sup> by the agency responsible for the operative tasks of the bilateral

<sup>19</sup> Bosnia-Herzegovina, Bulgaria, Croatia, Greece, FYRo Macedonia, Montenegro, Romania

<sup>20</sup> Austria, Germany, Slovenia



S&T co-operation. In France, the management of the evaluation is the task of the Evaluation Department (MSTP)<sup>21</sup> of the Ministry of National Education, Higher Education and Research. In Hungary, the Science and Technology Foundation manages the evaluation.

### **Who evaluates the proposals?**

There are two widely used methods for evaluating the applications. The first of these is the well-known peer review system, which is used in 8 countries<sup>22</sup>. In this method one, two or three independent scientists (peers) from universities or research institutions evaluate the applications on the basis of criteria previously agreed on with the international partner – or in a few cases taking into consideration some internal factors. The applications are given scores (up to 100) or put into categories marked by different letters (A, B, C) or figures (I, II, III).

In Austria, most of the time it is the case that just one independent researcher generally evaluates one project proposal. In all the other countries mentioned above, it is more common for two scientists to review one proposal. Three researchers are only needed if the opinions of the two experts are so different that a third person has to make the final decision about the application.

The second method of evaluation is when evaluating committees (or thematic committees) working in, or in connection with, the ministries do the evaluation and ranking of applications, or the experts are not independent in the sense that they are employed by the ministry or agency<sup>23</sup>.

In Bosnia-Herzegovina, the evaluators are experts from the Ministry of Foreign Affairs. In France, the abovementioned Evaluation Depart-

ment (MSTP - Science, Technology and Pedagogy Mission) is composed of 11 thematic departments. Each project proposal is therefore evaluated once by a senior professional specialised in the proposal's theme. The Greek General Secretariat for Research and Technology has peer-review thematic committees. In Slovenia, the Slovenian Research Agency is responsible for the proposal's evaluation.

### **How do they evaluate?**

The ministries or agencies responsible invite the independent experts from the scientific community or they are selected from the professional staff. In the case of a thematic committee, the committee itself will select one of its members to perform the task. The proposals and the evaluation assessments are sent to the evaluators. Having been filled in, the evaluation form will then be returned.

The Bulgarian Ministry for Education and Science uses an Expert form with previously stipulated preliminary assessment criteria, and a Confidentiality Declaration and Contract for expert activities.

In France, the evaluators selected by the Evaluation department assess project proposals on the basis of a questionnaire. Both countries have agreed upon the criteria and format of these evaluation questionnaires. In most cases, the evaluation grid used to analyse project proposals is the same in both countries. Before the bilateral Joint Committee meeting a French selection committee, composed of the departments involved from the two Ministries and a representative from the Scientific services of the French Embassy in the partner country, (in some cases) meets to assess evaluated projects.

<sup>21</sup> MSTP – Science Technology and Pedagogy Mission

<sup>22</sup> Austria, Bulgaria, Croatia, Germany, Hungary, FYRo Macedonia, Montenegro, Romania

<sup>23</sup> Bosnia-Herzegovina, France, Greece, FYRo Macedonia, Slovenia

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The peer-review thematic committees in Greece are invited to evaluate the proposals only in the General Secretariat of Research and Technology of the Ministry of Development.

In Hungary, an interdepartmental body ranks the projects according to national priorities and budget, on the basis of the two peer reviews by the National Office of Research and Technology involving the relevant ministries. The procedure deviates in Romania, where after the scoring by the evaluators, the Ministry of Education and Research takes the average of the scores and then ranks the proposals.

In Romania, the procedure of evaluation is based on the peer-review system. The evaluators of the Advisory Committee for R&D assess the proposals according to agreed criteria with the partner country. The Ministry of Education and Research is using the average of the 2/3 evaluators' scores and is ranking the projects according to their marks.

At the country level, the evaluation is a pre-evaluation and ranking because the final decision will be made by the bilateral Joint Committee for S&T.

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

The strength of the peer review evaluation system of bilateral projects is that it is independent and professional. It ensures adequate evaluation practice, similar to that of the DG Research. However, it tends to be slow, especially in newly integrated countries and in the Western Balkan countries. In SEE, there are extremely few experts in certain fields, and due to lack of funds their remuneration is usually very low or not settled yet. Evaluation reports often come late, and sometimes there are big differences between the different evaluators' results.

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

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

### ***Evaluation criteria***

When evaluating bilateral S&T projects – similar to EU projects – the following questions are generally considered.

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



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

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

- **Scientific criteria** – scientific and technological merit, innovative character of the project, originality of the theme, clarity of the objective, quality of the methodology used,
- **Feasibility** – qualification of the co-ordinators and the project partners, research experience of the team, complementarities, quality of available scientific infrastructure,
- **Significance of the co-operation** – necessity to work with this foreign partner, results of former co-operation, expected benefit for the partners,
- **Expected results** – utilisation of the results in or for the industry, possibility for other international co-operation, chances of the participation in the EU framework programme, possibility for commercialisation,
- **Budgetary aspects** – reality of the planned budget, balance of the mobility, co-financing,
- **Other criteria** – national priorities, participation of young / female researchers, regional dimension, participation of SME-s (if it is not restricted). A prerequisite for successful application under Germany's Regional Call is the declared intention to develop a follow-up project, which is to be submitted to an EU or a national research programme call.

### ***Is there any optional evaluation criteria that can positively influence the decision?***

In an increasing number of countries<sup>24</sup> it is not only advantageous at the evaluation, but may even entail extra scores to involve **young or female researchers**, and PhD or postdoctoral fellows in the project.

Most of the countries check whether the bilateral S&T projects have some possible **European perspective** or might eventually become an EU funded project, but in Austria, Croatia and France it has especially positive influence on the decision if new co-operations are envisaged or the project has multilateral perspectives. It is especially important as bilateral relationships may be expanded into thematic networks enabling researchers to find partners easily and to participate quickly in an integrated project (IP) or in a network of excellence (NoE) of the 6<sup>th</sup> (later the 7<sup>th</sup>) RTD Framework Programme of the EU.

Besides the general evaluation criteria, most of the countries<sup>25</sup> also focus on whether SME-s participate in the project and whether the project has any **industrial connections** that ensure the utilisation of the results in industry, healthcare, agriculture or trade.

Regarding other special criteria that can positively influence the decision, the regional dimension plays a part in both Bulgaria and Slovenia, in Bulgaria the existing co-financing is important, and in France the fact that the project is human or social sciences related is significant also.

<sup>24</sup> Austria-ZSI, Croatia, France, Greece, Hungary, FYRo Macedonia, Montenegro, Romania, Slovenia

<sup>25</sup> Bulgaria, Croatia, France, Germany, Greece, Hungary, FYRo Macedonia, Montenegro, Romania, Slovenia

## 2. Structures and procedures

### 2.5 Budgetary aspects and legal implications

#### **Total budget for bilateral S&T programmes/year in € (2001-2005)**

After analysing the total budget for bilateral S&T programmes, we grouped the SEE-ERA.NET countries according to the scale of annual bilateral R&D expenditures.

The old member states such as France and Germany excel in expenditure not only because of their population and much higher research capacity. Germany has renewed its traditional cultural links by supporting research co-operation with Central and Eastern European countries and through this has been promoting their integration. France expanded the opportunities for co-operation after the political changeover, and in this way multiplied the receivable EU support for itself and its partners.

The annual R&D expenditures of the two countries cannot be compared, as the initial values of their statistics are different. According to the data available, they exceeded € 10 million in both countries in 2003. The total budget for Integrated Action Programmes world-wide was € 12.3 million financed partly by the Ministry of Foreign Affairs (€ 11.3 million) and partly by the Ministry of National Education, Higher Education and Research<sup>26</sup> (nearly one million €) in France.

The same year in Germany, the total budget for international S&T-projects (based on regular project funding from the BMBF within national

funding programmes but only funding of S&T projects with international co-operation are considered) was € 36.5 million.

In the period of 2001-2005, in case of Austria, Bulgaria, Croatia, Greece and Hungary, having a similar size population and research capacity, bilateral S&T co-operation in the framework of intergovernmental S&T agreements has been continuously developing. Except for a decrease in Greece in 2003, annual expenditure in these countries was between € 0.5-3 million. The increase in the total budget also reveals that bilateral S&T co-operation is increasingly important for Slovenia, Bulgaria and Croatia. Expertise and experience gained significantly contributes to preparation for the integration into the EU of the last two countries.

Despite the economic difficulties, the Former Yugoslav Republic of Macedonia has made extraordinary steps in bilateral, regional and multilateral S&T co-operation, especially during the last two years. Its annual expenditure for S&T joint project co-operation will reach € 145,000 in 2005. One can see increased efforts in Romania, and reassuring signs in Bosnia-Herzegovina and Montenegro. The annual expenditure on bilateral S&T projects in these countries is below € 0.5 million.

**Figures 2.6, 2.7 and 2.8** show the total budget for bilateral S&T co-operation in the individual countries between 2001-2005<sup>27</sup>.

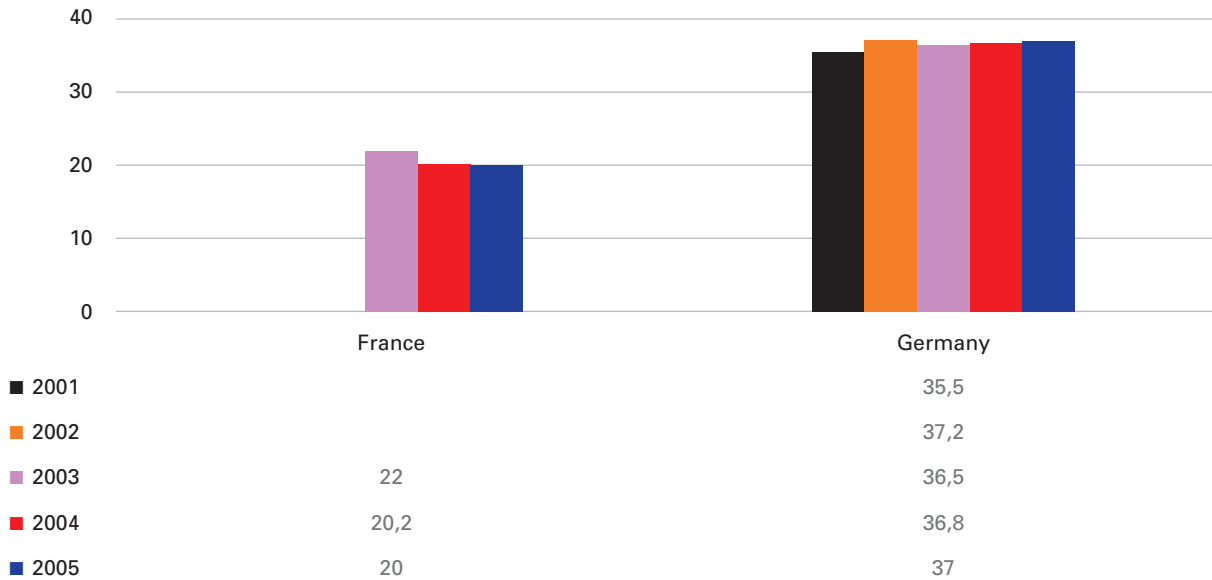
<sup>26</sup> The latter is the ECO-NET project, which is in fact trilateral as the French partner establishes scientific co-operation with institutions of two different Central and Eastern European, Western Balkan or New Independent States.

<sup>27</sup> The budget for 2005 is an estimation



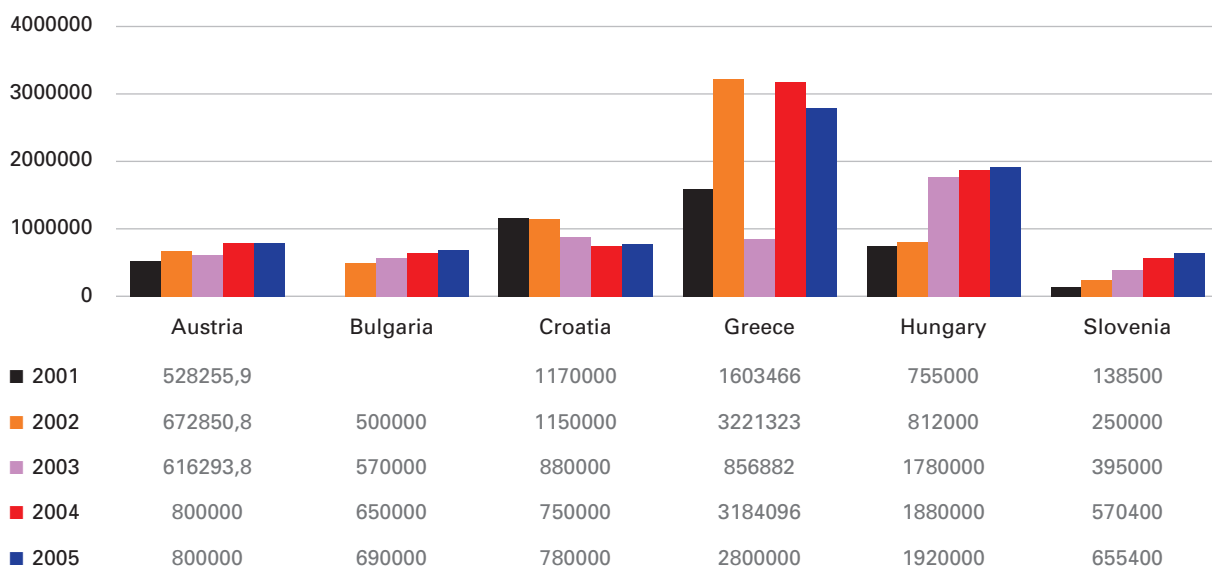
Total budget for bilateral S&T co-operation of France and Germany (2001-2005) in million €

