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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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XXV
Anniversary
Edition





Celebrating 25 years of **Technopolis** consultancy practice is an auspicious moment to reflect on the huge progress research and innovation policy has made over this last quarter century.

25 years ago R&I policy strategies were written at the desks of civil servants in ministries and agencies in splendid isolation from research and business communities. Today wide stakeholder consultations and stakeholder driven research programming are common practice.

25 years ago quite a number of EU countries and regions did not position R&I as a cornerstone of their growth strategies. Today the role of R&I is well recognised as an engine for renewal.

25 years ago R&I programmes were designed as self-standing entities. Today policies are formulated in a wider context of innovation systems and policy mixes.

25 years ago R&I programmes were all about pushing a particular technology. Today programmes are (also) about supporting business models and societal challenges.

25 years ago it would be quite difficult to access good ideas from R&I policies in other countries and regions. Today policy makers take part in many EU and cross-border networks and know where to find policy information systems.

25 years ago a major culture clash between academia and business prevented collaboration. Today, stimulated by R&I policies, they have engaged into long term partnerships.

25 years ago R&I programme managers had ad-hoc and fragmented information on the research and innovation they were funding. Today research information systems and programme management information tools have proliferated.

25 years ago evaluation was a specialised field of expertise gradually entering the public management arena. Today no programme goes without some form of monitoring and evaluation.

Technopolis takes immense pride in its work since 1989, and the part it has played in driving research and innovation policy forward across and beyond Europe. Now, we are better equipped than ever to engage in the global R&I challenges of the next 25 years.

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Driving regional change: bringing to bear two decades of experience

Over the last 25 years, there has been a significant decentralisation of power in almost all European countries and a growing recognition that a 'one size fits all' policy does not generate sustained and sustainable regional development. From the mid-1990s, there was also recognition in regional policy circles that investment in 'hard infrastructure' (upgrading of transport and communication networks, business and science parks, water, sewage and other environmental improvements, renovation of urban centres, etc.) was a necessary but not a sufficient condition for regenerating regional economies. In the mid-1990s, new thinking on learning regions, regional innovation systems, clusters and 'creative classes' led to the launch of a first wave of experimental policies aimed at overcoming the 'regional innovation paradox', namely: the apparent contradiction between the comparatively

greater need to spend on innovation in lagging regions and their relatively lower capacity, compared with more advanced regions, to absorb public funds and to invest in innovation.

Technopolis Group staff have been involved in the design, implementation and evaluation of regional innovation policies since the early 1990s, including pioneering work on the first round of regional technology plans and 'RITTS' from 1995 and subsequently regional innovation strategies (RIS), regional programmes of innovative actions (in the first half of the 2000s) and 'mainstream' innovation measures funded by the European Union (EU) through the programmes of the Directorate-General for Regional Policy (DG REGIO). Moreover, we have an unparalleled capacity to carry out EU-wide analysis of regional innovation performance and policies thanks to over a decade of activity in managing policy monitoring networks and a leading role in building and analysing complex datasets such as the regional key figures of the European Research Area and the European Regional Innovation Scoreboard.

Since 2010, Technopolis Group has been actively supporting the current generation of Smart Specialisation Strategies (RIS3), an ex-ante conditionality for regional and national authorities to invest European Structural

and Investment Funds (ESIF) on research and innovation. We have provided analytical and 'process consultant' support to a series of countries and regions (from Lithuania to Île-de-France) to develop their RIS3 and developed methods for analysing specialisation patterns (at European, national and regional levels). As well as support to regional authorities, our staff have advised DG REGIO and other Commission services by carrying out expert reviews of RIS3 and related operational programmes in, for example, Estonia, Greece, Hungary, Latvia, the Netherlands, Northern Ireland, Portugal, Scotland and Slovenia.

