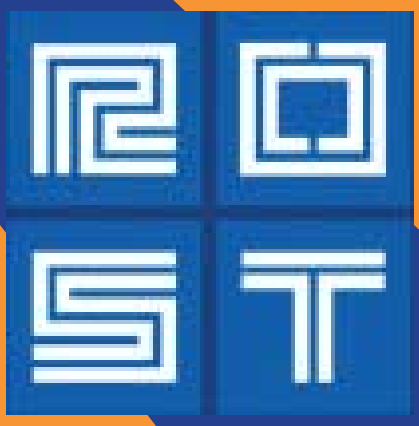
SCIENCE BUSINESS

Science in the Balkans – the road to stability

Strengthening EU cooperation in R&D with the Western Balkan countries

Report on a conference of science and technology in the Western Balkans, Brussels, 17 January 2008



Romanian Office of Science and Technology

Contents

Romanian Office of
Science and Technology

Science in the Balkans – the road to stability

The Western Balkans has long been one of Europe's most unstable regions. But, with the prospect of technological and economic development, is that about to change?

That's the policy question being debated now in Brussels, as part of the Slovenian Presidency of the European Union in the first half of 2008. It's also a debate being stimulated by Romania, an important neighbour of the Western Balkan countries (Albania, Croatia, Bosnia and Herzegovina, Serbia, Former Yugoslav Republic of Macedonia, and Montenegro).

At a conference in Brussels, on 17 January, the Romanian government led a discussion among key opinion formers and stakeholders exploring how the EU's research programmes could be applied to building up the region's scientific and technological capabilities – and, ultimately, create a climate for faster economic growth and greater political stability.

This publication includes a report of that conference, plus other reports, including a scene-setting interview with Professor Anton Anton, President of the Romanian National Authority for Scientific Research.

At the end of the document, three briefing articles summarise the state of play in innovation in south-central Europe. They draw heavily on the prime source of innovation information for this region, SEE-ERA.NET, in 2007.

ScienceBusiness will be following the debate as it unfolds during the year. One thing is clear: despite their turbulent past, the countries of the Western Balkans boast a historic wealth of skilled scientists and researchers, even if many of these unfortunately left to escape the recent wars. We and others will watch with interest as the countries of the region try to lure them back – or, failing that, to work with them in other ways.

SCIENCE BUSINESS

Article

15 January 2008 - Published on www.sciencebusiness.net

Romania pushes for tech development in Western Balkans

Philip Hunt

The Romanian government is launching a campaign to make science and technology development a key to prosperity and peace in the strife-torn Western Balkans.

The programme, which kicked off 17 January at a Brussels conference, aims at attracting European Union and private investment to the region's universities and technology industries.

"We live in a beautiful region with great potential," said Anton Anton, President of the Romanian National Authority for Scientific Research. "And as we have benefited greatly from the EU pre-accession and training programmes, we feel it is our turn to help our neighbours. Because building peace in the region depends to a great extent on mutual cooperation, for a shared quality of life."

Romania, like current EU president Slovenia, is a neighbour to the troubled countries in the Western Balkans: Albania, Croatia, Bosnia and Herzegovina, Serbia, Montenegro and the Former Yugoslav Republic of Macedonia. The state of technology development in the region – after nearly 20 years of conflict – is poor. For instance, in the period from 2004 to 2006, these countries were spending between 0.05 per cent (Bosnia) and 1.24 per cent (Croatia) of their gross domestic product on R&D, according to a report published by an EU-funded R&D-coordination programme, the Southeast European ERA.NET. By comparison, the EU average R&D intensity in 2006 was 1.86 per cent of GDP, according to the European Commission.

Mutual cooperation the way forward

Romanian officials see modernisation of the region's scientific research and technology sector as the key to building modern high-tech industries and creating long-term employment.

For the science and technology sector, what should be the priorities? "At the moment, there is no free movement of researchers," says Anton. "This should be first on the list of priorities. Because for Romanians the moment that we could travel as full EU research partners to meet with our colleagues abroad, to cooperate with them, that was the moment that research took off."

As full EU members, Romanian scientists now enjoy full access to EU Framework research programmes such as FP7, while some Western Balkan countries have only limited access. "Access for Romanian scientists back in the days of FP5 and FP6 was also limited," he says. "With such limited access you need a helping hand, and that is what Romania is trying to do."

Romanian Office of
Science and Technology

Attract young researchers into science and technology

The second priority, Anton feels, is to create networks that encourage young researchers. “Not just in pure science, but also in research development and innovation. Young people in these fields should work together from the very beginnings of their working lives. They are the leaders of the future, and through cooperation they will influence others.”

Strengthening the local and regional research base in the Western Balkans should be a related priority, he believes. If younger people are to be attracted into scientific and technological research, they need to have access to research environments of a significant size, and within an area where distances between centres are not too great.

When it comes down to agreeing priorities with his Western Balkan colleagues, he believes a certain amount of compromise will be necessary. A possible way forward, he says, is a project to construct a kind of database of assets, then to get the key people round a table to work out in which areas to cooperate, and decide which areas should be strengthened to become the lead centres for the region.

“This is going to be up for discussion,” he says, “but I think we need a sort of regional ESFRI , to develop maybe a local or medium-size infrastructure, a sort of satellite infrastructure that is strong enough to link to the larger ones.”

