

|the| technopolitan

The newsletter of Technopolis_{group}

A European research business focusing on the evaluation and development of policy in the fields of research and innovation

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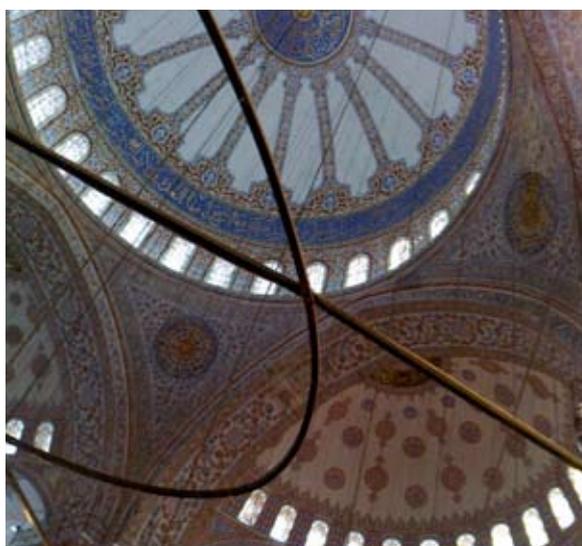
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the European core





People tell us regularly ‘Technopolis seems to be everywhere’. While this is flattering for us, of course this isn’t literally the case. Nonetheless, this issue of the Technopolitan does show how far Technopolis is pushing the boundaries beyond our own geographical locations.

While previous issues of the Technopolitan gave examples of our work in far places such as China, this issue describes the specific challenges of regions and countries outside North-western Europe engaged in a ‘catching up process’. Whether in Guadeloupe, Reunion, the Middle Black Sea, the Baltic Sea regions, the Magreb or Romania, a common feature is that policy makers and stakeholders are developing their specific strategies for innovation and research with the objective of achieving economic growth and wealth creation. While the challenges are quite specific for each case, Technopolis

has been able to support these regions with training, studies, strategic advice, stakeholder exercises, benchmarks and so on. By exchanging our knowledge across all these places, we believe we contribute to the international dissemination of good practice in innovation policy.

And talking of far-flung places, we have expanded our portfolio of work on space and space-related research with a study on the impact of the European Space Agency’s R&D programme in satellite telecommunications that funds the development and piloting of new satcoms technologies. Is this, perhaps, the final frontier?

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Evaluation of the Pôles de Compétitivité

Technopolis-ITD is part of the consortium evaluating the French pôles de compétitivité. The aim, in the last year of the second phase of Government support to this cluster policy, is to provide recommendations both at national level and for each of the 71 pôles individually.

The evaluation will assess both the national policy supporting the pôles in terms of relevance, coherence with other innovation policies and effectiveness, and each pôle with regard to their strategy, results and impacts on the growth and innovation capacities of the enterprises.

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Oncology Research in Ireland

Technopolis Amsterdam has been commissioned by the Irish Health Research Board to carry out an impact assessment of ICORG – the All-Ireland Cooperative Oncology Research Group.

The study is being undertaken over a three-month period from December 2011 and will provide an assessment of the impacts of ICORG on cancer clinical research in Ireland, cancer care and clinical practice and the economy. It will also identify strategic opportunities by which any future HRB funding of ICORG may have an impact on cancer care policy and practice in Ireland.

The HRB is the lead agency in Ireland supporting and funding health research. ICORG was set up in 1996 to create more research opportunities and clinical trials in the field of oncology and HRB has funded ICORG since 2002 as part of the National Cancer Strategy and the Ireland/Northern Ireland/US Cancer Consortium.

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Developing Innovation Capacities in Turkish Regions

Turkey has a thriving economy with a high demand for innovation policy. While the annual average growth rate was 1.8% between 2008 and 2010 in real terms, Turkey achieved a GDP growth of 9% in 2010. As a result of this growth, Turkey has been continually increasing its research and development (R&D) investments since the turn of the century. While the percentage of R&D expenditure is below the EU-27 average of 2%, the gross expenditure on R&D increased by 28% between 2008 and 2010 in real terms.