Technopolis Group's body of work on regional innovation and most recently smart specialisation, has had a significant impact on the quality and design of policy-making processes at regional, inter-regional and macro-regional levels. To cite only a few examples:

- The Regional Innovation Monitor (now in its 5th year of operation) is widely recognised as the "go-to" place (with over 1200 registered users to the website) for information and analysis on regional innovation policies and performance, a series of in-depth reports on regional innovation policies, thematic comparative reports and an annual workshop series co-organised with the ERRIN network that attract 250+ high-level participants.
- During 2012-13, we led a 'mobilisation round' of meetings in all 13 Greek regions, at the request of DG REGIO, to kick-start the RIS3 process. We subsequently provided detailed operational recommendations to each region and pre-identified leading innovation and growing firms in each region for a second round of stakeholder meetings. Our intervention secured the 'political commitment' of the Greek partners to RIS3 and improved the capacity of DG REGIO to identify specific regions likely to face more difficulties in developing a RIS3.
- Through our involvement in the OECD-TIP smart specialisation project (2012-2013), lessons from regional cases were shared with Asian countries in an event on the extension of smart specialisation to East Asia, organised by the South-Korean government.
- We assisted the Flemish government in engaging in two 'action-oriented' cases of emerging smart specialisation domains (Nanotech-for-Health and Sustainable Chemistry) and developed a policy brief on the lessons of these case studies. This contributed to the formulation of the Flemish Government's Green Paper Smart specialisation policy for a new cluster policy published in 2013.
- In 2013, we provided the Regional council of Île-de-France, one of the largest and the most innovative European regions, with an assessment of their past regional innovation strategy as well as methodological

support and policy advice in identifying five key sectors for regional economic change. This was included in their Smart Specialisation Strategy published in 2013 (system engineering and complex software, digital creation, eco-building and neighbourhoods, smart and de-carbonated vehicle and medical device). In line with the 2013 projects, we have been continuing our support by evaluating ex ante the regional needs for financial instruments.

- Building on a 2011 study of innovation in the Baltic Sea Region, we contributed to the evaluation of the added value of the macro-regional strategies (Baltic Sea, Danube, etc.) with a specific assessment of the contribution to innovation and competitiveness. Our recommendations formed part of the Commission's Communication to the European Council with a view to optimising the macro-regional partnerships value added during 2014-20.
- In the spring of 2014, we advised the 17 Vanguard Initiative regions on the development of a pilot thematic smart specialisation platform in the field of advanced manufacturing, co-ordinating the mapping of scientific and industrial capacities and policies and organising two expert workshops. The platform aims to leverage co-investment by the regions in pilot industrial demonstrators, the pooling of research and innovation infrastructure and the creation of inter-regional 'value chains' to support Europe's 'industrial renaissance'.
- Our work on methods and indicators for evaluating regional innovation policy measures has been adopted as the official evaluation guidance document by DG REGIO for the 2014-20 programmes.

The experience accumulated over the last two decades on regional innovation policies leads us to argue that the 'proof of the pudding' is not a smart specialisation strategy per se, but the ability of regional public-private partnerships to co-develop novel 'innovation platforms'. It is clear that 'business as usual' will not lead to the scale of 'structural change' required to boost employment in some of Europe's less-favoured regions. In recognition of the need for 'thinking outside of the box', we have pioneered work on demand side measures at both European (e.g. a feasibility study for a European SBIR) and national levels (e.g. in Estonia we are currently designing three specific demand side initiatives to implement the RIS3); developed, for the European Commission, a guide for regional authorities on supporting the green economy through smart specialisation and assisted six pilot regions to develop service innovation strategies through the European Service Innovation Centre.

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Information systems for better research access and policy

The rapid proliferation of information systems that describe, store, disseminate and measure research provides an opportunity to generate a federated, Europe-wide way for researchers and policy-makers to get better access to research and the information needed to make policy.

At least four things drive the growth in research information systems and related systems. First is the growing interest in recent decades in monitoring and managing the use of state resources, under the slogan of the New Public Management, together with the need to ensure effective research systems at the national level and in the European Research Area. Multiple stakeholders are involved and since managing can involve changes in power and resource allocation, it inevitably raises questions not only of efficiency and effectiveness but also of legitimacy.

Second, policymakers need more information to generate 'strategic intelligence' for policymaking, so they demand a much higher level of data availability and more analysis is required than before. Such information is needed both centrally and by individual institutions. The desire to address grand or societal challenges increases the need for information that cuts across many parts of society.