Organisational innovation also required

Anton believes that a certain amount of organisational innovation will also be necessary. “Take the position of research manager in SMEs. It is a new kind of managerial role, one that is not yet recognised in the Western Balkans. Yet it is one that should be helped to appear.”

“We cannot impose new organisational roles,” Anton continues, “but we can make them possible by helping SMEs to specialise in science management and consulting. The moment that we have good science managers – that is the moment that we can improve our position in competitive research.”

Professor Anton Anton: “We live in a beautiful region with great potential.”

Conference report

17 January, Brussels

The Western Balkans has long been one of Europe's most unstable regions. Yet the countries there, despite their turbulent past, boast a historic wealth of skilled scientists and researchers – many of whom unfortunately left to escape the recent wars.

But can technological and economic development help to bring greater stability to the region? And what can be done to make this geographical area an attractive centre for the EU scientific community?

These ideas formed the impetus behind the Western Balkans Science and Technology conference held in Brussels on 17 January 2008, which saw key opinion formers and stakeholders gather to discuss how the various actors should coordinate their efforts to boost scientific research and development in the region.

The event investigated how best to support Western Balkans countries in modernising their research infrastructures and adapting them to the requirements of European integration. It was organised by Romania's National Authority for Scientific Research, through the Romanian Office for Science and Technology in Brussels (ROST).

After opening speeches from Dumitru Prunariu, Director of ROST, Professor Anton Anton, President of the Romanian National Authority for Scientific Research, Tania Friederichs of the European Commission DG Research, Iulia Mihail of the Romanian National Authority for Scientific Research, Peter Mayr of the Southeast European Era-Net (SEE-ERA.NET) project and Philip Taylor of the European Commission's Joint Research Centre, the debate was thrown open to the assembled audience.

The ensuing discussions generated a number of approaches to improving science and technology in the region – but the most urgent needs were clear:

- To develop human resources.
- To improve the research infrastructure.
- To reform science and technology policy.
- Financing – to exploit the funds available.
- To raise visibility and awareness.

For the detail of the discussion around these points, go to the Open Debate section of this document.

In his closing address, Peter Volasko of the Slovenian Ministry of Higher Education, Science and Technology noted that the European Commission is fully aware of the region's essential needs, which are primarily human resources and infrastructure development. He stressed that the countries of the region could organise better to take advantage of the opportunities available. But he also believed that new initiatives are necessary, as the existing instruments are not in themselves sufficient for the level of development required.

Romanian Office of Science and Technology

Welcome and introductory speeches

Professor Anton Anton with Tania Friederichs: Europe needs partnership and cooperation.

After a welcome from Dumitru Prunariu, Director ROST, discussions were led off by **Professor Anton Anton**, President of the Romanian National Authority for Scientific Research. Professor Anton prefaced his remarks by noting that the Western Balkans are a turbulent and troubled region, asking, "What can science and technology do for the region?" Answering, he said that a better science and technology base could improve the quality of life and enhance dialogue, not just between scientists and politicians, but also between government and business.

Anton said that the present Slovenian Presidency is the best time to focus on the situation in the Western Balkans, and the best moment in which to act on it. "Europe needs real partnership," he remarked. "That is what we are offering to our neighbours in the Western Balkans."

Tania Friederichs of DG Research, European Commission, said that given the status of the Western Balkan nations as candidate and potential countries, cooperation in R&D is so to speak the natural priority since cooperation on research will in turn facilitate the integration of these countries into the EU. This is why the Commission has developed a strategy towards the Western Balkan countries that should increase research opportunities with the EU.

In the first place this means being associated with the Seventh Research Framework Programme (FP7). Today, five of the six Balkan countries are associated to FP7, which means that these countries have the same research opportunities as the Member States. So far only Bosnia and Herzegovina have not requested association to FP7 but is expected do so soon. She asked all participants to encourage Bosnia and Herzegovina to become associated, since this will also increase research opportunities in the region. In making association to FP7 attractive for the Western Balkan countries, a low financial contribution is requested as it is more important for the EU to save scientific excellence in the region than to obtain money. In addition, the EU recommends that the Western Balkan countries allocate funds at national level (taking actions similar to those taken by Member States in the European Research Area, such as Action Plan 3%, mobility actions etc.) to improve their research capacity, since such funding should in the first place be done at national level. Of course, the EU is ready to assist the Western Balkan countries in designing an integrated research policy. It is also aware that research infrastructure is expensive, and hence other financial resources should be used to increase research capacity. Funding available under the the Pre-Accession Instrument (IPA) should be used in synergy with FP7. With some creativity and planning at national level, the Western Balkan countries could use IPA money to support their research capacity.

Iulia Mihail: action to assist scientific research and technological development.

Romania's preparation for accession to the EU in research and technology development

Iulia Mihail, Director, Romanian National Authority for Scientific Research, explained how Romania opened and successfully closed negotiations on Chapter 17 (Science and Research) of the Acquis Communitaire under the Portuguese Presidency in 2000. After the first national plan in 1999 a series of important new laws were passed, especially from 2003 onwards, to assist scientific research and technological development.

A new national programme for innovation infrastructure and technology transfer, INFRATECH, was set up in 2004 to focus on efforts at regional level such as technical assistance and information centres, science and technology parks,

incubators, etc. And in 2005, the CEEX Excellence in Research programme was launched to support more complex R&D projects, develop human resources and infrastructure capacity, and promote international research. The following year saw a significant increase in public funds allocated to R&D spending: 0.38 per cent of GDP as against 0.22 per cent in 2005. The IMPACT programme to support projects from structural funds was launched the same year.