There is a clear shift in Turkish R&D and innovation policy from a general focus to a sectoral focus. There has also been a shift from research policy to innovation policy. Overall, research and innovation take a more important role in the national/regional policy mix and there is an increased commitment to develop and implement strategic, coherent and integrated policy frameworks.

The government puts strong emphasis on regional development. An important development in this area was the adoption of legislation in 2006 for the establishment of Regional Development Agencies. Innovation started to gain priority in the agendas of regions after the establishment of RDAs following the ratification of the RDA law. Technopolis Group has had an office in Turkey for some time and helps Turkish regions shape their innovation strategies.

In 2005, Technopolis assisted the design of the first regional innovation strategy of Turkey in Mersin with the financial support of the EC.

With consultancy provided by Technopolis Group Turkey, the North East Anatolia Development Agency (KUDAKA) designed its regional innovation strategy in 2011 around the

leading sectors of the region: tourism and agrofood. The strategy aims to foster regional development by promoting further sectoral innovation with active involvement of all stakeholders in the innovation process. The strategy development process has also been very helpful for developing innovation capacities in the region. Around 2,000 stakeholders from three provinces across the region (Erzurum, Erzincan and Bayburt) participated in the strategy development process through working groups, pilot projects and other activities. The strategy was launched in a national conference in December 2011.

In December 2011, another RDA, the Middle Black Sea Development Agency (OKA), also initiated a study with Technopolis in Turkey to design the region's innovation strategy. The region, covering the provinces of Amasya, Corum, Samsun and Tokat, is characterised by its strong industrial base along with high potential tourism and agriculture sectors. The regional innovation strategy will be complete in the fourth quarter of 2012.

Finally, this year, Technopolis is organising study visits for representatives in Turkey. Eight regions will send representatives to visit five European countries (Austria, Belgium, France, the Netherlands and Sweden) to examine good practice in the design and implementation of innovation strategies. The study visit will be coordinated by the Governorship of Bursa, one of the leading industrial hubs of Turkey and is supported by the LdV Mobility Programme of the European Commission.

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Romania: Another View on European Integration

In 2005-2006 the Romanian Government launched an extensive foresight exercise involving more than 5000 experts online and some 800 in seminars, focus groups and conferences, to develop a National Strategy & National RDI Plan for the period 2007-2013. This policy was launched in 2006 on the eve of the country's accession to the EU in 2007. For obvious reasons the Romanian Government decided to adopt both the thematic priorities as well as the respective programmes of FP7. In doing so, the research (policy) system was confronted with a complex system of conceptual and institutional 'policy entities': strategies, priorities, criteria, councils, programmes, measures, foresight, calls, indicators, evaluation and monitoring.

Technopolis, together with two local partners (FM Management Consultancy and GEA Strategy & Consulting) performed an independent mid-term evaluation of the National Strategy & National RDI Plan, supported by a dozen international experts as well as around 200 representatives of the research policy and research performing sectors.

The findings revealed in this evaluation study are both specific as well as general. Here are the more general ones:

- Romania has implemented a very broad set of policy elements. There is literally nothing that has been left out. This demonstrates that it is possible to adopt a fully-fledged research policy system within a very short time.
- A closer look, however, reveals a strong dominance of supply-side approaches. Quite often, these supply-side approaches emerge under the notion of 'best practice', which are easily available from various manuals, seminars, and consultancies, not least the European Commission.
- While there is a strong orientation towards problems and challenges in the Romanian economy and society at overall level, the respective actions to link generic RDI policy with sectoral policies are rather weak – as in most other countries, thus little surprise. Here we could observe a high degree of over-expectation, which has certainly been fuelled by the spirit of enthusiasm on the eve of the accession to the EU.
- On top of that we observed a bias in the priority setting resulting from the composition of participants in the foresight exercise, which was highly dominated

by representatives from the public research sector (cf. Clemenceau's "War is too important to be left to the generals").

- As most of these policy elements were implemented within the shortest possible time, there were of course strong needs for learning and improvement and policy makers did indeed start implementing improvements. While most of these changes undoubtedly led to improvements, they were at the same time perceived as "changing the rules of the game while playing it".
- Overall, the evolution of the Romanian research policy system is characterised by a high degree of entropy due to the high complexity of the system and the rapid pace of change.