Third is growing institutional autonomy. The old top-down style of detailed public management has been supplanted by management, by objectives and providing incentives rather than instructions to organisations like universities and research institutes that work on behalf of the state. Such institutions are increasingly autonomous and therefore need more strategic information to understand their performance, define their priorities and design their strategies. Amongst those actively involved in the production and use of research performance data are government bodies at the EU, national and regional/local levels and government agencies in charge of research and innovation governance. Then there are research institutions and their management and governing bodies, research groups, and ultimately the researchers themselves.

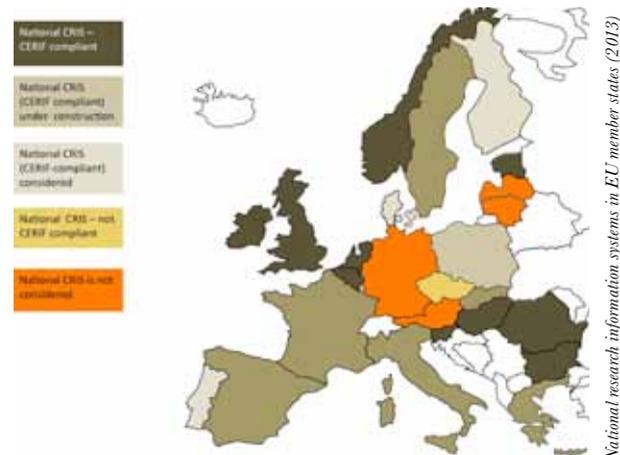
Fourth, a consequence of institutional autonomy is the spread of performance-based research funding systems that allocate institutional or 'core' funding based on the quantity and quality of the knowledge that organisations produce. These need a rich supply of data about research outputs, in order to operate.

Additionally, evaluations at the level of institutions, programmes, disciplines, innovation systems as well as the national and European levels are increasingly data-hungry and are under pressure to maximise their use of existing

data in order to be minimally intrusive with respect to those being evaluated. Sources range from aggregate STI indicators developed at European and global level (such as the OECD and Eurostat surveys) to information systems for research management. While policymakers like to use STI indicators to benchmark their countries' performance, these are inadequate for many purposes. There is increasing use of ad-hoc evidence collection projects, generating new micro-level data. These should improve our understanding of the processes leading to innovation and of the systemic impacts of research.

The map illustrates the extent to which national research information systems have so far been implemented. Initiatives such as the CRIS and CERIF standards are maturing and are making research information systems increasingly interoperable – internationally as well as nationally. However, the prize of interconnecting systems in such a way that they are useful to both researchers and policymakers can only be won at the cost of investing more effort.

- Overcoming some of the current conceptual and methodological challenges in indicator development
- Supporting and coordinating the development of national research information systems in all European member states, based on common standards
- Developing a more standardised approach to defining output- and other indicators, while ensuring these reflect individual national needs
- Supporting the technical development of an integrated European research information infrastructure



This article is based on: Bea Mahieu, Erik Arnold and Peter Kolarz, *Measuring scientific performance for improved policymaking*, Brussels: Science and Technology Options Assessment, European Parliament, 2014. Available at

[http://www.europarl.europa.eu/RegData/etudes/etudes/join/2014/527383/IPOL-JOIN_ET\(2014\)527383_EN.pdf](http://www.europarl.europa.eu/RegData/etudes/etudes/join/2014/527383/IPOL-JOIN_ET(2014)527383_EN.pdf)

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Joint Programming – a new way of aligning research programmes in Europe

Research efforts are essential to address grand societal challenges such as health and demographic change, food security and climate change. In some cases these challenges cannot be effectively tackled by a single country. Currently, more than 80 per cent of all scientific research in Europe is performed at the national level, mainly funded by national and regional research programmes. The result is that these programmes run in isolation, leading to unwanted fragmentation or ineffectiveness.