Fig. 2.6



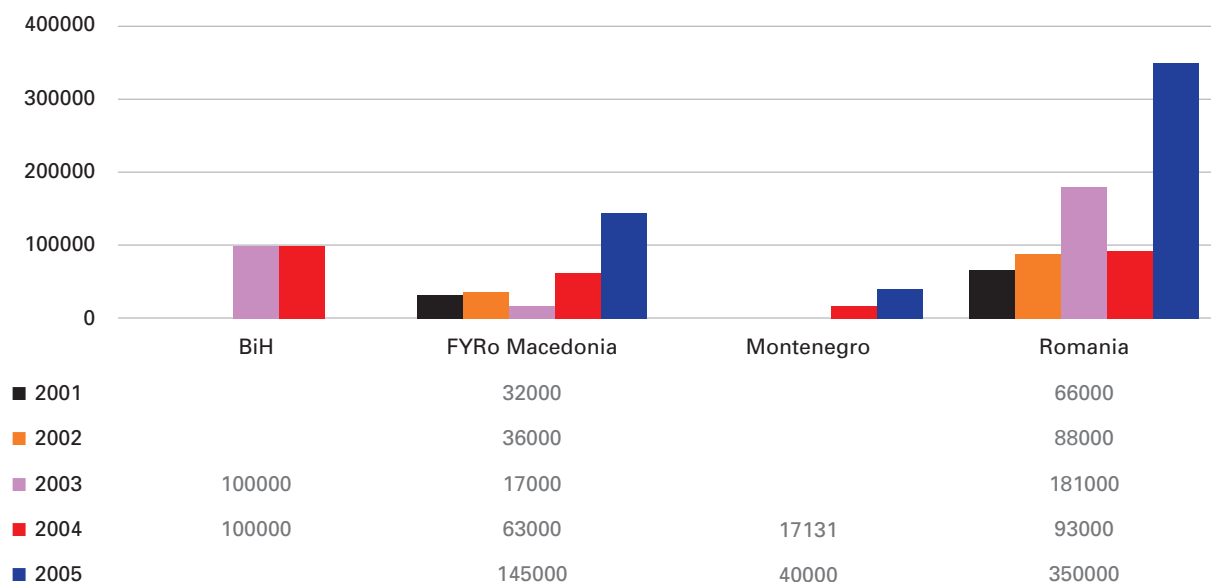
Total budget for bilateral S&T co-op of Austria, Bulgaria, Croatia, Greece, Hungary, Slovenia (2001-2005)

Fig. 2.7



## 2. Structures and procedures

**Fig. 2.8** Total budget for bilat. S&T co-op of BiH, FYRo Macedonia, Montenegro and Romania (2001-2005)



### ***Budget for bilateral S&T co-operation between the SEE-ERA.NET countries in €***

Bilateral S&T co-operation between the different SEE-ERA.NET partner countries is highly varied, which is due to their different historical and cultural traditions, the impact of EU enlargement and the continuing process of “opening-up” towards the Balkans.

While in 2003 the focus of the bilateral S&T expenditure of **France** was Germany (€ 443,011), Hungary (€ 118,000) and Greece (€ 111,400), in 2004 bilateral S&T co-operation with Romania, a traditional cultural and economic partner of France in the SEE region increased significantly (€ 6,000). The level of support for co-operation almost reaches the level of support for co-operation in the previous year with Greece (€ 111,400) and Hungary (€ 118,000).

In 2004, **Germany** introduced the new instrument called Regional Call. The PPP instrument of the DAAD was extended. Furthermore, it is possible for foreign partners to participate in national research programmes, although generally only with limited funding support. In the framework of the traditional bilateral intergovernmental co-operation, Germany’s focus was Hungary (€ 330,000) in 2004.

Budget figures show that **Austria** aims at strengthening co-operation between researchers from the Central European region. It concentrates its bilateral S&T expenditure on Hungary (€ 100,000 in 2004), Slovenia and Croatia (€ 50-50,000 in 2004). Additionally, the Austrian Science and Research Liaison Offices (ASO-s) established in Ljubljana and Sofia also contribute –





with limited funding but more expertise – to supporting the scientific co-operation in Southeast Europe (in Ljubljana € 80,470, in Sofia € 53,530 in 2004) including Bulgaria, Romania and Slovenia as well as the Western Balkan countries.

The focus of bilateral S&T co-operation of **Greece** after 2001 gradually shifted to the SEE region. Support for bilateral S&T co-operation with France, Germany and Hungary significantly decreased – and according to the available figures, these relationships did not even receive any support in 2001 and 2003. However, co-operation involving significant expenditure started with Montenegro (€ 347,203 in 2004), Romania (€ 323,000 in 2003) and Albania (€ 321,615 in 2002), and the amount of support for co-operation with Slovenia (€ 330,000 in 2004) and Bulgaria (€ 180,000 in 2004) increased. The focus of support in 2005 was France (€ 300,000), Romania (€ 280,000) and Albania (€ 330,000).

**Hungary** has consciously and continuously expanded its traditionally good, several decades long bilateral S&T co-operations with EU member states to Slovenia and then Romania. This is supported by the increasing figures of expenditure in € between 2001-2004 (€ 40,000 with Slovenia, € 100,000 with Romania in 2004). From 2005, signing intergovernmental S&T agreements has opened the way for funds for co-operation with Croatia (€ 65,000) and Serbia and Montenegro (€ 50,000).

**Slovenia** has well-balanced relationships with both EU member states and SEE countries. The expenditure on bilateral S&T co-operation has been slowly but continuously increasing year by year. There has been a shift in relation to Croatia and Bosnia-Herzegovina in 2004, where expenditure for bilateral S&T relationships is 2-2.5 times

as high as the strongest figures for Slovenian-Hungarian co-operation<sup>28</sup>. It is also planned to strengthen co-operation with Serbia and Montenegro in 2005 (€ 122,000). In addition, Slovenia wishes to invest in co-operation with Austria (€ 40,000), with France (€ 87,500) and with Greece (€ 62,500) in 2005.

**Bulgaria** provides significant support for developing and institutionalising its bilateral S&T relationships in the region.

**Romania** invested the most in its bilateral S&T co-operations with France recently (€ 50,000 in 2004) and co-operation is slightly developing with Germany, Greece, and Hungary, and with Slovenia since 2003. It plans to start S&T co-operation with the other SEE countries in 2005.

The most significant S&T partner of **Croatia** is Slovenia. Co-operation expenditure in 2004 was € 110,700. Besides its Western European partners, bilateral S&T co-operation with Hungary (€ 105,000) and the FYRo Macedonia (€ 10,500) has started in 2005.

**Bosnia-Herzegovina's** only S&T partner is Slovenia (€ 80,000 in 2004).

**The FYRo Macedonia's** main partner in bilateral S&T co-operation is also Slovenia (€ 27,000 in 2004), but it also co-operates with France (€ 15,000 in 2004), Bulgaria (€ 12,000 in 2004), Germany (€ 12,000 in 2005) and since 2005 with Croatia (€ 23,000), and Serbia and Montenegro (€ 17,000) in the region.

**Montenegro** invested in bilateral S&T co-operation with France € 8,660 and with Slovenia € 8,471 in 2004. The co-operation with the other SEE-ERA.NET partners has started in 2005.

<sup>28</sup> Hungary – € 40,000, Croatia – € 107,900, Bosnia-Herzegovina – € 80,000 in 2004.

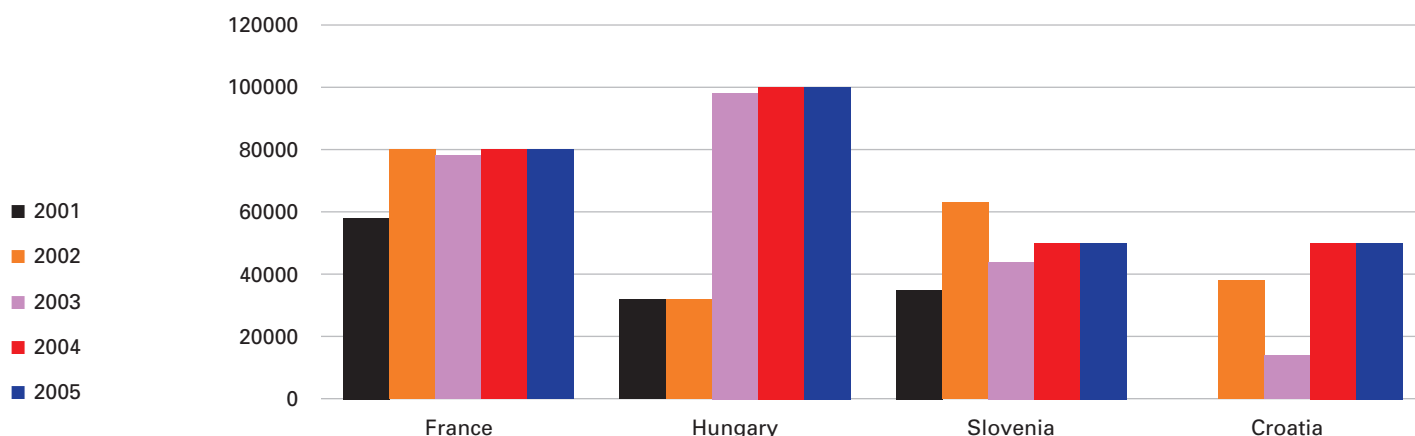
## 2. Structures and procedures

Considering the data from 2001-2004, the major bilateral partners of **CNRS** were German research institutes. After a decrease in 2002-2003, co-operation expenditure reached € 417,200 in 2004, and will even exceed that by about 20% in 2005 (€ 526,000). In addition to this, Bulgaria and Hungary (€ 70-70,000 in 2004) as well as Romania (€ 60,000 in 2004) also play a significant role in the Central European scientific co-operation of CNRS. Co-operation with Slovenia has been con-

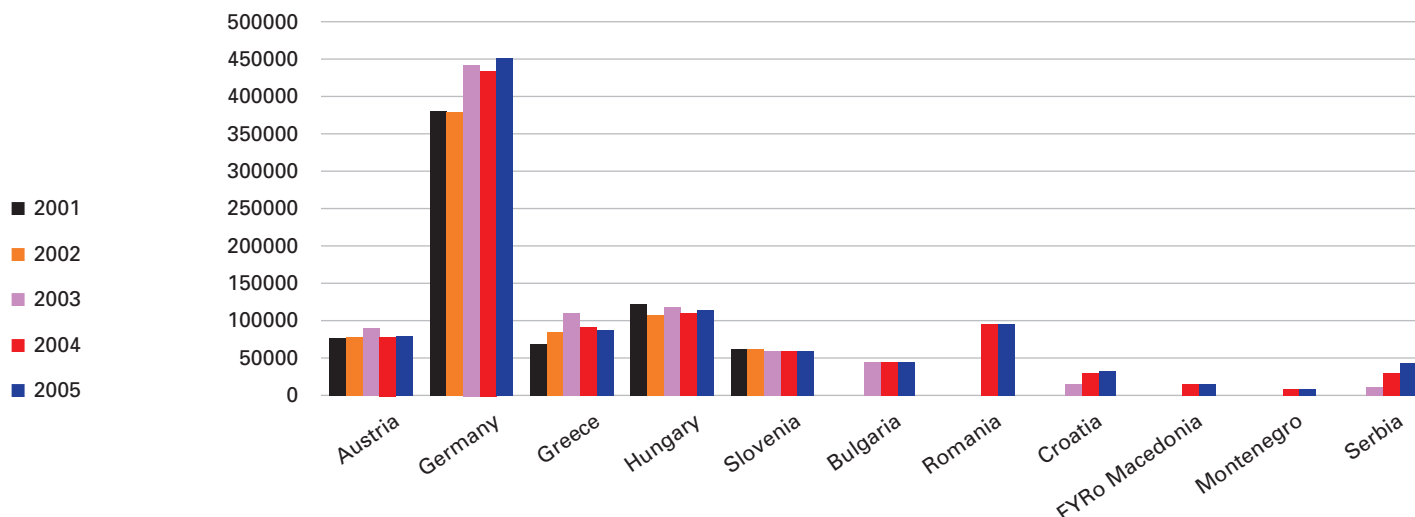
tinuously increasing (€ 20,000 in 2004) and in 2004 it also entered into co-operation with the Former Yugoslav Republic of Macedonia (€ 8,000).

Though not comprehensive, **Figures 2.9-2.15** illustrate the development of the bilateral S&T co-operation of some SEE-ERA.NET partners in figures.