Technopolis has developed a number of recommendations that rests mainly on a few rather basic orientations

- Reduce overall complexity of the policy system
- Focus on performance of institutions
- Link the next generation national RDI policy with the use of Structural Funds for RDI
- Abandon the orientation towards a very broad range of economic and societal problems and challenges. Instead, address a few carefully selected areas. Health, energy, and agriculture are preferred candidates.

Most of these observations look rather familiar, don't they?

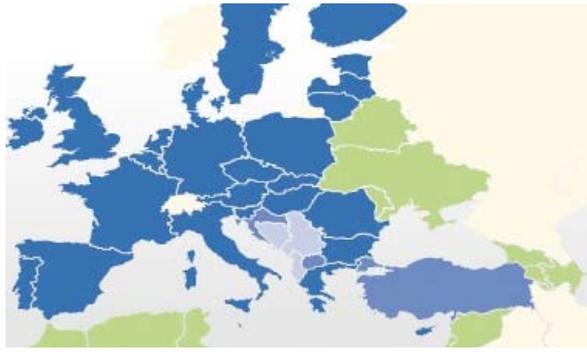
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Doctoral programmes in EU neighbouring countries: Practices, developments and regional trends

The “EU neighbourhood” is of growing political relevance for the European Union. The Western Balkans are readying themselves to become part of the EU and since 2004, Southern Mediterranean countries, Eastern European countries and Caucasus have been targeted by the European Neighbourhood Policy. Doctoral programmes are increasingly being included as an area within which to promote EU cooperation, though the TEMPUS, Erasmus Mundus and Marie Curie Actions.

The European Commission has tried to shed some light on how the EU and its neighbouring countries can further cooperate at doctoral level and a project led by Technopolis in 2010 mapped the organisation of doctoral programmes in 23 EU neighbouring countries. These included the Western Balkan countries, Eastern European countries, Caucasus and Southern Mediterranean countries.



Source: European Commission

In 2008, the 23 EU neighbouring countries had 335,993 candidates enrolled at the doctoral level compared to 499,400 in the EU27. Among these, Eastern European countries accounted for 57% of enrolments and the Southern Mediterranean region accounted for 40%. In EU neighbouring countries, doctoral candidates usually only make up about 1% to 1.5% of all tertiary enrolments. This is lower than the rates in the UK or France (3.5%). However, Israel and the three Maghreb countries have much higher rates than the rest of the EU neighbouring countries (up to 8.7% for Tunisia).

Doctoral systems

Most of the EU neighbouring countries have been very active in reforming their entire higher education system over the last five to ten years but doctoral programmes have only recently been overhauled.

The Bologna process has been a major driver behind these reforms and improvements even though it does not include any detailed guidelines regarding doctoral programmes. Countries such as Algeria, Morocco and Tunisia have also committed to the Bologna process although they are not formally members.

The reforms have led to more structured programmes, with a specified number of courses and exams and an increased

time devoted to courses (up to 30% of the time in the Western Balkans and Jordan). Also noticeable is the use of the European Credit Transfer System at doctoral level, even though it remains controversial whether or not ECTS should be used for research activities.

Generally speaking, doctoral programmes are poorly funded in the EU neighbouring countries, which primarily affects the quality of supervision, but also increases the length of studies and the quality of the research conducted. The financing schemes are different from one country to another: mainly state funding in Algeria, Morocco, the Russian Federation and a mix of state funding and tuition fees or only funded through tuition fees in Croatia, Jordan.

Doctoral candidates are always recognised as students contrary to the EU which promotes their status as young researchers. It is impossible to estimate the share of part time students that have a job secured elsewhere that undertake PhDs only for career advancement and not to pursue genuine research.

The quality of doctoral diplomas is an issue when it comes to developing international relationships and exchange programmes. Several factors affect quality, including

- The lack of financial and human resources that make up the system
- The academic fraud and corruption (eg the “Dissertation for sale” phenomenon)

A growing number of new quality assurance and evaluation agencies and framework laws were put into place over the last five years but they do not yet focus on the doctoral level.