In order to increase coordination and coherence of these national research programmes, the European Commission introduced the concept of joint programming at the beginning of this century, as a major factor in achieving the goal of a European Research Area (ERA). The closer coordination of national research programmes will lead to a better use of Europe's precious R&D resources. This in the end will avoid unnecessary duplication, align national programmes and be beneficial in developing critical mass because of less fragmented research funding.

Through a number of initiatives, the European Commission encouraged joint programming amongst the European member states: ERA-nets, Article 185 (ex. Article 169) initiatives and Joint Programming Initiatives (JPIs). ERA-nets and Article 185 initiatives compared to JPIs are co-funded by the European Commission, whilst JPIs only rely on available research funding in the participating member states. The ten JPIs that have been established are member state led initiatives, all addressing societal challenges.

For this new mechanism of European research funding, showing progress, results and impacts is crucial. Over the past few years Technopolis has been involved in a number of studies that address the monitoring and evaluation of ongoing joint programming initiatives.

From 2011 we assisted the EU Joint Programme - Neurodegenerative Disease Research (JPND), the first of the ten JPIs created, in setting up a comprehensive monitoring and evaluation framework. Through JPND, Europe aims to tackle the challenge of neurodegenerative diseases. This framework, built on the intervention logic of the initiative setting out its objectives and activities related to the expected effects and impacts, clearly presents indicators of performance that are used to show the progress of JPND over time. The indicators defined focus on monitoring the effect of JPND on research programming, research policy and funding (i.e. the concept of joint programming) as well as the scientific and societal impact of JPND on neurodegenerative diseases research in Europe. This framework was beneficial to the other JPIs in developing a similar

approach towards monitoring and evaluation. Recently, the European Commission made use of this framework to define a template to assess bi-annually the status of the joint programming process of the different JPIs.



Currently, we are in the final phase of the evaluation of the first programme of the European and Developing Countries Clinical Trials Partnership (EDCTP), one of the five Article 185 initiatives. EDCTP aims to accelerate the development of new or improved drugs, vaccines, microbicides and diagnostics against HIV/AIDS, tuberculosis and malaria through clinical trials in sub-Saharan Africa. This is done through European research integration in partnership with African countries. This evaluation concentrates on two aspects: first the way the programme has been executed and second the impacts the programme has achieved in the area of clinical trials in sub-Saharan Africa, including capacity strengthening and research coordination.

We supported the European Commission with the ex-ante evaluation of the European Metrology Programme for Innovation and Research (EMPIR), a new Article 185 Initiative under Horizon 2020. The aim of an ex-ante evaluation is to demonstrate that such a European intervention is justified in terms of the expected scientific, economic and societal impacts.

Finally, for another Article 185 initiative, the Ambient Assisted Living Joint Programme (AAL JP), we are in the process of developing an addendum to its monitoring strategy, especially capturing the societal and economic impacts of the funded projects. As AAL projects aim to produce practical solutions for independent living or 'ageing well' of elderly people using information and communication technologies, industry and end-users play an important role in making the programme a success.

For more information about our work related to the concept of joint programming, the various initiatives and what we can offer please contact Bastian Mostert MSC, Technopolis consultant in Amsterdam.

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Charting a course for the Lithuanian Valleys



Recent pharmacy building (Kaunas) - Courtesy of LUHS

Lithuania has consistently been amongst the weakest European countries in terms of science and innovation performance. An under-investment over many years in the renewal of scientific research infrastructure and a low intensity of business R&D investment are some of the underlying factors behind this performance. To tackle this deficit, in 2008 the Government of the Republic of Lithuania approved five integrated science, studies and business centres or 'Valleys': Sunrise and Santara in Vilnius, Santaka and Nemunas in Kaunas and Marine in Klaipeda. The Valleys were developed through a €400m investment (co-funded by the European Regional Development Fund) into 20 research and innovation (e.g. incubators) infrastructure projects. The Ministry of Education and Science (MOES) supervised 14 research infrastructure projects and the remaining six projects were the responsibility of the Ministry of Economy (MOE).