In 2007, the first national programme with a long-term strategy, the National Plan for R&D and Innovation 2007-2013, started, with six key components: Human Resources, Capacities, Ideas, Partnerships in Priority R&D Fields, Innovation, and Promoting Institutional Performance. Three national agencies now focus on implementation and financing of research: the National Centre for Programmes Management (CNMP), the Executive Unit for Financing University Research (UEFISCSU), and the Management Agency for Scientific Research, Innovation and Technology Transfer (AMCSIT). None of these advances would have been possible, she noted, without the involvement of many actors, and thanks were due to the Commission, DG Research, SEE-ERA.NET and many more for their help throughout the process.

SEE-ERA.NET achievements and approaches

Peter Mayr explained the mission of the Southeast European Era-Net (SEE-ERA.NET) project: 18 partner organisations from 15 countries, including all the Western Balkan nations. In the past two months, the national research organisation of Turkey has also agreed to join the group.

The first phase of the initiative involved two years of collecting data on national infrastructures, programmes, research needs, etc., in relation to cooperation between Western Balkan, Candidate and EU countries. In the second phase, a Pilot Joint Call was launched involving 14 SEE-ERA.NET countries aimed at providing nationally sourced funding for multinational research teams. Call proposals were managed transparently using classic peer review, and via an online central administration system. The preparation of future calls for project proposals will be managed by the Romanian partners.

The Pilot Call was hugely oversubscribed, not only from the Western Balkans and the EU but also from countries outside the 14 SEE-ERA.NET participating states. The selectors had to look for positive evaluations from the independent experts to find the “real players”, the Western Balkan centres of excellence that could develop into bigger research centres. The Pilot Call acted as a catalyst, facilitating cooperation between the R&D teams from all the different countries.

A Joint Action Plan has been developed, following the release of the SEE-ERA.NET White Paper (http://www.SEE-ERA.NET/attach/203_262_11300_14_2.pdf), to ensure priority is given to strengthening strategic reform processes, boosting Western Balkan participation in FP7, and promoting and reinforcing cooperation.

In 2009, the next SEE-ERA.NET call for proposals for joint funding for projects costing between 100,000 and 150,000 euro will be published – co-funded by the European Commission. A “Young Scientist” programme is also planned, which will focus on researcher mobility. Another programme, on innovation, will focus on the coordination of national programmes for research-driven SMEs and intermediaries.

Philip Taylor: the importance of measurement and testing.

Regional development in science and technology research

Philip Taylor of the JRC Institute for Reference Materials and Measurements (IRMM) introduced the JRC (Joint Research Centre) and its various institutes, explaining that the mission of the IRMM is to promote reliable, EU-wide common measurement system. Since a third of all EU legislation involves measurements, for example in environment, customs, in security policy, etc., common standards are crucial. The institute interconnects a variety of people at both national and EU level in order to promote such common measurements, and in this way acts as a bridge between science and policy.

A reliable infrastructure is fundamental to quality measurement results, he said. And since 2000, when the institute started cooperating in enlargement policy, scientists from the accession countries, and now recently scientists from the Western Balkans region, have been welcome participants in the institute's research. A fellowship system allows scientists to come and work in relevant areas of the institute's research.

Measurement and testing require competent people, he stressed, and developing competence involves both education and lifelong learning. As a consequence of enlargement, one recent programme at the institute focuses on lifelong learning, which deals with researcher training in EU standards, etc. Interestingly, the programme has also generated queries about training from research centres in the EU 15, since it did not exist before 2001.

Use of structural funds for science and education is definitely an issue for the region, Taylor believed, saying that in some cases the uptake of structural funding is only between 60 and 80 per cent – so there is a lot of room for optimisation. The IRMM is involved in some CARDS (Community Assistance for Reconstruction, Development and Stabilisation) projects, and in the future will take part in some IPA projects in the area of capacity building and technical assistance.

The institute has also cooperated in several recent projects in the Western Balkans, he said: one in Albania, and the other a current action in Croatia dealing with metrology, standardisation and accreditation. A further example was a Summer School organised for young scientists of the Western Balkans by the IRMM with its partner, the Slovenian Metrology Institute, in Maribor, Italy, in 2006.

Open Debate – How to improve the Western Balkans science & technology sector

Moderator – Professor Anton Anton

Professor Anton launched the Open Debate session by asking how the European Commission, the EU member states, European R&D initiatives and other stakeholders should coordinate their efforts to improve the region's science and technology sector and integrate it into EU research programmes

Develop human resources

Peter Volasko: focus on infrastructure and human resources.

A theme that emerged repeatedly throughout the ensuing discussion is the urgent need to build and develop human resources in research and development. **Peter Volasko** of the Slovenian Ministry of Higher Education, Science and Technology said that the Slovenian Presidency is focusing on the two areas with the most difficulties: infrastructure and human resources. SEE-ERA.NET has revealed the depth of the problems in these areas for the Western Balkans. But, he said, many of the same problems exist in the new EU member states. In that, they have a lot in common with the Western Balkan countries, and the problems could be addressed in the same way. Slovenia is concentrating on how to use structural funds to address human resources problems in research. Such efforts may be small-scale, he said, but they are important. The Lisbon agenda, he said, offers more possibilities to achieve qualitative rather than quantitative goals: for example, we are not taking advantage of the cultural capital we have in Europe. There are so many advantages we could exploit, he said, and we should make the most of these opportunities.