**Fig. 2.9** Budget for bilateral S&T co-operation of Austria with the SEE-ERA.NET countries (2001-2005)



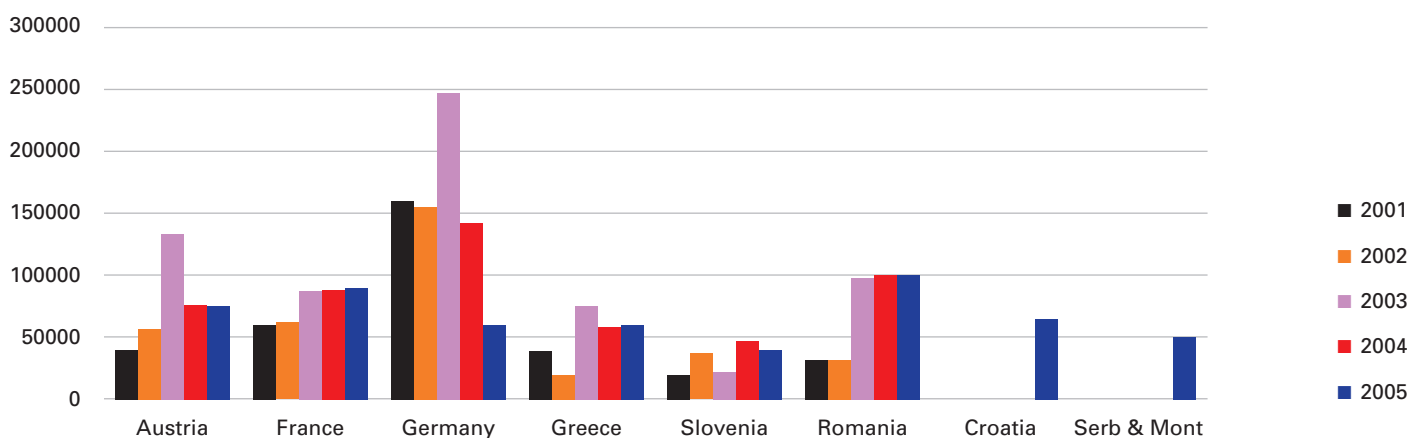
**Fig. 2.10** Budget for bilateral S&T co-operation of France with the SEE-ERA.NET countries (2001-2005)





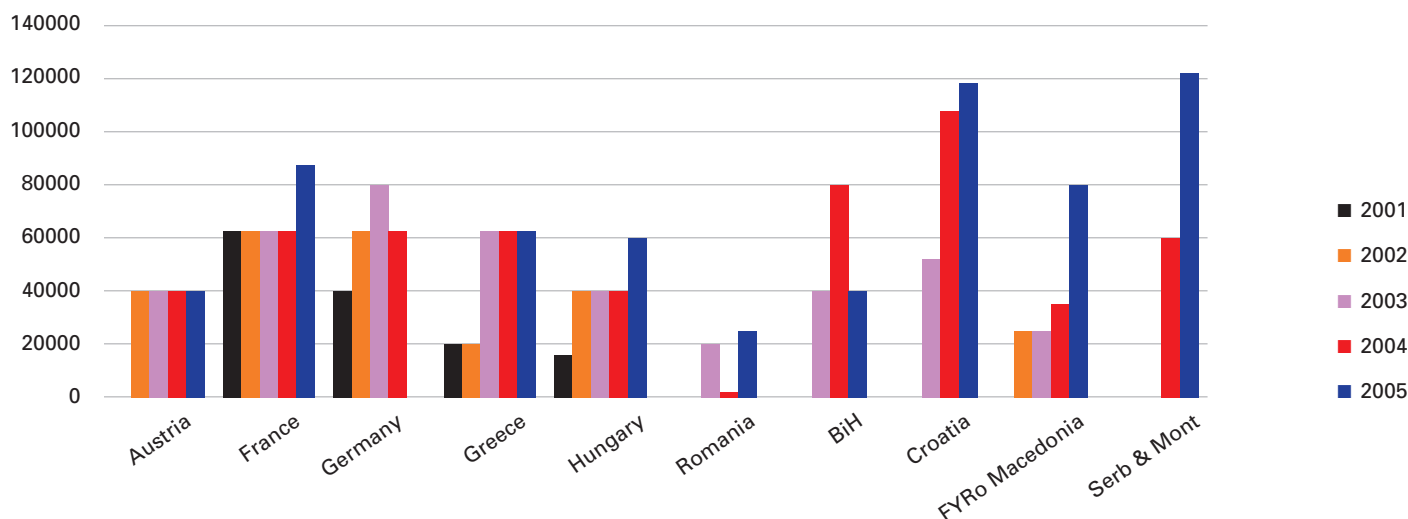
Budget for bilateral S&T co-operation of Hungary with the SEE-ERA.NET countries (2001-2005)

Fig. 2.11



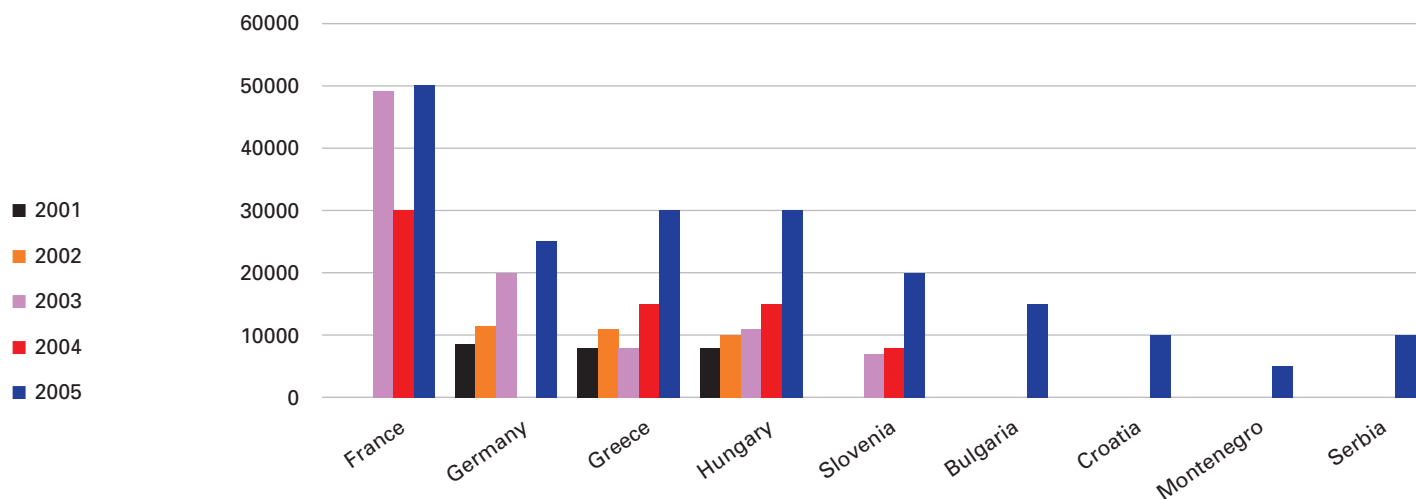
Budget for bilateral S&T co-operation of Slovenia with the SEE-ERA.NET countries (2001-2005)

Fig. 2.12

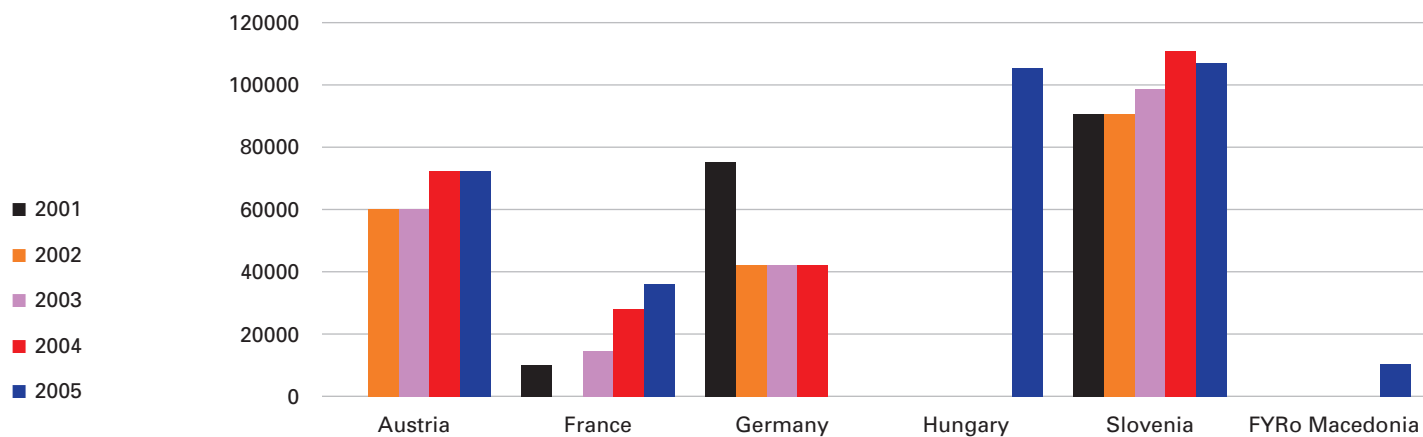


## 2. Structures and procedures

**Fig. 2.13** Budget for bilateral S&T co-operation of Romania with the SEE-ERA.NET countries (2001-2005)



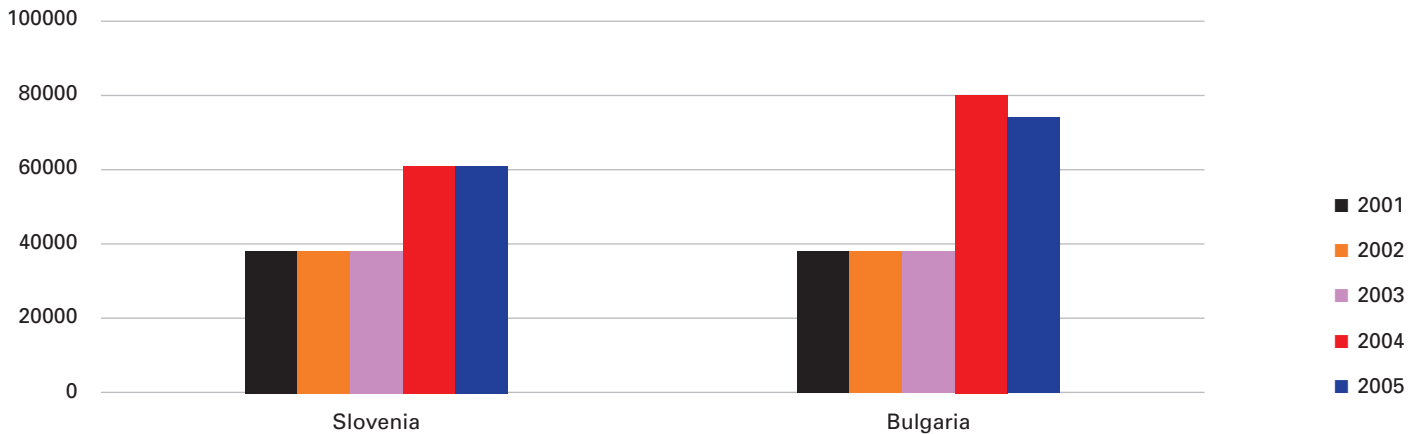
**Fig. 2.14** Budget for bilateral S&T co-operation of Croatia with the SEE-ERA.NET countries (2001-2005)





Budget for bilateral S&amp;T co-operation of ASO with Slovenia and Bulgaria (2001-2005)

Fig. 2.15



### **Number of projects with SEE-ERA.NET partner countries**

The number of bilateral projects or the changes in these figures within a certain period alone is not a full indication of the strength, development or decline of co-operation. It is because the volume and length of projects between individual countries are different. Projects may be 2-3-year long. In a certain year some projects finish and some others may start in the same year, resulting in a temporary increase in the number of projects. Some projects are of smaller volume, and their annual mobility needs are lower. In these projects, costs per projects are also lower and therefore more projects can be supported from the same budget. Other projects are bigger, need longer stays of researchers and therefore they are more expensive. Usually a starting co-operation is characterised by workshops for information exchange and a continuous process of initiating

projects, which means in the first few years there are relatively few projects (<10). In an advanced co-operation the number of projects may exceed 50, depending on their volume and the available budget.

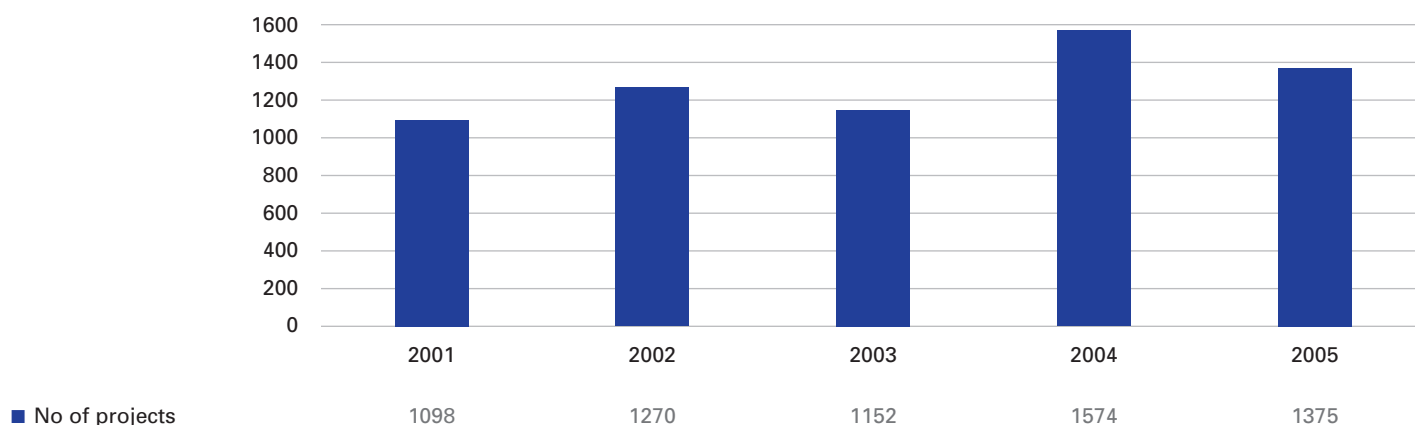
The argument above shows that it is not the changes in the number of projects but rather the expenditure figures mentioned in the previous section that are the real indicators for increasing interest in an area or region. Nevertheless **Figure 2.16** shows the development in the number of bilateral projects between SEE-ERA.NET countries in the period 2001-2005. Germany's Regional call is open; the number of the projects approved in 2005 cannot be given exactly at the time of writing. But if we estimate that this will reach at least the average number of projects in the last four years, then a dynamic development can be forecast.

## 2. Structures and procedures

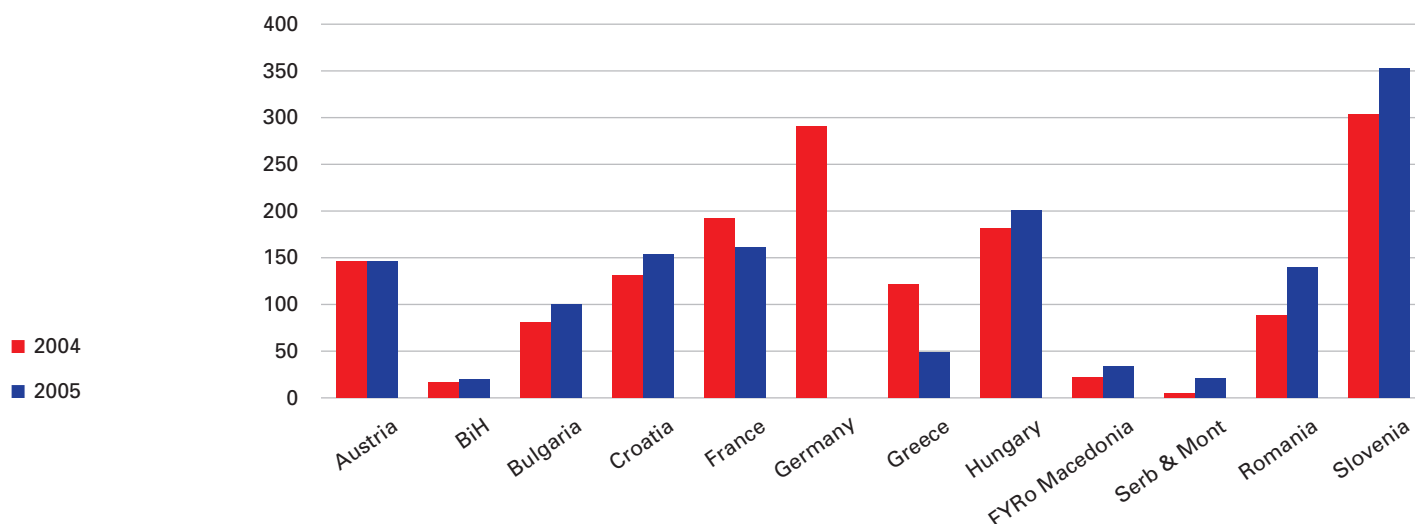
**Figure 2.17** illustrates, while **Table 2.18** summarises the number of projects between individual countries in 2004 and plans for 2005 in brackets. 2005 plans reveal that some projects running this year will increase the – so far unknown – number of new projects, which will be approved this year for launch next year.