Challenges

In most EU neighbouring countries reviewed, the demographic challenge is the most critical, covering both the combination of a demographic explosion (notably in Mediterranean countries) with improved access to higher education and the ageing population of professors, the absence of a full generation of researchers in the 35-40 age bracket to replace them and the effects of the brain drain.

All this puts pressure on the organisation of doctoral programmes. All in all, challenges lie in the lack of funding for doctoral programmes, students and research, and also in the necessity to reach critical mass and the improvement of quality assurance:

The synthesis report and national reports for the 23 countries can be found at:

http://ec.europa.eu/education/external-relation-programmes/doctoral_en.htm

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Baltic Sea Regions

Technopolis has recently completed a study on integrating innovation policy to leverage the position of the Baltic States. The three Baltic States, the northern Polish regions and the Nordic countries that make up the region vary in their levels of economic development and innovation potential reflecting the challenges and diversity of the EU as a whole. While Nordic countries have jointly developed and pursued a research and innovation area, the Baltic and Polish regions do not have a similar sophisticated policy infrastructure or such mechanisms of transnational governance. Even amongst innovation leaders there is a great deal of variation – Eastern Finland lags considerably in comparison to the Finnish capital region.

The ‘catch-up’ process for the 25 regions is accelerated thanks to help from the Structural Funds. From 2007-13 there will be €5.5bn of investment for research, technological development and innovation. The investment is especially significant in Estonia, Latvia, Lithuania, and the three Polish regions, which combined receive sixty eight percent. Three regions in particular receive close to 50% of funds that have been allocated for the whole of the BSR regions.

With such concentrated efforts, the funds represent the vast majority of research, technology and innovation investment, making it the central element for future competitiveness. However, although significant in absolute terms, the funding does not influence the innovation gap between the Nordic countries and the less developed BSR regions. The implementation is slow and there are few results to report on. The money is primarily invested in research centres that will develop human potential for research and innovation.

Experience from the more advanced regions suggests that research infrastructure is not effective without the development of competitive research teams. If the Polish Regions and Baltic States are able to excel in a few selected niche areas in terms of quality and excellence of R&D then they may be able to cooperate with Nordic partners. The Nordic Countries also benefit from the Structural Funds although they form only a marginal share of innovation policy funding. The funds are used to support cutting-edge ideas and fundamental support in the early phase of new developments.

There is a risk that the existing disparities in the BSR are further reinforced with the strongest clusters accumulating the majority of the resources. Technopolis has completed a

study that developed five options to integrate the innovation policies in the BSR in order to address the differing levels of development and the different competitive advantages of the clusters in the Baltic Sea. Supporting a sustainable cooperation between business-academia R&D consortia would develop market lead key technologies. They could build upon the competence centres, many of which operate in complementary fields, which already exist in the BSR. The study suggests five options for strategic integration of innovation policies.

Future European support for early-stage funding should develop restrictions on investing solely in ‘local companies’ so that viable companies across the region may benefit. Currently, German, Polish and Baltic regions have insufficient access to early stage funds.

In the current system, decisions are driven by priorities of the organisations instead of the region. The first option is to fully consider priorities and BSR level synergies that could shift the current research infrastructure so that investments are no longer made in a piecemeal manner. Stronger oversight by the EC may avoid dispersion of funding and duplication of research infrastructure. Specific preconditions such as international peer-reviews and ‘open access plans’ allow national and BSR researchers and businesses to share resources. Joint programmes via ERANETS and BSR networks will form a new programmatic approach that results in three or four strategic funding programmes. Similarly, a fifth option is the development of synergies between expertise in advanced technology and innovation management. Innovation vouchers, science parks, and incubators would allow BSR regions to mobilise expertise on a larger scale than the current locally oriented infrastructure. Although the BSR regions have some expertise, many do not have all the fields and services necessary for a thriving local innovation culture required by business. However, their potential makes them a noteworthy and interesting study.

The ‘catch-up’ process for the 25 regions is accelerated thanks to help from the Structural Funds.