Barbara Rhode of DG Research pointed to the Marie Curie mobility programme as a method of attracting skilled researchers back to the region. The challenge is to identify Western Balkan researchers now working as expatriates, and to think about how to bring them back. Explaining the ERA-Link project, which focuses on information, researcher networking and helping expatriate researchers to collaborate with colleagues in Europe or return to Europe, she said that the project is a good example of how to tempt researchers to return. A re-integration support grant for up to four years is also a good "re-integration magnet", she said. The DG has also just started a new "Co-funding" programme, which funds existing mobility programmes of national or regional origin, and could be used to top up existing funding programmes. Western Balkan researchers are not yet visible in these programmes, she said, so there is certainly room for improvement.

Bruno Schmitz of DG Research also focused on the lack of talented human resources, saying that many talented people had left the region because of poor working conditions. It will be hard, he said, to persuade them to return before conditions are improved. However, they remain strongly attached to their country and, in the meantime there is an alternative, he believed: collaborate with them as expatriate researchers. Foreign investment is another aspect that can involve expatriates, he maintained, and could also speed up the process. They are often sympathetic to the situation at home, and are willing to invest in their home country.

Bujar Bala of the Albanian Mission to the EU said that there are a lot of expatriate Albanian scientists in the EU, the US and Canada, but while policymakers do not expect all of the diaspora to return they wish to make it more attractive for them to do so, and at the same time to create effective networking for the scientific community in Albania and that in the

Philip Taylor: strong interest in collaboration at the working level.

diaspora. During the past year, the government has become fully aware that the development of human capabilities has to go hand in hand with any upgrading of infrastructure. Research mobility is a two-way street, he said, with researchers able to travel both from the EU to the Western Balkans, and from the region to the EU. The scientific community should take advantage of the visa facilitation agreement with the EU. He said that Albania, having adopted one of the of the region's most liberal visa regimes, would like scientists to move freely across the region.

Philip Taylor reminded participants that there is often a strong interest and potential for collaboration between Western Balkan scientists at the working level, in contrast to the lack of genuine interest in regional collaboration at higher levels. Though large-scale infrastructure projects catch considerable attention, access to many but smaller projects is probably an efficient way of improving networking and scientists' capabilities.

Improve the research infrastructure

Petar Kraljevic: support via SEE-ERA.NET highly valued.

Petar Kraljevic of the Bosnia and Herzegovina Mission to the EU admitted to many problems within the institutional framework for research. However, Bosnia and Herzegovina is planning a national strategy and agencies next year to help develop strategies for regional and international cooperation. The support from the EU via the SEE-ERA.NET project was highly valued, and he hoped that Bosnia and Herzegovina would eventually be able to participate in FP7. But he said there is still not sufficient funding at national level to support any major infrastructure development or large projects. If any outside agencies are interested in investing in this area, then that would be no problem.

Bujar Bala of the Albanian Mission to the EU remarked that last year Albania embarked on an evolution, a revolution even, of the institutional structure for academic research. The brain drain has been a problem for the country, he said, so a new government strategy, "Brain Gain", was launched last year coupled with a new focus on funding research excellence from the Ministry of Science and Education in Tirana. As a result, the universities are now more motivated towards excellence in research than ever before.

Hervé Pero of DG Research saw four possible directions to take in improving research infrastructure:

1. Create research infrastructures in existing Western Balkan national universities.
2. Develop them around existing laboratories and networks, thus strengthening existing networks.
3. A common approach – create a single large research infrastructure, one for the whole region in one country.
4. Establish several major infrastructures. However, he said, such instruments can be difficult to access – can a researcher from a small, remote country dream of using them? A solution is to create a research infrastructure that is a satellite to a larger one.

He saw the fourth option as the most versatile, even if elements of all will

continue to exist for some time. But a common approach for all the Western Balkan countries is needed, he said, with in-depth discussion among all the regional groups.

Manfred Horvat: discussions should include the new Centres of Excellence.

Manfred Horvat, senior advisor at the Austrian Federal Ministry of Science and Research, said that the discussions on research infrastructures and human resources should be widened to include new Centres of Excellence based on public–private partnerships of research institutions with foreign companies in the region as well as with research centres in other parts of Europe. That is also why university modernisation is so important. Such initiatives could be supported by the Instruments for Pre-Accession Assistance and also by the World Bank. Efforts are necessary to provide attractive opportunities for scientists and researchers to stay in region, and to return to it, but also to encourage them to circulate between other parts of Europe and the Western Balkan countries.

Reform science and technology policy

Aleksandra Colic of the Montenegro Mission to the EU said that her country's present science and technology priorities are reform of the national statistics system, strengthened links between research and industry, and a strengthening of minimum research capacity. Montenegro invested some 350,000 euro in its research infrastructure in 2007, and a similar figure is planned for 2008. Quarter one 2008 will see a new strategy to identify research priorities, and this strategy will be aligned as much as possible with EU research themes. The country is also launching a new Call for tenders to help develop human potential, she said. Improving regional dialogue, especially during the term of the Slovenian Presidency, is considered a priority.