The horizontal lines of the chart include project figures provided by the country specified in the first column. For example, Austria had 30 projects with Slovenia in 2004, while Slovenia reported only 24. In the case of Slovenia and Montenegro, the difference is due to the fact that Slovenia does not only co-operate with Montenegro but also with Serbia within the framework of the agreement concluded with Serbia and Montenegro.

**Fig. 2.16** Number of bilateral S&T projects of the SEE-ERA.NET countries (2001-2005)



**Fig. 2.17** Number of bilateral S&T projects between the SEE-ERA.NET countries (2004-2005)





**What is financed,  
what can be accounted for?**

In bilateral S&T projects all countries pay for the travel costs of their own researchers to the partner institution abroad, as well as the cost of mobility of international researchers in the country in the form of a daily or monthly allowance. The travel costs are calculated on the basis of the number of journeys requested by the researchers

Number of bilateral S&T projects between the SEE-ERA.NET countries in 2004 (and in 2005)

Table 2.18

	AUSTRIA	BOSNIA-HERZEGOVINA	BULGARIA	CROATIA	FRANCE	GERMANY	GREECE	HUNGARY	FYRo MACEDONIA	(SERBIA) MONTENEGRO	ROMANIA	SLOVENIA
AUSTRIA	-			30 (30)	40 (40)			46 (46)				30 (30+)
BOSNIA-HERZEGOVINA		-										17 (20)
BULGARIA			-		16	14	20 (-)		(9)		(13)	
CROATIA	24 (24)			-	11 (13)	14		- (30)	(7)	(-)	(-)	82 (79)
FRANCE	22 (19)		0 (16)	11 (13)	-	48 (58)	18 (16)	26 (22)	3	19	31	13 (17)
GERMANY (BMBF)		0	3	18	187	-	27	26	3	5	10	11
GREECE			12 (-)		18	20 (5)	-	24 (-)		25	(-) (22)	22 (-)
HUNGARY	42 (40)			(20)	38 (40)	43 (25+)	24 (25)	-		(15)	19 (20)	15 (15)
FYRo MACEDONIA			(9)	(7)	3	3			-	(7)		16 (18)
MONTENEGRO	(1)	(2)	(1)	(2)	1 (1)	(1)	(1)	(1)	(2)	-	(1)	4 (4+4)
ROMANIA			0 (13)	- (10)	32 (30)	0 (1)	25 (25)	20 (30)		(15)	-	11 (15)
SLOVENIA	24 (24)	39 (19)		83 (88)	29 (32)	22 (-)	21 (32)	16 (25)	16 (34)	41 (72)	11 (26)	-
ASO			4									7
CNRS	2 (3)		25 (26)			23 (33)	3 (5)	15 (15)	1 (1)		23 (24)	2 (3)
DAAD <sup>29</sup>	-/2	-/-	-/4	-/ - <sup>30</sup>	197/1		81/-	82/82	-/-	-/-	-/1	-/-

<sup>29</sup> Numbers are given for the project-based exchange of academics programme (PPP) for 2004 only (number of German participants going abroad / number of foreign participants coming to Germany).

<sup>30</sup> Croatia will participate in the PPP-programme from January 1<sup>st</sup> 2006.

## 2. Structures and procedures

and depends on the relationship between the countries. The daily allowance is calculated on the basis of the length of the journeys requested by the researchers (daily or monthly allowance). Usually the daily allowances should be in accordance with the national regulations but it also should be considered that the allowances provided by the two partners should ensure modest but, as far as is possible, the same level of subsistence for the researchers in both countries.

In countries where there is an intergovernmental healthcare agreement between the two countries, the recipient country provides free medical care for the foreign researchers in the case of accidents or sudden illness. However, it is rather difficult for a foreigner to use this opportunity, as dealing with formalities takes a lot of time from research. Therefore the researchers of some countries<sup>31</sup> can take out insurance for the total length of their mission abroad before travelling and they can include it in their costs.

As can be seen in Table 2.3, eligible costs of S&T projects (besides mobility costs) may differ from country to country.

Bulgaria specifies a lump sum for every project to finance project-related research costs and small infrastructure investments. In Germany, other types of costs beside mobility costs, e.g. for certain events pilot investigation infrastructure development and procuring consumables may also be supported.

In Greece, researchers can also claim support for equipment and consumables, and also for

publications. Researchers receive 80% of project costs in advance and 20% after submitting the final report.

The ASO-s reimburses travel costs, consumables and other costs (such as for publications, rental of meeting rooms, additional personal costs and other workshop costs), as well as laboratory costs (including a 10% overhead rate).

### **Legal implications**

In eight countries<sup>32</sup> the Ministries of Foreign Affairs prepare and sign bilateral S&T agreements with authorisation from their government. The Ministries of Foreign Affairs usually involve other ministries responsible for implementation in the preparation procedure. Generally, the agreements nowadays do not need ratification from the parliament. In the other four countries<sup>33</sup> the relevant ministries responsible for research sign the bilateral S&T agreements.

As mentioned in section 2.2, it is either a ministry or a government office that is in charge of implementation, or the ministry responsible for international S&T co-operation strategy and the special agencies carrying out operative tasks share this task.

The researchers working in a bilateral S&T project are free to decide about publishing articles or issuing patents. Otherwise, the national law for intellectual property right (IPR) is applicable, which is in the majority of the SEE-ERA.NET countries harmonised with EU regulations.

<sup>31</sup> France, Hungary

<sup>32</sup> Austria, Bosnia-Herzegovina, Bulgaria, France, Greece, Hungary, Montenegro, Romania

<sup>33</sup> Croatia, Germany, FYRo Macedonia, Slovenia





## 3. SWOT analysis of nationally funded S&T<sup>34</sup> co-operation programmes

### 3.1 Strengths, Weaknesses, Opportunities, Threats

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

The other objective of co-operation has been to “**bridge the gaps**” between the researcher communities of the two countries, establish references and strengthen international relationships –

preferably with little investment. Therefore, the partners cover only the research costs incurred in their countries and the two governments involved support the mobility of researchers. This is what is called **additive funding**, which is still a typical way of funding all bilateral S&T co-operation.

If the enlarged and still enlarging EU wishes to integrate not only the new member states, but their research and innovation potential as well, it has to learn about the **STRENGTHS** of bilateral S&T co-operation on which to build on. It also has to examine the already outdated principles and practices that constitute the **WEAKNESSES** of the existing relations, and which block and limit the expansion of the research co-operation and the development of larger-scale research projects.

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

<sup>34</sup> Each country co-ordinated a SWOT analysis on the bilateral programmes targeting Southeast Europe. This was supervised by the IVO PILAR Institute of Social Sciences.

### 3. SWOT analysis

#### Strengths

The **main strength** of bilateral S&T co-operation is still the same one that they were established for. Bilateral projects are **easy to establish, have low costs and involve only few risks**; their administration is quite simple.

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

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

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

#### Weaknesses

The funding model of mobility projects (restriction to personnel exchange only) has by now become one of the **weaknesses**. Especially long-term co-operation is hindered by the fact that this format **does not provide a budget for the research costs of bilateral research**.<sup>35</sup>

In the Central European countries, bilateral S&T relationships originally included natural science, engineering, medicine and agricultural sciences only. However, at the time of preparing for the EU accession economic projects analysing the impact of the integration also started. Spin-off companies established at universities were the first small businesses interested in bilateral co-operation, but **SME-s in the business sector are still the exception** in bilateral co-operation.

Bilateral projects in the fields of social sciences and humanities are under-developed in this framework.

<sup>35</sup> Greece and Germany are exceptions. Greece reimburses the research and mobility costs of its own researchers in approved research projects, but does not expect the same from its partners. Germany, while reducing traditional mobility projects, is developing the financing system of big bilateral projects. In these, in agreement with its partner country, it also finances research costs in selected topics.

page 45:

<sup>36</sup> E.g. TRICO programme between Austria, Italy and Slovenia

<sup>37</sup> ECO-NET programmes between French and a minimum of 2 other partners from CEEC, SEEC or New Independent States

<sup>38</sup> E.g. the projects: ESO-DENIS, EU INCO-Copernicus – PORIS, ESPRIT – HIPERLOGIC, EUREKA-RAMAPHOS etc.

<sup>39</sup> Bosnia-Herzegovina, FYRo Macedonia, Serbia and Montenegro, Albania

<sup>40</sup> This is especially true for agreements concluded by countries of the former Yugoslavia

<sup>41</sup> Austria, France, Romania, Slovenia



## Opportunities

**Networking** is a real **opportunity** for bilateral S&T relationships already established or being established now. We have already seen examples of bilateral relationships expanded to become trilateral ones<sup>36</sup>. But there are also examples of a developed EU member state strengthening its S&T co-operation with two other European countries in trilateral relationships already from the start<sup>37</sup>. During the preparation for EU accession, the framework of bilateral co-operation has provided and will provide opportunities for brokerage events. There are numerous European multilateral programmes in which new projects have been established<sup>38</sup> on the basis of bilateral co-operation, and this provides great perspectives for the multilateral co-operations of the European Research Area.

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

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

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

## Threats

The main threats in the SEE region<sup>39</sup> are the **instability of the region, limited mobility** due to the visa regime, **poor communication links** as well as undeveloped internal procedures. The countries have become impoverished because of the war, their infrastructure is underdeveloped and salaries are low. All this has led to the phenomenon called **brain drain**, where a loss of intellectual resources is experienced either in the form of a movement out of the region or internally towards the private sector.

This region also has difficulty in networking due to the **development and knowledge gap**, which includes lack of balance in mobility compared to well-developed countries. The transfer of knowledge is uni-directional; it is impossible to establish parity in financial matters and there are significant **differences in scientific policy** as well.

The development of bilateral relationships is also threatened by **political changes**. One of the reasons for this is that multilateral co-operation has been gaining ground, and the fear is that some countries (e.g. Germany) could terminate their bilateral S&T agreements. The other reason is the ever-changing political configuration of the partner countries, political turbulences, as a result of which the old agreements (may) become invalid<sup>40</sup>.

The new regulations, like intellectual property rights (IPR), have in many countries<sup>41</sup> very bureaucratic procedures and are very expensive.

### 3. SWOT analysis

## 3.2 Analysis of rating scales used in the SWOT guidelines

For a deeper insight into the strengths, weaknesses, opportunities and threats of ongoing bilateral S&T programmes and projects, various rating scales were used. These scales represent each country's perception of governments' facilitating co-operation with other countries, main stakeholders in this respect in strategic orientation and research priorities, as well as the perception of good practices in projects management, selection and evaluation procedures, and budget issues. However, it should be noted that this is a **subjective assessment**; it means a self-evaluation and should be interpreted as perceptions only.

What does the attractiveness of a country in terms of bilateral S&T co-operation depend on? The analysis provided an obvious answer to this question. **It is worth co-operating with countries that make every effort to facilitate the co-operation.** The political will and a signed agreement is not enough, a successful co-operation requires institutions and officers involved to work actively on developing and sustaining relationships relying on their ingenuity, initiative, helpfulness, and also by simplifying administrative procedures and making efforts to solve problems. As the SEE-ERA.NET countries see it, Slovenia, France, Germany and Austria are model countries in this respect.

One can initiate bilateral relationships on different levels, from individual initiative and institutional efforts to governments. The most efficient ones are those that are most compliant with the national research strategy, and use their resources for implementing this strategy. It is therefore no wonder that **policy makers are the most important stakeholders in launching bilateral**

**S&T co-operation.** The policy makers of the SEE-ERA.NET countries mainly strive to strengthen relationships with Slovenia, France, Hungary and Germany.

Germany, France and Slovenia are the favourite targets of the **co-operation efforts of scientific organisations.** The major research organisations from Germany (MPG, FhG, HGF, WGL)<sup>42</sup> and its institutions supporting research and international scientific co-operation (DFG, DAAD)<sup>43</sup> as well as CNRS, the stronghold of French research, were open to international scientific co-operation even in the most politically difficult times. Slovenia is the most developed country of ex-Yugoslavia in terms of both science and the economy, and it can easily and quickly build up relationships relying on its scientific organisations and universities and without language difficulties.

The **business enterprise sector** is the most interesting for France, Germany, Hungary, Austria, Slovenia and Greece. It must be noted, however, that only SEE-ERA.NET countries as well as SME-s and spin-off companies that are especially interested in bilateral S&T co-operation are included here. Germany, France, Hungary, Slovenia and Greece encourage the participation of these enterprises, as it increases the chances that utilisable research results are introduced in industry, agriculture, healthcare and commerce. The increased interest in Austria is a good sign to revise the opportunities to open up in this direction.

<sup>42</sup> MPG - Max Planck Society, FhG - Fraunhofer Society, HGF - Helmholtz Association

<sup>43</sup> DFG - German Research Foundation, DAAD - German Academic Exchange Service, WGL - Leibniz Association



The political motivation of each country is summarised in section 2.1. Using a scale of 1-7 for assessing the strength of **political motivations and strategic orientation** in a country, we have found that, at about an average score of 5, the most important strategic orientations in bilateral S&T co-operation is the representation of the country's own interest, which means the maximum use of domestic research potentials and human resource development. It must be taken into consideration, however, that this is the average of 12 countries, where the significance of these driving forces may be different in France, Romania, Germany or Bosnia-Herzegovina.