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Working in the Outermost Regions

The outermost regions of the European Union comprise eight French, Spanish and Portuguese territories situated outside Europe (Atlantic, Caribbean, Indian Ocean) with approximately 4.3 million inhabitants. These regions present new challenges and projects for Technopolis, some of which are highlighted here. The islands have several common features such as climate, vulnerability to natural disaster, remoteness from Europe, small local markets, limited research capacities, heterogeneity, and a lack of integration with regional markets and thereby require specific expertise. The regions actively seek guidance in order to prevent inadequate government policies.

Energy policy, particularly, throws up several issues: energy autonomy such as limiting the import of fossil fuels, development of local skills which capitalise on the many pilot projects, environmental protection which is especially an issue in tourist areas, etc. PURE AVENIR is an inter-regional project co-financed by the European Regional Development Fund as part of the French national technical assistance program (EUROPACT). This project brings together, for the first time, regional representatives and technical service providers in the renewable energy and energy efficiency areas. Four French regions are involved, three French outermost regions, Guadeloupe, Martinique and Reunion, and Corsica.

The purpose of the PURE AVENIR project is to increase efficiency and initiate cooperation in the form of good practice exchanges and common actions. At the beginning of the project, the partners were practically strangers. Although there are more than 20 flight hours between Guadeloupe and Reunion they share the same national energy policy and discussion was necessary. As a result of the project, the partners started a productive dialogue between regional and national authorities where no interaction previously existed, took strong joint political positions on common

issues, and initiated joint collaboration between research laboratories.

A second project, Growth Factors in the Outermost Regions, for the European Commission, Directorate General for Regional Policy, identified opportunities for economic growth in these remote areas, as part of the preparation of the next generation of ERDF programmes. Concrete proposals were developed for potential flagship projects. The report concluded with findings specific to each of the islands. The main suggestion is to use R&D to develop new specialisations amongst the traditional sectors, tourism, fishery and agriculture and to develop new sectors in areas such as renewable energy and services (maritime, environmental and health). This should be combined with new and high profile skills, applied research, and improved marketing to develop a sustainable process of growth. The report is available at http://ec.europa.eu/regional_policy/sources/docgener/studies/pdf/rup_growth/rup_growth_sum_en.pdf

Our final example consists of the evaluation of the national plan for SMEs in the French outermost regions for the French Ministry of Overseas Territories. This plan supports the development of innovative projects within SMEs through innovation grant schemes and the creation of clusters, different financial mechanisms such as venture capital, loans, micro-finance, etc., and the development of export capacities of local firms. The results of the project will be available by the end of April 2012.

The islands have been an interesting market for Technopolis group to branch into – the economic development and innovation policies there act almost as a small laboratory.

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Update from Germany

Technopolis has been active in the German market for over ten years prior to the opening of our office in Frankfurt. Numerous projects for clients from the German Federal Government and the Lander (Regional) Governments have been completed focusing on research, innovation and science policy. The Technopolis office in Germany was established in 2009. It is situated in Frankfurt am Main.

The main strengths of the German office lie in the financing of innovation, research and cluster evaluation, the application of strategic policy intelligence tools, including sectoral and territorial foresight as well as public policy support for innovation and innovation management.

Recent Assignments

Technopolis Deutschland started working on a one-year study for the German Institute for Standards (DIN). The study is part of the project Innovation with norms and standards, sponsored by the Federal Ministry of Economics and Technology on the basis of a decision by the German Bundestag. The team will develop a concept and handbook for the evaluation of civil security solutions, which can be used by DIN to identify gaps in standardisation and regulation, as well as by civil security providers for the procurement of equipment and services and innovation, science and technology parks.

Other projects recently undertaken include research for the German Federal Ministry of Education and Research (BMBF) who selected Technopolis to examine the framework conditions for innovation and technology development that reduce momentum in the German innovation system.

New Colleague



The Technopolis team in Germany is delighted to welcome Dr Thomas Teichler whose broad experience in foresight and the analysis of innovation and research policy complements the team's expertise. He has contributed to many studies on issues of the procurement of innovation and standardisation and has worked on the future of research and innovation policy for European and national public bodies.

Thomas joins Technopolis from the Manchester Institute of Innovation Research (MIoIR). Before joining MIoIR, he completed a PhD at the European University Institute in Florence following several years in consulting, for Roland Berger Strategy Consultants and NFO Infratest, among others.

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