Financing – exploit the funds available

Louis Bellemin, Honorary Director of the Commission, said that the Commission understands the needs of the Western Balkan countries: more and better trained scientists, more laboratory equipment, a better science and technology infrastructure, and more links for the Western Balkan scientific community both within the region and with the EU. "We know that there are many instruments and tools that could be used to respond to those needs," he said, "but how do we make the best possible use of these instruments in order to achieve the desired political goal?"

Answering his question, he said that a firm and strong political will is needed, to direct such actions to achieve the goal of reinforced cooperation. He emphasised that to gain the maximum benefit from the various possible initiatives, action plans must have clear objectives and actors – "Who is doing what?" Such action plans are extremely useful to the Commission, he said, in developing a sense of the activity taking place in the region. In closing, he said: "I make a plea, in favour of developing that kind of initiative which will lead to the organisation, the policy and the political will that will make full use of the existing instruments available."

Raise visibility and awareness

Manfred Horvat of the Austrian Research Promotion Agency (FFG) said that with some 40 million euro going to the European regions, managing a programme the size of FP7 is a real challenge. A key problem, he said, is the lack of visibility, and hence lack of awareness, of Western Balkan participants as potential partners with EU consortia. Yet good visibility instruments are available already, he said, pointing to the Era-Weblog as an example. More information on West Balkan capabilities should be placed on the Web, and the directory of West Balkan research universities, institutions and companies at http://www.westbalkanresearch.net/ should be promoted for this purpose.

Closing remarks

Peter Volasko of the Slovenian Ministry of Higher Education, Science and Technology concluded the day's events by thanking the participants for a very interesting brainstorming event. He noted that the Commission is doing a great deal to inform the actors in the region of the support instruments available, and suggested that participants rely on the services and infrastructures of the Commission when addressing essential needs – primarily human resources and infrastructure development.

He stressed that the countries of the region could organise better to take advantage of the opportunities presented by FP7, the IPAs and the structural funds, and that there is still further room for exploitation of these instruments. He remembered from Slovenia's own experience how important such programmes had been to his country's development.

Yet new initiatives are also needed, he said, as the existing instruments are not in themselves sufficient for the development necessary. "The Western Balkans are a 'first priority' area, and we should really focus on them, because the people there are our future colleagues." The Steering Platform should grow, he believes, both to really steer growth and to support active lobbying. "If we really believe in the dynamics of the area, we should invest more, both in human resources and in infrastructure."

Philippe Vannson, European Commission, makes a point in the discussion.

SCIENCE BUSINESS

Briefing

10 January 2008- Published on www.sciencebusiness.net

Innovation: the road to peace in south-central Europe?

Philip Hunt

The European Union plans a major boost for the science and technology sector in south-central Europe, in the region known as the Western Balkans. But can investment in science and technology help bring stability and prosperity to one of Europe's oldest trouble-spots? Many leading scientists believe it can, a view which is driving the efforts of scientific and research institutions across the EU and within the Western Balkans to prove the case.

The countries that comprise the Western Balkans region (Albania, Bosnia and Herzegovina, Croatia, Macedonia, Serbia [including Kosovo] and Montenegro) have all been profoundly affected by the political and military conflicts of the recent past. Yet since the war and the consequent disruption of the 1990s, substantial progress has been made in recent years towards establishing a more settled and peaceful social order based upon democracy and the rule of law.

For the European Union, the priority in recent years has been to promote the development of peace, stability, prosperity and freedom in the region. Now the tiny former Yugoslav republic of Slovenia, with just two million inhabitants, plans to use its six-month role coordinating EU policies to shift the EU's foreign-policy attention to the Western Balkans in particular.

Slovenia has, since 1 January 2008, become the first post-communist EU member state to assume the responsibility of the EU's rotating six-month presidency. Its efforts are being reinforced by those of a near-neighbour, Romania, which is preparing to launch a Regional Cooperation Programme for the Western Balkan countries that specifically targets scientific research, technological development and innovation.

A focus on building stability

The two countries' efforts add emphasis to a stated aim of the Union ever since the Lisbon Council of March 2000. That aim was to establish a series of stabilisation and association agreements with the Western Balkan countries, in which "asymmetrical trade liberalisation" would lead to a series of free-trade areas for the region.

The Thessaloniki summit in June 2003 was an important milestone in this endeavour. The 2003 summit launched a key policy framework, the Stabilisation and Association process, to encourage and support domestic reform processes within the Western Balkans region. Since that date, a succession of Stabilisation and Association Agreements (SAAs) have been or are being drawn up with each country to cover political dialogue, support for political and economic reform, aid, trade relations and more.

Romanian Office of
Science and Technology

Key role for science and technology

Modernisation of the science and technology sector in particular is seen as key to the development of market economies for the region. New laws on scientific and research activities, higher education and intellectual property rights have all either been implemented or have passed local parliamentary legislation.

Most of the Western Balkan nations have also established science and technology advisory boards or innovation councils to plan future research strategies and the allocation of research funding. And, while the involvement of private enterprise in public R&D is as yet limited in scope, national governments are attempting to strengthen research cooperation between the public and private sectors for both domestic and international markets.

The Thessaloniki summit also saw the launch by the Greek Presidency of the EU/Western Balkan Action Plan in Science and Technology. The plan attached particular importance to integrating the region's research and development activities with those of the EU member states within the growing European Research Area (ERA). Additional momentum for the plan was provided during the Austrian Presidency in 2006, through the establishment of a Steering Platform on Research for the Western Balkans region.