At an average of 4.5, the natural sciences are still the prevailing **priorities** in existing S&T bilateral co-operation, showing how important it is to transfer new knowledge in mathematics, physics, biology or biotechnology. They are followed by environmental protection, information technology, agriculture and medicine with a score of 3.5. Social sciences, economics and humanities (at 2.5) are not at the forefront of co-operation fields yet.

It is rather difficult to rank the **project management practices** of the countries and find best practices among them. This is because some countries were too critical in evaluating their own practices and others had a more optimistic self-assessment. It would only be possible to form a more objective judgement by comparing opinions of officers specialising in project management and researchers who are in everyday contact with the administration. To the question, for example, that the calls for bilateral S&T co-operation are adequately disseminated, that the level of communication and monitoring is effective, and that industrial participation is encouraged, only actors from the research and business sectors can give an adequate answer. Still, it is remarkable that Germany, Greece and Slovenia

give a score of 6.5 to their project management practice.

One of the basic criteria for submitting good applications is that it is obvious for applicants who can apply (eligibility), what materials have to be submitted in what form (completeness), and that the appropriate templates, checklists, information packages are available. In order to prepare high quality applications, applicants must be aware of how applications are evaluated and on the basis of what criteria the quality of applications is assessed. A **selection system** is considered excellent if having received the necessary information, a lot of applicants submit high quality applications.

Quite some of the countries<sup>44</sup> gave a score of 6-6.5 to their own selection procedure practice. It means plenty of information on evaluation procedures and evaluation criteria is published. As a result, well-elaborated and good quality applications are submitted and the selection system itself is objective and appropriate.

An **evaluation system** is appropriate, if there are a sufficient number of objective, independent and equitable evaluators and unambiguous criteria, which ensure objective evaluation, as well as standardised tools for the evaluation process. According to the self-assessment of Germany, Croatia, Greece and Austria, their evaluation procedure practices in the bilateral S&T co-operation are very good (6-7 scores). On the other hand, Romania, the Former Yugoslav Republic of Macedonia and Bosnia-Herzegovina still have a lot of difficulties in this area, and are very critical concerning their own procedures (3.5-4 scores).

A country has to consider several issues to be able to assess how good its **budget** and related

<sup>44</sup> Germany, Austria, Greece, Slovenia, Romania, Hungary

### 3. SWOT analysis

practices are in bilateral S&T practices. The issues include: is there sufficient funding, is all information on existing and additional funding sources accessible, are the administrative costs low, does the funding cover personnel costs, is the infrastructure and IT infrastructure adequate. It also has to be considered to what extent youth and women participate in co-operation, whether the staffs are adequately trained for successful co-operation, and whether the project has any international networking perspective. Although these questions are quite different, it is difficult to give an average of the answers given to them in a way to be able to draw conclusions on whether practices in a country supporting bilateral co-operation or supported in the framework of bilateral co-operation are good or not so good.

The SWOT analysis undertook this challenging task when calculating the average of answers given to different questions by different countries. Austria (6.5 scores), Greece (6 scores), Slovenia and Germany (5.5-6 scores) think there are enough resources available for bilateral S&T co-operation, and if necessary, further sources of financing can also be included. There is adequate infrastructure, IT infrastructure is well developed, the staffs are well trained and well paid, and there are no obstacles to the full development of proj-

ects. It was to be expected that budgetary perspectives are evaluated differently in Croatia, Montenegro, FYRo Macedonia (around 4 points) and in Bosnia-Herzegovina, where the score barely exceeds 3.

On the basis of evaluating the structures and processes of bilateral S&T programmes, the SEE-ERA.NET countries can be put in three categories regarding the participation and involvement in existing S&T co-operation:

- Austria, Germany, Hungary, France and Slovenia
- Bulgaria, Croatia, Greece and Romania
- Bosnia-Herzegovina, the Former Yugoslav Republic of Macedonia and Montenegro.

At the beginning of the Comparative Summary Report we promised to treat old and new EU member states, candidate countries and Western Balkan countries differently when analysing bilateral S&T co-operation, as they “started in different historical and political eras and consequently there have been significant differences in the political motivations and strategic orientations of bilateral co-operations”, which sometimes remain until today. The final conclusion of the SWOT analysis is only different in so far as we do not have to differentiate between old and new member states concerning the situation, function, conditions and procedures of S&T co-operation. According to the new classification, Greece seems to be an exception but it may be the result of a stronger self-criticism than in the other countries.



## 4. Conclusion

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The SEE-ERA.NET project focuses on S&T co-operation between the European Union, South-east European candidate and neighbouring countries. The starting point of the activity included mainly but not exclusively the programmes managed in the framework of bilateral inter-governmental S&T agreements existing between the SEE-ERA.NET partner countries. The conclusions concern this legal framework of S&T programmes but some thoughts will go beyond this.

### *The science policy environment*

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

The focus of the Western Balkan countries is on restructuring the scientific research sector, restructuring the traditional industrial sector, using international technology transfer for technology catch-up, the increased investment into science, and the mobilisation of research and innovation potentials for economic growth. The slow but continuous increase in the number of researchers is one of the guarantees for achieving these objectives. However, **R&D expenditure** – except for Austria, France and Germany – **is quite low** especially compared to the Barcelona objective of 3%.

The **bilateral S&T relationships** of the SEE-ERA.NET countries **represent a significant potential** and will therefore provide a substantial contribution to the establishment of the European Research Area.

The intergovernmental relationships provide a framework for S&T co-operation between individual institutions thus creating a **network of research capacity** that provides a stable basis for Integrated Projects, Networks of Excellence and eventually the completion of the European Research Area.

A new quality of international co-operation has been achieved by interlinking the national funding programmes of some countries. The ERA-NET-Scheme run by the EC offers a good opportunity for strengthening this co-operation.

## 4. Conclusion

### ***Bilateral S&T co-operation between SEE-ERA.NET partners***

The EU-Balkan countries Action Plan in S&T adopted at the Ministerial Conference in Thessalonica in 2003 resulted in **new initiatives, measures and programmes** in Austria, France, Germany, Greece, Slovenia and **new bilateral inter-governmental agreements have been or will be concluded** among EU member states, acceding and Western Balkan countries.

As well as utilising opportunities of the Union's opening to SEE countries, the **main driving force of the Western Balkan countries** for the development of bilateral co-operations with EU member states is **to reintegrate into the scientific "mainstream" of European countries** and **further the stabilisation of the Balkan region**.

### ***Management and financing practice***

Mobility projects are still needed today in addition to trying to achieve other concrete objectives. However, there is a need for larger-scale projects, where **the research costs are also supported as well as mobility costs**. That is, on top of the costs of travel and accommodation, they should also cover small infrastructure investments, publication, laboratory costs and overheads. There are examples of good practice in Germany, Greece, Slovenia, Bulgaria, FYRo Macedonia, Montenegro and Slovenia as well as in the ASO institutes.

The different bilateral S&T programmes can also contribute to solving the European paradox<sup>45</sup>. To achieve this, however, **SME-s need to participate** in bilateral programmes or even to initiate bilateral projects themselves in order to modernise their technologies. For this they should be provided support complying with the "de minis" criterion<sup>46</sup>.

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

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

### ***Evaluation practice***

The SEE-ERA.NET countries – with the exception of Austria and Greece – **do not undertake an ex-post evaluation of the projects finished**. It means that they do not check to what extent the intended objectives have been achieved, and where and how the results may be utilised. It implies that there are no conscious efforts to actually use the research results.

There are very few SEE-ERA.NET partner countries<sup>47</sup> that undertake **an ex-post evaluation of S&T co-operation programmes**, and on the basis of the lessons learned, change or modify some elements of their procedures, increase the supported co-operation forms or range of eligible participants.





### **Dissemination and public relations**

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

Greece is a good example for successful dissemination practices.

Bilateral mobility projects are often looked down on even in research circles because neither their benefits nor their results are **published**. Therefore, it would be advisable to issue an annual yearbook describing the bilateral S&T programmes of the country concerned and presenting the results (scientific articles, curricula, new procedures or technology, patents or possibilities of new EU co-operation projects etc.).

**To summarise** we can state that

- ▶ The main strength of the traditional mechanism of mobility projects between SEE-ERA.NET partners is that projects that produce **mutually utilisable results** for both countries and all participating institutions can be started with **low additional costs and risks**.
- ▶ The biggest weakness of these co-operations is the **limited access to project funding** in order to allow more substantial co-operation between the partners, as well as **evaluation, dissemination and publication of the results**. Therefore, we still often talk about “small mobility projects” in a belittling way and maybe, partly as a result of this, it is very difficult to obtain research support to apply the results in practice.
- ▶ The most significant opportunity for bilateral co-operation between SEE-ERA.NET partners lies in **networking**, which allows the expansion of the ERA to include SEE countries and contributes to breaking up the isolation of research communities in Southeast Europe by integrating the alternative isolated bilateral S&T initiatives into multilateral, jointly agreed activities with high synergetic impact.

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<sup>45</sup> In spite of possessing significant knowledge, Europe is rather bad at commercialising research results.

<sup>46</sup> This criterion defines the conditions and limit of state support that can be provided to an enterprise.

<sup>47</sup> Initiated by the French partner, the French-Hungarian bilateral intergovernmental S&T co-operation programme was evaluated in 1996.

# List of abbreviations

ASO	<i>Austrian Science and Research Liaison Offices</i>
AT	<i>Austria</i>
BG	<i>Bulgaria</i>
BiH	<i>Bosnia-Herzegovina</i>
BMBF	<i>Federal Ministry of Education and Research in Germany</i>
BMBWK	<i>Ministry of Education, Science and Culture in Austria</i>
CEA	<i>Commissariat à l'Énergie Atomique / Direction des Sciences de la Matière</i>
CEEC-S	<i>Central and East European Countries</i>
CERN	<i>European Organisation for Nuclear Research</i>
CNRS	<i>National Center for Scientific Research</i>
COST	<i>European Co-operation in the field of Science and Technology</i>
DAAD	<i>German Academic Exchange Service</i>
DG Research	<i>General Directorate for Research in the European Commission</i>
DE	<i>Germany</i>
DFG	<i>German Research Foundation</i>
EL	<i>Greece</i>
EMBC	<i>European Molecular Biology Conference</i>
ERA	<i>European Research Area</i>
ESF	<i>European Science Foundation</i>
EU	<i>European Union</i>
EUMETSAT	<i>European Organisation for the Exploitation of Meteorological Satellites</i>
FHG	<i>Fraunhofer Society</i>
FP3, FP4, FP5, FP6	<i>3<sup>rd</sup>, 4<sup>th</sup>, 5<sup>th</sup>, 6<sup>th</sup> RTD Framework Programme of the European Union</i>
FYRo Macedonia	<i>Former Yugoslav Republic of Macedonia</i>
GDP	<i>Gross Domestic Product</i>
GG	<i>Grundgesetz – Basic Constitutional Law in Germany</i>
GSRT	<i>General Secretariat of Research and Technology, Ministry of Development, Greece</i>
HGF	<i>Helmholtz Association</i>
HR	<i>Croatia</i>
IB-PT-DLR	<i>International Bureau of the Federal Ministry of Education and Research, Germany</i>
ICT	<i>Information and communication technologies</i>
IFREMER	<i>Institut Français de Recherche pour l'Exploitation de la Mer</i>
INRA	<i>Institut National de Recherche Agronomique</i>
IRD	<i>L'Institut de Recherche pour le Développement</i>
INSEEM	<i>National Health and Medical Research Institute</i>
INTAS	<i>The International Association for the Promotion of Co-operation with Scientists from the New Independent States (NIS) of the Former Soviet Union</i>
IT	<i>Information technology</i>
JC	<i>Joint Committee for R&amp;D co-operation</i>



MEC	<i>Ministry of Education and Research, Romania</i>
MOE	<i>Ministry of Foreign Affairs, France</i>
MON	<i>Ministry of Education and Science, Bulgaria</i>
MONMK	<i>Ministry of Education and Science, the Former Yugoslav Republic of Macedo-</i>
MPG	<i>Max Planck Society</i>
MPIN	<i>Ministry of Education and Science, Montenegro</i>
MSTP	<i>Science, Technology and Pedagogy Mission (Evaluation Department)</i> <i>of the Ministry of National Education, Secondary Education and Research, France</i>
MHEST	<i>Ministry of Higher Education, Science and Technology, Slovenia</i>
MVP	<i>Ministry of Foreign Affairs, Bosnia-Herzegovina</i>
MZOS	<i>Ministry of Science, Education and Sports, Croatia</i>
NATO	<i>North-Atlantic Treaty Organisation</i>
NCP	<i>National Contact Point</i>
NDP	<i>National Development Plan</i>
NET	<i>Network</i>
NIS	<i>New Independent States</i>
NKTH	<i>National Office of Research and Technology, Hungary</i>
NSF	<i>National Science Foundation</i>
OECD	<i>Organisation for Economic Co-operation and Development</i>
ÖAD	<i>Austrian Exchange Service</i>
PICS	<i>International Programs for Scientific Co-operation</i>
PPP	<i>Project related personnel exchange (programme of the DAAD)</i>
PRSP	<i>Poverty Reduction Strategy Paper (Bosnia-Herzegovina)</i>
R&D	<i>Research and Development</i>
R&D&I	<i>Research and Development and Innovation</i>
RO	<i>Romania</i>
RTD	<i>Research and technology development</i>
S&T	<i>Science and technology</i>
SEDS	<i>Strategy for the Economic Development of Slovenia 2001-2006</i>
SEE	<i>Southeast Europe</i>
SEEC-s	<i>South and East European Countries</i>
SI	<i>Slovenia</i>
SME	<i>Small and Medium Enterprise</i>
SPD	<i>Single Programming Document of Slovenia 2004-2006</i>
SWOT	<i>Strengths, Weaknesses, Opportunities, Threats</i>
WBC	<i>Western Balkan Countries</i>
WGL	<i>Leibniz Association</i>
ZSI	<i>Centre for Social Innovation</i>

## **ANNEX 1**



# The national research system of SEE-ERA.NET countries

*This Annex gives a short explanation about the science and technology policy of the SEE-ERA.NET partners, calls attention to the most important S&T indicators, and provides an overview of other international co-operations of these countries, which can be a good base for strengthening the foundation of the European Research Area.*

*One of the basic principles of establishing the ERA is to increase and improve the research capacities of the participating countries by intensified networking and thus creating a basis for the knowledge society. Other important criteria are the willingness and ability of the countries to increase R&D expenditure (towards 3% of GDP)<sup>48</sup>. The trust needed to implement all this, however, can only be established through stable international relationships.*

## A.1 Science and technology policy

### **What is the framework of science and technology policy of the country?**

In some countries, S&T policy is defined in the government programme (valid for a parliamentary period), in others national strategies are extending through several terms. In some of the EU countries, the National Development Plans summarise the political intentions and main priorities for all fields of the economy including R&D for a given period. In some of the countries there are numerous laws regulating activities and programmes in some preferential areas and in others there are relatively few. Below, we are going to summarise these in the order of member states, candidates and Western Balkan countries for easier comparison.

The 2002 “National Research and Innovation Plan” (“Nationaler Forschungs- und Innovationsplan” – NAFIP), which was revised in 2005 by the “Strategy 2010” (“Strategie 2010”) is the strategic plan for S&T in **Austria**. A major input to this strategy is the annual Research and Technology

Report (Forschungs- und Technologiebericht). These papers will be the basis of a “National Action Plan” that will be developed in the near future. The Austrian Council for Research and Technology Development co-ordinates the process. On the EU-level, achieving the aims of the Lisbon- and Barcelona-Strategies is still a priority objective.

The science and technology policy of **France** is supervised by the Ministry of Research (attached to the Ministry of National and Higher Education and Research) and implemented mainly by national institutions. These are public research organisations (e.g. CNRS, INRA, INSERM, IRD, IFREMER, INRIA), universities, public industrial and commercial organisations (e.g. CEA, CNES), foundations (e.g. Pasteur Institute, Curie Institute), and action funds, translated to a Funding Agency in 2005.

<sup>48</sup> European Commission: Communication from the Commission COM (2002) 499 of 11.09.2002: *More Research for Europe – towards 3% of GDP*

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The general framework of the science and technology policy of **Germany** is rooted in the Basic Law (Grundgesetz (GG)) of the Federal Republic of Germany. Under Article 91b of the Basic Law, the Federation and the Länder (states) may, pursuant to agreements, co-operate in educational planning and in the promotion of institutions and projects of scientific research of supra-national importance. This is in line with the Federal government's and the Länder government's joint responsibility for research. The substance and the forms of co-operation were laid down in detail in the "Skeleton Agreement between the Federal and Länder Governments on the Joint Promotion of Research Pursuant to Article 91 b of the Basic Law".

A complete description of the German research system and of the Federal Government's research policy is presented in the Report of the Federal Government on Research 2004<sup>49</sup>.

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

<sup>49</sup> [www.bmbf.de/pub/bufo2004.pdf](http://www.bmbf.de/pub/bufo2004.pdf)

Science and technology policy is defined in the 2002 Government Programme of **Hungary** as an increasingly important government tool to promote the development of the society and economy. One of the Operative Programmes of the National Development Plan (NFT) adopted for the period 2004-2006 is the Economic Competitiveness Operative Programme (GVOP), which focuses on R&D and innovation along with further important topics like information society, investment incentives and SME promotion.

In **Slovenia** the Ministry of Higher Education, Science and Technology is responsible for overall scientific and research policy which is based on the Research and Development Activities Act adopted in 2002. In this respect, two agencies were established: one for scientific research in 2003: "Slovenian Research Agency" and one for technology development in 2004: "Slovenian Technology Agency". The National Research and Development Programme 2006-2010, which is currently in the preparation phase, defines the main strategic aims and priorities of S&T policy in Slovenia.

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

In **Romania**, the Ministry of Education and Research is the specialised body of the central public administration responsible for the overall



S&T policy. In this respect, the main research programme is the National Plan for Research, Development and Innovation (recently extended from 2001 until 2006), comprising 14 specific programmes structured on areas of activity with externalised management. In 2003, two additional instruments have been introduced: the Core R&D Programmes (2003-2005) for funding of the projects carried out by the National R&D Institutes and the Sectoral R&D Plans (2004-2005) co-ordinated by different ministries, aiming at the improvement of the R&D activities by creating synergies between the scientific community, economic community and the civil society. In order to have a complete image of the financing instruments, the following ongoing programmes must be mentioned: the "Research of Excellence" Programme (2005-2008), the R&D Grants Programme (2001-2005), the INFRATECH Programme (2004-2007) and the SECURITY Programme (2004-2006).

The next National Plan for R&D (2007-2013) is under preparation as a sectoral project and is co-ordinated by the National Council for Scientific Research in Higher Education.

The legislative framework for the research system is based on two reference laws: Law 324/2003 concerning scientific research and technological development and Law 319/2003 concerning the status of the R&D personnel.

The 1990s brought both war and independence to **Bosnia-Herzegovina**. The war had a disastrous effect on the scientific institutions and higher education. Funding was all but cut-off, infrastructure could not be maintained, and scientific and international co-operation projects could not be sustained. The war caused many of the best scientific minds to leave the country. Since 1995 the international community, which supervises the reconstruction and recuperation of Bosnia-Herzegovina has its priorities. Unfortunately,

these did not include the sector of science, research and technology.

The main strategy in the research sector in Bosnia-Herzegovina is to reach the pre-war research expenditure, which was 1,5% of the GDP. In the period of 2000-2010 the strategy of economic and social development of the country foresees the structural reconstruction of the industry, development of the innovation model of economic growth, strengthening of Bosnia-Herzegovina as a country with high technologies. The strategic guidelines and plan of actions are laid down in the following documents:

- Strategy of Economic Development of Bosnia-Herzegovina (1966)
- Global Bosnia-Herzegovina Economic Strategy Framework 2000-2004
- Bosnia-Herzegovina Medium Term Development Strategy 2004-2007 / PRSP – Poverty Reduction Strategy Paper (adopted in April 2004)
- Policy, Strategy and Action Plan of the Information Society of Bosnia-Herzegovina for the period 2004-2010 (adopted by Council of Ministers of Bosnia-Herzegovina in November 2004)

Since July 2003, the national science policy of **Croatia** has been based on the concepts from the Strategy of Development of the Republic of Croatia in the 21<sup>st</sup> Century – Science adopted by the Government and the Parliament of the Republic of Croatia. A strategic document called National Science and Technological Development Policy is now in its final phase and will be sent for discussion to the National Council for Science. The document contains priority areas for the development of the Croatian research system and envisages a new model for financing scientific projects. The technology policy is formulated in the Croatian Programme for Innovative Technologi-

## Annex 1

cal Development (HITRA), adopted by the Government of the Republic of Croatia on April 5, 2001.

In accordance with Article 7 of the Constitution of the **Former Yugoslav Republic of Macedonia**, the state is committed to fostering and supporting scientific research, as well as technological development. Article 6 of the law on the Scientific Research Activity contains a clear definition of the public interest related to scientific research activities: inviolability and human right protection. Also, this law determines the research activities aimed at raising the level of excellence and creativity, world knowledge transfer, including the domains of defence and security and promotion of human research resources and infrastructure.

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

### ***What are the main priorities of the science and technology policy?***

The document "Strategy 2010" addresses the main focus points of science and technology policy in **Austria**:

- Improvement of the conditions for university-based research and education,
- Strengthening of the innovation potential of industry,
- Increased co-operation between the research and business/industry communities,
- Stressing excellence and quality in research, making research internationally more competitive,

- Internationalisation,
- Developing strategies for regional S&T activities,
- Improving human resources (e.g. more female researchers, improvements in the higher education system, higher mobility),
- Development of strategies for the S&T administration in order to better support the dynamics of the innovation process,
- Development of lean and efficient structures for the management of research funding programmes; including monitoring and evaluation instruments,
- Funding should be increased to reach the Lisbon goals.

The main priorities of science and technology policy in **France** are:

- Improving human knowledge (basic research and higher education),
- Fostering innovation (applied research).

The document "Education, Research, Innovation – Shaping our Future: Education and Research Policy Priorities of the Federal Ministry of Education and Research (BMBF) in the 15<sup>th</sup> Legislative Period" contains the following priorities of research policy in **Germany**:

- Promoting and challenging talent – achieving equal opportunity,
- Modernising education and research structures – promoting quality for international competition,
- Promoting technologies for new markets – creating jobs with a future,
- Research for people and the environment – shaping a future truly worth living,





- Strengthening centres of growth – moving eastern Germany ahead through education, research and innovation<sup>50</sup>.

The strategic objective of **Greece's** economy is to converge with other European countries in terms of competitiveness. Greece's economy needs to reinforce its productive capabilities and base its competitiveness on three pillars of innovation/technological upgrading, business initiative and employment. The weaknesses of the productive system are reflected more intensely in the picture of the country's Research and Technology base. The research system is characterised by serious imbalances in relation to the contribution of various funding agencies. The public effort in the field of S&T is fragmented, the provision of technological services to companies are exceptionally inadequate. The level of recognition of the importance of new technology and the potential it offers for the reconstitution of the economy and society remains far below what is needed. Within that framework, a special objective of quality-orientated competitiveness in the research sector is to encourage the creation of new business activities and to assist the creation of new competitive advantages based on cohesive technical and economic networks.

The Economic Competitiveness Operative Programme (GVOP) of the National Development Plan (NFT) in **Hungary** has five priorities (sub-programmes):

- Investment promotion,
- Development of SME-s,
- R&D and innovation,
- Development of the information society and e-economy,
- Technical assistance.

<sup>50</sup> See "Report of the Federal Government on Research 2004" ([www.bmbf.de/pub/bufo2004.pdf](http://www.bmbf.de/pub/bufo2004.pdf)) and, for example, "Winning ideas" (BMBF 2005/ [www.bmbf.de/pub/winning\\_ideas.pdf](http://www.bmbf.de/pub/winning_ideas.pdf)).

All existing and planned R&D and innovation actions are organised in three measures:

- Support of application-oriented co-operative research and technology development activities,
- Improvement of the conditions of research, technology transfer and co-operation at publicly financed and non-profit research facilities,
- Reinforcement of corporate R&D capacities and innovation skill.

Research priorities in **Slovenia** reflect the areas, which present the highest potential for the increasing of the competitiveness of Slovenian economy, and should contribute to improvement of quality of life of citizens. The research priorities are:

- Information and communication technologies,
- Research in biotechnology and pharmacy,
- Advanced materials and nano-technologies,
- Complex systems and management of technological processes,
- Technologies for sustainable development,
- Social cohesion,
- Natural and cultural heritage, national identity,

In **Bulgaria** National Strategies have been elaborated and adopted:

- National Strategy on scientific research where the main priorities are set in the field of science and research,
- Development of Small and Medium Sized Enterprises,
- Development of Energy and Energy Efficiency,
- Electronic Government,
- Development of Information society,
- Development of High Technologies,
- National Research programmes are launched with the Decision of the Council of Ministers 15 /09.01.2003: "Genomics", "Information society", "Nanotechnologies and new



## Annex 1

materials”, “Bulgarian Society – part of Europe”, “Foresight”, “New and renewable energy sources”, “Research in small and medium sized enterprises”.

The main priorities and strategic objectives of the S&T policy in **Romania** for the next period of 2005-2008 are the following:

- Development of the national capacity of absorption and diffusion for advanced technologies,
- Enhancement of capacities and competitiveness for the research system,
- Stimulation of R&D and innovation activities in the economical environment,
- Development of R&D and innovation activities and infrastructures on regional level,
- Increase of the Romania’s capacity of integration in the ERA.

The most urgent tasks in **Bosnia-Herzegovina** that need to be done in order to solve the problems caused by the war in the 1990s in the field of S&T can be summarised as follows:

- Reconstruction and building up the research infrastructure,
- Strengthening the R&D co-operation inside the country, within the region and with international partners,
- Establishment and implementation of S&T policy and R&D strategy on state level including decision making, priority setting, legal provisions, network of research institutions, human resource development, revitalisation of research capacities, investment in education and high level training of young researchers and scientists,
- Supporting R&D co-operation in the field of environment, energy efficiency, agriculture and food processing, public health, industrial technologies for the reconstruction of the country.

In the coming period of reconstruction and development of industry in Bosnia-Herzegovina, applied research should be the most important orientation of scientific and research activities in the following areas:

- Electric power industry,
- Information and communication industry,
- Food industry,
- Wood-working and wood-pulp industry,
- Mining and ferrous metallurgy,
- Machine-building and metal working,
- Chemical and petrochemical industry.

The long-term goals of research and technology in **Croatia** are as follows:

- Restructuring the scientific research sector,
- Increased investment into science in order to achieve a goal of 3% of GDP,
- Financial diversification i.e. more intensive integration of the economic and private sectors into financing science,
- Regional diversification of research activity,
- Optimal use of scientific research through international co-operation.

Within the above-mentioned Croatian Program for Innovative Technological Development (HITRA), the Ministry of Science, Education and Sports and the Central Bureau of Statistics will initiate an adjustment and elaboration of indicators for innovation statistics. The long-term priorities of HITRA are as follows:

- Mobilisation of research and innovation potentials and human resources for economic growth and social welfare,
- Restructuring the traditional industrial sector towards the sector based on science and technology with higher productivity and profit gains,
- Exploitation of national knowledge-base for international competitiveness (“bridging a gap”),



- Using international technology transfer for technology catch-up,
- Stimulating employment of skilled and educated labour force in order to achieve a shift in economic structure,
- Increasing public awareness on the role of science and technology for economic development.

In the field of R&D in the **Former Yugoslav Republic of Macedonia**, the main priorities are as follows:

- Further development of the academic research network,
- Renovation of the research equipment,
- Stimulation of the promoting new research and development units within the economy,
- Systematic and continuous supply of foreign reference literature and providing access to electronic scientific data bases,
- Upgrading the library information system,
- Strengthening the present technology development capacities,
- Establishment of new technology transfer centres in a view of more efficient integration of research and business entities,
- Providing favourable working conditions for the research entities with unacceptable conditions.