A key role has also been played by the partners within the Southeast European Era-Net (SEE-ERA.NET) project, which focused on establishing a network of policy makers and funding bodies capable of supporting science and technology research cooperation between the Western Balkans and the EU. Since September 2004, 17 institutions from 14 countries (including all of the Western Balkan nations) have been actively involved in the project, which was funded under the Sixth Framework Programme (FP6) for EU research and development. The project lead in November 2006 to a Pilot Call for joint research projects by all the partners involved, and 320 project proposals from a total of 1432 different research teams.

Participation in FP7 and beyond

The current EU programme for research and innovation, the Seventh Framework Programme (FP7), is seen as offering many opportunities for research cooperation by the various research institutions and actors across the Western Balkans. However the exact nature of any participation will depend on the status of the bilateral agreement per country.

Albania, Croatia, Macedonia and Serbia have all signed association agreements for FP7, according potential research partners from these countries the same status as consortia within the EU. At the time of writing, Montenegro was in the process of signing such an association agreement, while Bosnia and Herzegovina have been accorded the status of "International Cooperation Partner Countries" (ICPCs).

Outside of the EU Framework programmes, research actors in all of the Western Balkan countries are being encouraged to establish either cross-border research and development cooperation agreements, or to actively participate in international research projects.

To this end, Albania has already instituted bilateral cooperation agreements with Macedonia and Slovenia to add to its existing agreements with Greece and Italy. Macedonia has set up over 100 cooperation projects with other countries including Bulgaria, China, France, Japan and Russia. Montenegro was involved in 47 bilateral cooperation projects in 2006, while Serbia has ongoing bilateral programmes with countries including France, Greece, Slovakia and Slovenia.

seeera net

This information in this briefing paper has drawn heavily on the White Paper 'Transition Studies Review' developed by SEE-ERA.NET in 2007. The full document can be accessed at http://www.see-era.net/doc/otherdocs/view?id=22025.

The Southeast European Era-Net, SEE-ERA.NET, is a networking project aimed at integrating EU member states and Southeast European countries in the European Research Area by linking research activities within existing national, bilateral and regional RTD programmes.

Romanian Office of
Science and Technology

Briefing
10 January 2008- Published on www.sciencebusiness.net

Western Balkans: Surmounting the obstacles – country by country

If the Western Balkans region is to improve the overall position of its science & technology sector, what are the obstacles to overcome? And how are the countries of the region dealing with them?

Albania inaugurated several new ministries in 2006, as well as creating a new Academy of Science and a National Council for Higher Education and Science. While funds allocated to R&D are still limited, the government increased the budget in 2007 for national programmes and bilateral cooperation by about 35 per cent over that for 2006. The current priority is to create an academic research and education network (AAN) to link to the EU GEANT infrastructure. The Ministry of Education and Science is leading this project, which cofinanced by the EU under the SEEREN2 project (FP6).

Bosnia and Herzegovina at present have no Ministry of Education and Science at state level, nor do they have state funding of R&D or even national legislation on science policy. General funding of R&D stands at an extremely limited 0.05-0.15 per cent of GDP. The Ministry of Civil Affairs holds the present responsibility for education and science, however its decisions are non-binding since the Ministry cannot impose decisions and no funding for the science and technology sector is foreseen. The Ministry has however nominated the sector as a national priority for future funding, and is at present negotiating with the European Commission over how best to fund the sector. The government invited Unesco experts to compile guidelines on science and research policy, and the resulting report supports the idea of establishing a national R&D ministry and other agencies to manage the science & technology sector at national level.

Croatia sees investment in science and technology as a strategic priority, and has set forth its mid-term goals for the sector in October 2006 in the "Science and Technology Policy" report. The sector has also been given a primary focus during Croatia's accession negotiations, confirming the country's status for project partnerships in the European Research Area (ERA). Croatian scientists have participated in the EUREKA programme, the COST framework and FP6. Long-term expansion for the sector is seen as dependent on building a broad base of support for the idea of a "society based on learning", an idea that has broad support from academe and industry, and also from the large number of Croatian scientists based both within the country and abroad.

Macedonia has had very limited funding of scientific research due to the economic conditions of the past few years, a position which has lead to a continuous decline in the number of active researchers in the country. However the Ministry of Education and Science is promoting a more integrated approach to research activities, especially as regards regional and international cooperation, and is stimulating cooperation between universities and the commercial sector. A database containing all patent activities in the country was established in 2005, and in 2006 the Ministry signed an agreement that allows all national universities access to the electronic scientific database Scopus. A new Council for Science and Research was also established in 2005, together with a new system of project evaluation with assigned national coordinators for every scientific discipline. Five potential centres of excellence have been identified,

based on research results and international recognition:

- Institute of Chemistry at the Faculty of Natural Sciences and Mathematics.
- Research Centre for Genetic Engineering and Biotechnology at the Macedonian Academy of Sciences and Arts.
- Nephrology Clinic at the Faculty of Medicine.
- Research Centre for Energy, Informatics and Materials Science at the Macedonian Academy of Sciences and Arts.
- Institute for Earthquake Engineering and Engineering Seismology.

Montenegro passed a new law in 2005 (the Law on Scientific Research Activities) which aims to integrate national research activities into EU Framework research programmes and the ERA, introduce international quality standards and promote sustainable development. The law also regulates fiscal mechanisms intended to encourage investment into science, technology and innovation. 2005 also saw the establishment of the Montenegrin Research and Education Network (MREN), which is a member or TERENA and connected to GEANT. A new national Council for Science & Technology is developing a draft strategy for the sector to cover the next seven years. Government funding of research increased from 0.14 per cent of GDP in 2005 to 0.24 per cent in 2006, with a 60 per cent increase in 2007 over 2006. Several weaknesses in the science and technology sector have been identified: there are almost no links between the research community and the private sector, shortages in lab equipment are holding back participation in competitive research, and lack of mobility for researchers is also limiting cross-border cooperation. Some 80 per cent of the research budget is spent on salaries and project overheads, leaving only 20 per cent for investment, human resource development, lab equipment and international cooperation.

Serbia passed several laws that applied international evaluation criteria to scientific research in 2002 and 2005. These rulings provided the underpinnings for the country's main reform objectives of focusing on specific research areas of national significance. Public funding of R&D has increased continuously from 0.10 per cent of GDP at the time of the democratic changes in 2000 to 0.40 per cent in 2005. A more target-based funding system is also being attempted, with projects of up to 5 years in basic and applied research being funded in a variety of disciplines. A technological development programme aims to help companies develop or implement new technologies in the areas of energy efficiency, biotechnology and agro-industry, with co-financing by the company itself a condition of public support. This programme is expected to extend into other scientific areas in the future. The country has a strong track record in research evaluation, involving a process of international peer review, especially in the basic sciences. Leading researchers enjoy stable and relatively well rewarded positions, and in return are expected to work with young researchers

and produce world-class results. Identified weaknesses include a severely limited science & technology research infrastructure with little investment in improvement or modernisation. Private investment in the sector is practically non-existent. Finally, obstacles to mobility (e.g. EU visa requirements) seriously limit international cooperation with other scientists. These obstacles have also created a negative perception of the EU and its values among some of the younger generation, a perception that remains.

seeera net

This information in this briefing paper has drawn heavily on the White Paper 'Transition Studies Review' developed by SEE-ERA.NET in 2007. The full document can be accessed at http://www.see-era.net/doc/otherdocs/view?id=22025.

The Southeast European Era-Net, SEE-ERA.NET, is a networking project aimed at integrating EU member states and Southeast European countries in the European Research Area by linking research activities within existing national, bilateral and regional RTD programmes.

SCIENCE BUSINESS

Briefing

10 January 2008- Published on www.sciencebusiness.net

Western Balkans: Objectives for strengthening research cooperation

Research actors within the Western Balkans face a number of challenges in gaining the full benefit of participation within EU research programmes and the European Research Area. To this end, a number of specific objectives have been proposed that should assist in a further strengthening of scientific research and innovation potential. These are:

Objective 1 Develop policy strategies to optimise the potential of science & technology cooperation

A key concern for the Western Balkan countries is how to achieve European standards in implementing the Lisbon strategy. National political strategies need to strengthen science and technology research potential and build a favourable environment for international cooperation. The proposed measures include:

- Set up an integrated national R&D policy for each country involving the relevant national ministries, using as example the experience of existing EU member states. Here the “Steering Platform on Research” launched during the Austrian Presidency would play a key role.
- Stress the importance of the EU Barcelona target in increasing R&D expenditure to 3 per cent of GDP (gross domestic product).
- Strengthen the private sector through public policy measures such as awareness-raising, direct subsidies, loans, tax incentives and creation of a favourable legal framework for R&D investment and technology transfer.
- Establish protection for IPRs (intellectual property rights), including affordable patent protection and cost-effective dispute resolution.
- Build a regional innovation system that enables the various research actors (universities, industry, SMEs, capital markets, etc.) to cooperate effectively.
- Consider national and regional foresight initiatives to provide a knowledge base for developing national policy strategies and priorities.
- Aim to attract foreign investment in regional R&D activities, including establishing a stable legal environment for foreign business entities.

Objective 2 Foster institutional reforms, institution building and science & technology infrastructure development

Improve the capacities of higher education and other scientific institutes in order to strengthen the performance and attractiveness of R&D activities and to fulfil economic and social needs more effectively. Proposed measures include:

- Evaluate and benchmark existing institutions on a regular basis, using a common and standard methodology.

Romanian Office of
Science and Technology

- Consider establishing one or two specialist regional centres of excellence in areas where the Western Balkan countries have a strong interest.
- Map areas of excellence in the region to define common areas and guage the potential of the region's best research centres.
- Investigate the potential for creating new agencies able to foster contacts with international institutions and attract direct foreign investment.
- Foster the ability to generate statistics in science & technology and innovation indicators within the national statistical institutes.
- Use the Pre-Accession Assistance Instruments (IPAs) more efficiently to help national science & technology institutions attain EU standards.
- Update and improve existing science & technology facilities, including specialised equipment, libraries, databases and laboratory equipment, in order to optimise their R&D capacity.
- Develop scenarios which provide the local scientific community with access to European and international science & technology infrastructures.
- Link as a priority to European high-speed data infrastructures such as GÉANT and include access to scientific electronic journals and databases.