The main priorities of the science policy in **Montenegro** are as follows:

- Increasing and achieving stability in financing the existing research potential, paying special attention to the University of Montenegro,
- Professional assessment of research groups,
- Modernisation of research equipment and other infrastructure,
- Increase international co-operation in science,
- More people with higher education per capita,
- Increasing post-graduate education of junior researchers with emphasis on PhD students,
- Providing of scientific publications and participation on meetings.

***Do you have any legislation in the field of S&T?***

**Table A.1** lists the most important laws adopted in the SEE-ERA.NET countries regarding science and technology.

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**Table A.1** Laws of the SEE-ERA.NET countries regarding S&T

COUNTRY	LAW	REMARKS
AUSTRIA	Research Organisation Act (Forschungsorganisationsgesetzes – FOG (BGB1. Nr. 341/1981; amended 2004)	
	Research and Technology Funding Act (Forschungs- und Technologieförderungsgesetzes – FTFG (BGB1. Nr. 434/1982, amended 2004))	
	Law on RTD statistics (Verordnung der Bundesministerin für Bildung, Wissenschaft und Kultur, des Bundesministers für Verkehr, Innovation und Technologie und des Bundesministers für Wirtschaft und Arbeit über Statistiken betreffend Forschung und experimentelle Entwicklung (F&E-Statistik-Verordnung; BGB1. II Nr. 396/2003)	
BOSNIA-HERZEGOVINA	The Law on Freedom of Access to Information (Official Gazette of Bosnia-Herzegovina 28/00)	
	The Law on the Central Database and Exchange of Information (Official Gazette of Bosnia-Herzegovina 32/01)	
	The Law on Establishment of the Institute for Standards, Metrology and Intellectual Property (Official Gazette of Bosnia-Herzegovina 19/01)	
		The law concerning science has not yet been adopted. The Framework Law on Science is being drafted at the state level.
BULGARIA	Law on Encouraging Scientific Activities	It foresees measures for promoting strategic programmes and projects as well as specific research activities
CROATIA	Law on Scientific Activity and Higher Education adopted by the Croatian Parliament on 17 July 2003 (Official Gazette of the Republic of Croatia 123/03)	It stipulates the systems of scientific activity i.e. scientific research and development, higher education.
	Law on Croatian Academy of Arts and Sciences (Official Gazette 34/91, 43/96, 159/02)	
	Law on the National Foundation for Science, Higher Education and Technology Development of the Republic of Croatia (Official Gazette 117/00)	



COUNTRY	LAW	REMARKS
FRANCE	RTD orientation and planning Act, 15/07/1982	It defines the frame of public S&T organisations.
	Higher Education Act, 26/01/1984	It defines universities as scientific, cultural and professional public institutions.
	Research and innovation Act, 12/07/1989	
		Research orientation and planning Act will create officially the national Research Funding Agency in 2006
GERMANY	Basic Law (Grundgesetz GG) of the Federal Republic of Germany. Due to the federal system, the Basic Law provides regulations e.g. about the different responsibilities of the Federation (Bund) and the States (Länder) within the scope of science and technology policy in Germany (Article 91 a and b GG).	Beside the regulations in the Basic Law with regard to research and the "Skeleton Agreement between the Federal and Länder Governments on the Joint Promotion of Research". There is no specific legal act for S&T, and there are no plans for installing one.
GREECE	Law 1514 "on the development of the scientific and technological research" set up 1985. The most recent version of the Law 1514 is the L2919 of 2001.	The major tasks are: <ul style="list-style-type: none"> <li>■ To define precisely the general targets and priorities of scientific and technological research,</li> <li>■ To activate the appropriate mechanisms and to mobilise available human resources,</li> <li>■ To support and co-ordinate the R&amp;T activities of the public and private sectors.</li> </ul>
	Law 2919/2001 Linking research and technology to production	It attempts to re-orient the aims and operation of research bodies, so that the target of linking research to production is better served
HUNGARY	Act No. XC year 2003 on the Research and Technology Innovation Fund approved by the Hungarian Parliament on November 10, 2003	It provides stable and reliable financing for competitiveness oriented research, development and innovation activities.
	Act No. CXXXIV year 2004 on Research and Technology Innovation approved by the Hungarian Parliament	The major policy tasks are: <ul style="list-style-type: none"> <li>■ Increasing the R&amp;D expenditures in Hungary,</li> <li>■ Strengthening the knowledge base and R&amp;D infrastructure,</li> </ul>

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Table A.1 continued from page 63

COUNTRY	LAW	REMARKS
HUNGARY (CONT.)		<ul style="list-style-type: none"> <li>■ Development of the human resources for research, development and innovation,</li> <li>■ Creating a new quality of knowledge driven co-operation and networking between public, non-profit and private organisations,</li> <li>■ The utilisation of intellectual property.</li> </ul>
	Law No. XL of 1994 on Hungarian Academy of Sciences (MTA)	In accordance with this Law, the Hungarian Academy of Sciences is an autonomous public body based on the principle of self-governance.
	Laws No. XXII of 1993 and No. CXXXVI of 1997 on National Scientific Research Fund (OTKA)	The mission of the OTKA is to support basic research, development of R&D infrastructure and scientific work of young researchers.
FYRo MACEDONIA	Law on Scientific Research ("Official Gazette of the Republic of Macedonia", no 13/96 and 29/02)	It regulates the system, the principles, the public interest, the forms of organisation and management of research.
	Law on Macedonian Academy of Sciences and Arts ("Official Gazette of the Republic of Macedonia", no. 13/96)	It defines the Academy as highest autonomous scientific and art institutions in the FYRo Macedonia.
	Law on stimulation and facilitation of the Technological Development ("Official Gazette of the Republic of Macedonia", no. 98/00)	It regulates the stimulation and facilitation of the technological development, programming and financing the related activities.
MONTENEGRO	Law on Scientific Research Activities adopted August 3, 1992 (Official Gazette 37/1992)	
ROMANIA	Law 51/1996 for approval of the Governmental Ordinance No 25/1995 concerning organisation and financing of the R&D activity	It regulates the organisation and financing system of the R&D activities.
	Law 324/2003 for approval of the Governmental Ordinance No 57/2002 on scientific research and technological development	It regulates the national system of scientific research and technological development.
	Law No 319/2003 concerning the status of the R&D personnel	It regulates the legislative status of the R&D personnel as concerns the role, competencies, rights and obligations, employment and promotion issues.
SLOVENIA	Research and Development Activities Act (Official Gazette of RS no. 96/02)	Two agencies were also established, one for scientific research in 2003: "Slovenian Research Agency" and one for technology development in 2004: "Slovenian Technology Agency".



The most important participants in international S&T co-operation are mainly the public and private research institutions and the universities. The number of researchers of a country as well as available financial resources to a high degree determines the potential of international S&T relationships. Therefore, among the science and technology indicators here we only focus on three indicators without analysing their size, their relation to each other or to the EU average, or their changes<sup>51</sup>. These indicators are the human resources in R&D and the R&D expenditure between 2001-2004.

#### Human resources in R&D (2001-2004)

Table A.2 shows the changes in the R&D capacity of SEE-ERA.NET countries between 2001-2004.

Human resources in R&D of the other SEE-ERA.NET countries (2001-2004)

Table A.2

COUNTRY	2001	2002	2003	2004
AUSTRIA	n.a	39557	n.a	n.a
BOSNIA-HERZEGOVINA <sup>52</sup>	n.a	n.a	n.a	n.a
BULGARIA	14949	15029	15453	n.a
CROATIA	6656	8572	5861	n.a
FRANCE	329747	339847	n.a	n.a
GERMANY	480606	480004	480550	n.a
GREECE	55626	n.a	n.a	n.a
HUNGARY	22942	23703	23311	21959
FYRo MACEDONIA	2909	2869	2589	n.a
MONTENEGRO	853	855	860	870
ROMANIA	32639	32799	33077	n.a
SLOVENIA	8062	8501	8718	n.a

Source: Members of the Steering Board of the SEE-ERA.NET countries on the basis of their National Statistical Office or other responsible institution

<sup>51</sup> Detailed statistic analysis can be found concerning member states and candidate countries in the following documents: <http://europa.eu.net/comm/research>

European Commission: "Towards a European Research Area, Science, Technology and Innovation. Key Figures 2002"  
European Commission: "2004 European Innovation Scoreboard"  
European Commission: "Trendchart Innovation Policy in Europe"

<sup>52</sup> In 2005 the Federal Agency for Statistics has begun a project to collect and monitor data in the area of science and technology in Bosnia-Herzegovina

## Annex 1

## A.2 Main science and technology indicators (2001-2004)

### R&D expenditure

**Table A.3** summarises the R&D expenditure of SEE-ERA-ET countries in million € and **Table A.4** shows it in % of the GDP between 2001-2004.

**Table A.3** Gross domestic expenditure on R&D of the SEE-ERA.NET countries in million € (2001-2004)

COUNTRY	2001	2002	2003	2004
AUSTRIA	4393.09	4684.31	4974.68	5346.08
BOSNIA-HERZEGOVINA	n.a	n.a	n.a	n.a
BULGARIA	58.36	70.16	-	n.a
CROATIA	241	269	288	n.a
FRANCE	32887	34527	34122	35600
GERMANY	52002	53364 (estimated)	54310	n.a
GREECE	851.5	n.a	n.a	n.a
HUNGARY	140.6	171.5	175.8	179.2
FYRo MACEDONIA	12.08	10.33	9.24	n.a
MONTENEGRO	n.a	n.a	n.a	n.a
ROMANIA	184	191.5	198	n.a
SLOVENIA	338.16	354.48	373.33	n.a

Source: Members of the Steering Board of the SEE-ERA.NET countries on the basis of their National Statistical Office

**Table A.4** Gross domestic expenditure on R&D of the SEE-ERA.NET countries in % of the GDP (2001-2004)

COUNTRY	2001	2002	2003	2004
AUSTRIA	2.04	2.12	2.2	2.27
BOSNIA-HERZEGOVINA	n.a	n.a	n.a	n.a
BULGARIA	0.47	0.49	0.5	n.a
CROATIA	1.07	1.12	1.14	n.a
FRANCE	2.23	2.26	2.19	2.2
GERMANY	2.51	2,53 (estimated)	2,55 (estimated)	n.a
GREECE	0.65	n.a	n.a	n.a
HUNGARY	0.94	1.01	0.95	0.88
FYRo MACEDONIA	0.32	0.26	0.22	n.a
MONTENEGRO	n.a	n.a	n.a	n.a
ROMANIA	0.39	0.38	0.4	n.a
SLOVENIA	1.56	1.53	1.53	n.a

Source: Members of the Steering Board of the SEE-ERA.NET countries on the basis of their National Statistical Office or other responsible institution





## A.3 International S&T co-operation

### **Bilateral S&T co-operation**

The SEE-ERA.NET countries have concluded a total of 392 bilateral S&T agreements with the countries of Europe, America, Asia (the Middle and Far East) and Africa (Fig A.5). 58.7% of these have been concluded with European countries including EU member states and so called third countries such as Russia, Ukraine, Byelorussia and Georgia. The fact that the growing ERA is opening up for the East is well reflected in the significant number of agreements concluded

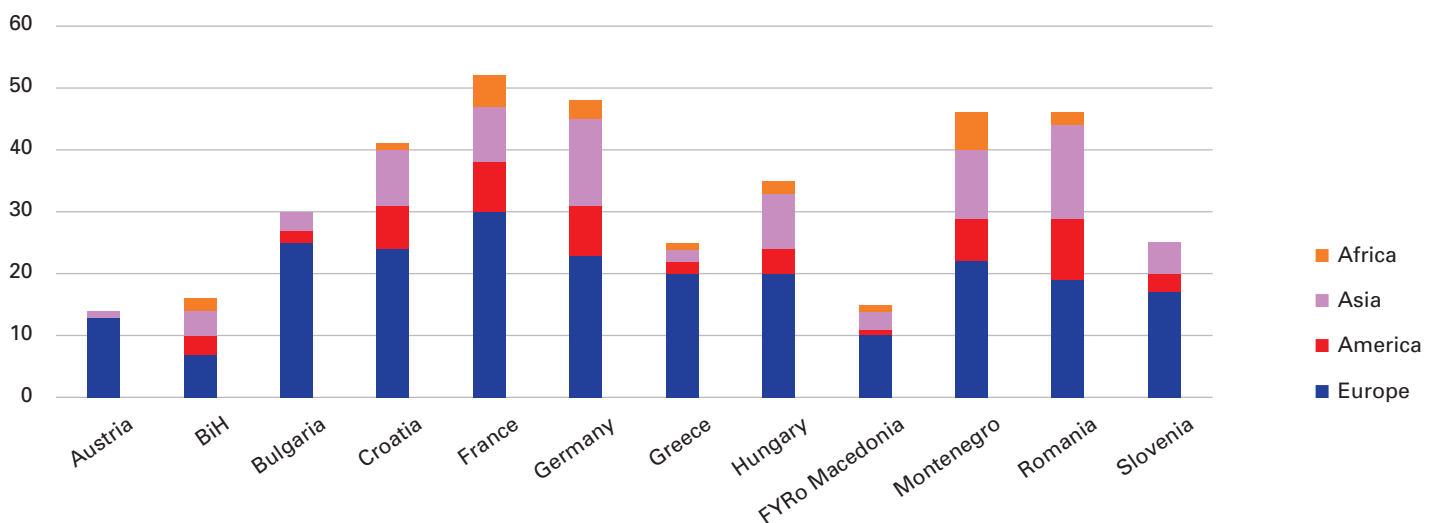
with the New Independent States (NIS) and Asian countries, which is 21.7% of all agreements. Mainly there are functioning relationships with Japan, China, India and Malaysia. In the American continent the main partner is the USA but there are also agreements with Canada, Mexico, Brazil and Argentina and in the African continent there are agreements with the South-African Republic and Egypt (Fig A.6)

Besides having relationships with their neighbours, Croatia, Germany, Hungary, Slovenia, Montenegro and Romania make efforts to have well-balanced relationships in Asia, America and Africa; one of the target areas of the institutional development of bilateral S&T co-operation is still Europe. 20 of the 41 planned new co-operation agreements will be concluded here (Fig A.7).