Objective 3 Improve human capacity building and international mobility

Prioritise the building of human potential by creating attractive career opportunities and boosting international mobility for researchers, in order to sustain national academic infrastructures and motivate expatriate researchers to return. Proposed measures include:

- Enable Western Balkan scientists to move freely both within the region and internationally, in particular within the European Research Area, by simplifying visa regimes and building "researcher packages".
- Build a stimulating environment for visiting international scientists and encourage international mobility by putting together an inventory of PhD courses in English.
- Extend the European network of mobility centres (ERA-MORE) into the region.
- Raise awareness within universities and research institutions about the European Charter for Researchers and the Code of Conduct for the Recruitment of Researchers.
- Develop specific training measures for Western Balkans science managers by establishing national academies on science management and complementary visiting programmes within EU member states.
- Set up training programmes for the staff of National Contact Points (NCPs) for European programmes.
- Raise awareness on specific days of action such as European Researchers Night.
- Boost the career potential for women in science and technology research, particularly in managerial positions, and implement equal opportunities measures.

Objective 4 Foster innovation potential through improved academia/industry cooperation

Build understanding and trust between academia and industry in the region, to motivate the private sector to increase investment in cooperative R&D and to increase support for SMEs. Proposed measures include:

- Encourage exchange of personnel between academia and innovative companies in the private sector by building specific national programmes.
- Create the economic conditions that encourage scientists to build their own innovative businesses and develop entrepreneurial abilities.
- Develop “cluster policies” that help bridge the gap between business, research and resources, thereby improving knowledge transfer and bringing innovation to the market faster.
- Help Western Balkan research stakeholders to become acquainted with new EU financial instruments that aim to boost research and innovation, e.g. European Technology Platforms (ETPs), Joint Technology Initiatives (JTIs), etc.

Objective 5 Use the full potential of the EU Framework programmes to promote integration into the European Research Area

Harness the potential of existing EU instruments for funding European research and development, to help develop science and technology research capacities in the region. Proposed measures include:

- Help to create national priorities to exploit more fully the funding opportunities available within the Pre-accession Assistance Instruments (IPAs) for the region. Possibilities include improvement of regional innovation structures, building the human talent pool, and support for the cost of participation in European programmes.
- Raise awareness of the potential of SICAs (Specific International Cooperation Actions) to define research topics of common interest and to provide active support for international partnerships via local institutions.
- Ensure a high level of response to calls for proposals in FP7 research areas, and a high level of participation in successful projects.
- Develop additional bilateral or multilateral funding schemes, with coordinated research calls, among both EU and Western Balkans member states. The ERA-NET or ERA-NET Plus schemes may offer opportunities here.
- Help joint peer review of project proposals become established as a method of evaluating and benchmarking scientific performance in the region.

Objective 6 Establish new mechanisms to allow Western Balkans institutions to link to established European consortia

Specific assistance should be offered to help new research partners in the region link to and associate with ongoing EU science, technology and innovation research projects, in order to facilitate integration of science and technology institutions and innovative companies in the region with the EU research community. Particular attention should be paid to consortia funded under the EU Framework research programmes, EUREKA and COST.

Regional cooperation programme with South-East Europe

In an attempt to bring concrete reality to the proposals outlined above, the partners in the Southeast European Era-Net (SEE-ERA.NET) project propose to launch a Regional Cooperation programme with South-East Europe (ReP-SEE). The aim is to strengthen strategic reform processes for R&D in the Western Balkans region, and to boost integration with EU and other international research activities.

The proposed ReP-SEE programme would have four pillars:

1. A Joint Call for European research projects.
2. Accompanying measures to facilitate joint research.
3. A Young Scientist programme to foster the individual mobility of young scientists (both male and female) between the various West Balkan countries.
4. An Innovation Programme to link SMEs, technology centres and other innovation facilities in the region to existing thematic innovation networks/clusters within the EU.

An ERA-NET Plus proposal covering the project is being prepared for submission to the European Commission by February 2008. If successful, the core programme is fplanned to start in autumn 2008, with the first call for project proposals issued in spring 2009.

A new central administrative body would be set up to run the programme, managing the call proposals, contractual matters and financial administration. The exact make-up of the new body is yet to be decided – the final decision will on the level of funding available.

seeera net

This information in this briefing paper has drawn heavily on the White Paper 'Transition Studies Review' developed by SEE-ERA.NET in 2007. The full document can be accessed at http://www.see-era.net/doc/otherdocs/view?id=22025.

The Southeast European Era-Net, SEE-ERA.NET, is a networking project aimed at integrating EU member states and Southeast European countries in the European Research Area by linking research activities within existing national, bilateral and regional RTD programmes.

About Science|Business

Science|Business is an independent news and events service, focused on R&D investment and policy in Europe. It publishes online daily at www.sciencebusiness.net, and produces numerous special print reports, studies and conferences. It was founded in London and Brussels by Richard L. Hudson, former managing editor of the Wall Street Journal Europe, and Peter Wrobel, former managing editor of Nature, and works with a professional team of communicators and journalists to facilitate communication between the disparate worlds of academia, industry and policy. It works with a network of five professional organisations, and ten universities: Chalmers University of Technology, ETH-Zürich, Imperial College London, Karolinska Institutet, ParisTech, Politecnico di Milano, TU Delft, the University of Cambridge, University College London and the University of Warwick.

Its mission: To promote enterprise in science.

Science Business Brussels Office, Rue du Trone 98, 6th Floor, 1050 Brussels, Belgium.

Tel : +32 2 5146 680. Fax : +32 2 5000 980

www.sciencebusiness.net