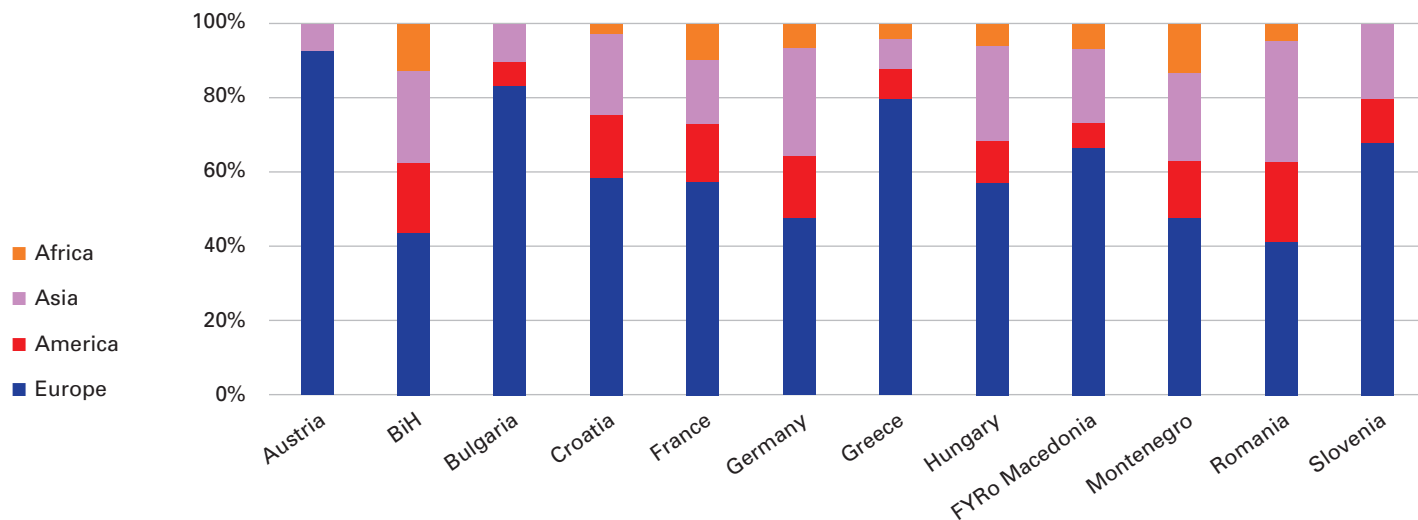
Bilateral S&T agreements of the SEE-ERA.NET countries

Fig. A.5

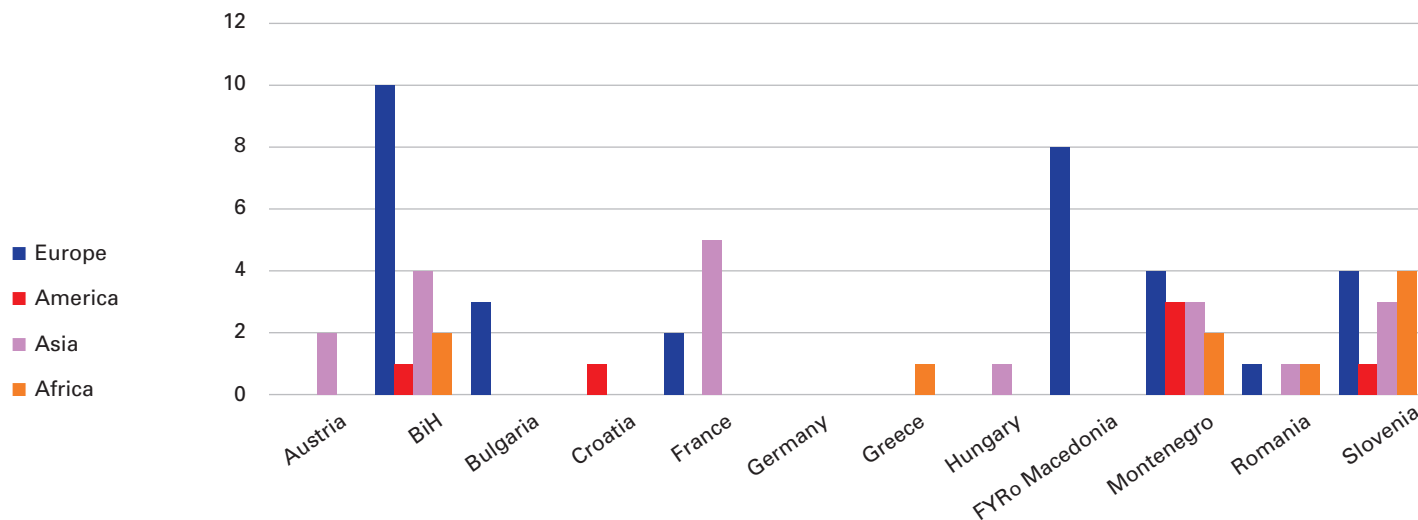


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**Fig. A.6** Bilateral S&T agreements of the SEE-ERA.NET countries (%)



**Fig. A.7** Bilateral S&T agreements planned by the SEE-ERA.NET countries





**Multilateral S&T co-operation**

**Table A.8** summarises the – mainly European – multilateral organisations in which the SEE-ERA.NET countries participate.

Participation of the SEE-ERA.NET countries in multilateral organisations

**Table A.8**

MULTILATERAL ORGANISATION	STARTING DATE OF THE CO-OPERATION OR JOINING	FRAMEWORK AND/OR MAIN CHARACTERISTICS OF THE S&T CO-OPERATION
OECD	Austria – founding member – 1961	Participation in the Committee for Science and Technology Policy and its working groups
	Bosnia-Herzegovina	---
	Bulgaria	---
	Croatia	---
	France – founding member – 1961	Participation in the Committee for Science and Technology Policy and its working groups
	Germany – founding member – 1961	
	Greece – founding member – 1961	
	Hungary – Partners for Transition – 1992 – member – 1996	Participation in the Committee for Science and Technology Policy and its working groups
	FYRo Macedonia	---
	Montenegro	---
	Romania	---
	Slovenia – observer	Participation in Education Committee, Participation in Programme “Institutional management in Higher Education”
EU	Austria – member – 1995	Participation in FP3 <sup>53</sup> (association); FP4, FP5, FP6 as member state
	Bosnia-Herzegovina	Participation in FP5 and FP6
	Bulgaria – candidate country – 2002	Since 1994 participation in the FP4, FP5, FP6

<sup>53</sup> FP3, FP4, FP5, FP6 - 3<sup>rd</sup>, 4<sup>th</sup>, 5<sup>th</sup>, 6<sup>th</sup> RTD Framework Programme of the European Union



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Table A.8 continued from page 69

MULTILATERAL ORGANISATION	STARTING DATE OF THE CO-OPERATION OR JOINING	FRAMEWORK AND/OR MAIN CHARACTERISTICS OF THE S&T CO-OPERATION
EU (CONT.)	Croatia – stabilisation and association agreement – 2001	Participation in FP5 and FP6  The Ministry of Science, Education and Sports will conclude a Memorandum of Understanding with the European Commission in order to change the status of the third country into the status of the associated candidate country from January 2006
	France – founding member – 1958	Participation in FP6
	Germany – founding member – 1958	
	Greece – member – 1979	
	Hungary – associated country – 1992 – member – 2004	Participation in the FP4, FP5 (association) and FP6
	FYRo Macedonia – stabilisation and association agreement – 2001	Since 1998 participation in the FP4, FP5 and FP6
	Montenegro	Since 2003 participation in FP6
	Romania – candidate country – 2002	Participation in the FP5, and as full associated member in the FP6
	Slovenia – member – 2004	Participation in the FP4, FP5 and FP6
COST	Austria – founding member – 1971	
	Bosnia-Herzegovina	---
	Bulgaria – 1997	
	Croatia – 1992	Participation in over 50 COST actions
	France – founding member – 1971	
	Germany – founding member – 1971	
	Greece – over 15 years	
	Hungary – full member – 1991	Participation in about 170 running actions
	FYRo Macedonia – 2002	Participation in Management Committees of 17 Actions, Participation in the 5 Technical Committees in the field of Civil Engineering, Agriculture, Forest and Forestry Products, Chemistry, Medicine, Health)
	Montenegro – 2001	Participation in the High Officials Committee
	Romania – full member – 1997	Participation in 92 actions
Slovenia – 1992	Participation in over 252 actions	



MULTILATERAL ORGANISATION	STARTING DATE OF THE CO-OPERATION OR JOINING	FRAMEWORK AND/OR MAIN CHARACTERISTICS OF THE S&T CO-OPERATION
EUREKA	Austria – founding member – 1985	
	Bosnia-Herzegovina	---
	Bulgaria	---
	Croatia – associated – 1997 – member – 2000	Participation in 15 projects, 8 networks and 2 cluster projects in 2004
	France – founding member – 1985	
	Germany – founding member – 1985	
	Greece – founding member – 1985	
	Hungary – member – 1992	Participation in 58 finished and 28 running projects in 2003
	FYRo Macedonia	---
	Montenegro – member – 2002	
	Romania – member – 1997	Participation in 57 projects in 2003
	Slovenia – member – 1993	Currently involved in 96 projects
CERN	Austria – 1959	
	Bosnia-Herzegovina	---
	Bulgaria – 1999	
	Croatia – 1991	Croatia as a Non-Member State is involved in CERN programme
	France – founding member – 1954	
	Germany – founding member – 1954	
	Greece – founding member – 1954	
	Hungary – member – 1992	Participation in 2 experiments
	FYRo Macedonia	---
	Montenegro	---
	Romania	Participation in 4 experiments
Slovenia – not member	Participation in CERN activities on the bases of special agreement from 1991	
ESA	Austria – association – 1981 – member – 1987	
	Bosnia-Herzegovina	---
	Bulgaria	---

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Table A.8 continued from page 71

MULTILATERAL ORGANISATION	STARTING DATE OF THE CO-OPERATION OR JOINING	FRAMEWORK AND/OR MAIN CHARACTERISTICS OF THE S&T CO-OPERATION
ESA (CONT.)	Croatia	---
	France – founding member – 1975	
	Germany – founding member – 1975	
	Greece – 2001 – agreement concerning space co-operation for peaceful purposes – member – 2005	
	Hungary – 1991	
	FYRo Macedonia	---
	Montenegro	---
	Romania	---
	Slovenia	---
EMEC	Austria – founding member – 1964	
	Bosnia-Herzegovina	---
	Bulgaria	---
	Croatia – 1998	
	France – founding member – 1964	
	Germany – founding member – 1969	
	Greece – member – 1972	
	Hungary – member – 1992	Participation in different programmes
	FYRo Macedonia	---
	Montenegro	---
	Romania	---
Slovenia – 1997	Participation in General Programme	
ESF	Austria – 2001	Austrian Science Fund Austrian Academy of Sciences
	Bosnia-Herzegovina	---
	Bulgaria – 2003	Bulgarian Academy of Sciences National Science Fund
	Croatia – 2003	Croatian Academy of Sciences and Arts
	France	CNRS, INSERM, CEA, IFREMER, IRD, INRA
	Germany	DFG, MPG, HGF, Union der Deutschen Akademien der Wissenschaften



MULTILATERAL ORGANISATION	STARTING DATE OF THE CO-OPERATION OR JOINING	FRAMEWORK AND/OR MAIN CHARACTERISTICS OF THE S&T CO-OPERATION
ESF (CONT.)	Greece – member – 1974	Foundation for Research and Technology - Hellas National Hellenic Research Funds
	Hungary – member – 1990	Hungarian Academy of Sciences (1990) National Scientific Research Funds (1996)
	FYRo Macedonia	---
	Montenegro	---
	Romania	---
	Slovenia	Slovenian Academy of Sciences and Arts Slovenian Science Foundation
EUMETSAT	Austria – member – 1986	
	Bosnia-Herzegovina	---
	Bulgaria – 2005	Co-operating State Agreement signed
	Croatia	Co-operating State Agreement signed
	France – member – 1986	
	Germany – member – 1986	
	Greece – member – 1986	---
	Hungary	Co-operating State Agreement signed
	FYRo Macedonia	---
	Montenegro	Co-operating State Agreement signed
	Romania	Co-operating State Agreement signed
	Slovenia	Co-operating State Agreement signed
INTAS	Austria – 1993	
	Bosnia-Herzegovina	---
	Bulgaria – 2001	
	Croatia	
	France – founding member – 1993	
	Greece – founding member – 1993	
	Germany – founding member – 1993	
	Hungary – member – 2000	
	FYRo Macedonia	
	Montenegro	

## Annex 1

Table A.8 continued from page 73

MULTILATERAL ORGANISATION	STARTING DATE OF THE CO-OPERATION OR JOINING	FRAMEWORK AND/OR MAIN CHARACTERISTICS OF THE S&T CO-OPERATION
INTAS (CONT.)	Romania – 2000	
	Slovenia – 2000	
NATO	Austria	---
	Bosnia-Herzegovina	---
	Bulgaria	Participation in 63 approved projects
	Croatia	Participation in 4 scientific research projects
	France	
	Greece – member	
	Germany – member – 1955	
	Hungary	Participation in 13 projects
	FYRo Macedonia	Participation in 11 projects
	Montenegro	---
	Romania – 1991	Participation in 80 project between 2000-2003
	Slovenia	Participation in 7 projects
	UN (UNESCO, UNIDO, UNDP ETC)	Austria – 1949
Bosnia-Herzegovina – member – 1992		Participation in the UNESCO, UNIDO, UNDP and IAEA-TC projects
Bulgaria		---
Croatia – member – 1992		Co-operation with specialised agencies
France		
Greece – member		Co-operation with specialised agencies
Germany – member – 1973		
Hungary		Co-operation with specialised agencies
FYRo Macedonia		Participation in 21 projects in the fields of education and science of the UNESCO, since 2004 participation in the UNESCO Basic Science Programme
Montenegro		---
Romania – 1956		Co-operation with the UNESCO
Slovenia	Co-operation with specialised agencies	