In December 2010, Technopolis Group, in partnership with EY Baltic, signed a contract with the Research and Higher Education Monitoring and Analysis Centre (MOSTA), an agency of the MOES responsible for analysing the Lithuanian research and higher education system. The consortium's task, as the **Valleys Monitoring Group**, was to assess progress in implementing the 20 projects (investment phase) and to assist the host institutions to develop the capacity to operate the new facilities (operational phase). This project, unique within the Technopolis Group portfolio, lasted 3.5 years (officially completed in June 2014) during which we delivered services both at policy-making level to ministries

and related agencies and provided hands-on operational support and training services to the Valley project managers and related stakeholders.

At the policy level, we advised the ministries and MOSTA, the Agency for Science, Innovation and Technology (MITA) and the Lithuanian Research Council regarding the development, financing and implementation of the Valleys projects. Our work was presented to and discussed on an on-going basis with the ministers, deputy ministers and department heads. At an operational level, we provided advisory services to the top management of the universities and state research centres, the Valley associations and subsequently, the Open Access Centres (OAC). The latter were set up by the host universities and state research institutes to ensure a long-term capacity to re-invest in the equipment and encourage businesses and researchers from other institutions to use the newly-installed equipment.

In the first 18 months of the contract, the consortium focused on setting up a monitoring system to facilitate the collection and analysis of information on project progress, including a review of the key performance indicators and the initial targets. In parallel, we conducted a strategic review of the national science and innovation policy management system. Taking into account the need to optimise the return from the Valley projects, as well as four related thematic Joint Research Programmes, the consortium proposed a 'management and coordination' model. The model streamlined the policy-making cycle and allocated responsibility for policy design, implementation and evaluation more clearly across the ministries and agencies. Based on our recommendations, a national Research and Innovation Strategy Council, chaired by the Prime Minister, was established.

To enhance the management of Lithuanian research infrastructure, we reviewed good practice in other European countries, as well as in Canada and Australia. Based on this work, we suggested several alternatives for research infrastructure management in Lithuania and developed three competitive funding schemes to support the operational phase of the Valley projects. One of these schemes to fund joint research-industry projects was implemented by MOES and MITA, the first such collaborative funding scheme in the country. In the second half of the contract, the Lithuanian authorities began to prepare their 'smart specialisation' strategy for the 2014-20 programming period. At

the request of MOSTA, the consortium provided strategic advice on how to appraise the future priorities and position the five Valleys in this emerging strategy. In spring 2014, we organised five international peer review workshops to help the Valley stakeholders to consider their future plans from a comparative perspective.

At an operational level, our work focused on delivering a seminars and training package (39 sessions in total) and practical advice to higher education and state research institutions to help them set up and manage the OACs. Faced with evidence of weak project management during the investment phase, we drew up detailed recommendations on required staff functions and profiles for each of the 20 projects. Most importantly, the consortium supported the OAC management to develop a business plan, including detailed financial (income and expenditure) projections and operational targets to 2020. Given the need to lever additional funding (public and private), we examined (with the support of legal experts) potential models for public-private partnership based investments. For operational efficiency, we assessed how to centralise non-core functions, such as real estate and facilities management, IT, etc. and recommended changes to existing practice. To help the OACs attract qualified researchers, partners, investors and clients, we developed a marketing and branding concept. In addition, the team developed public relation guidelines and a tailored plan for each research infrastructure.

By 2014, the investment phase of the majority of the projects was close to completion and scientific and contract research activities had begun. However, the success of the Lithuanian Valleys will only become clear in the longer-term. To this end, we prepared a socio-economic impact methodology to assess the 'pathways' via which the research infrastructure investment can lead to tangible results in both scientific and economic performance.

Technopolis Group remains committed to supporting MOSTA and the wider group of stakeholders to ensure the substantial investment made, over the last four years, provides a real boost to Lithuania's visibility in the European research and innovation landscape.

You can download a number of relevant documents at: <http://mosta.lt/en/projects/valleys-and-jrp>

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Nemunas Valley (Kaunas) labs - Courtesy of ASU



Recent pharma building (Kaunas) - Source: www.madeinkaunas.lt

Group News

XXV event in Brussels

Technopolis has a double reason to celebrate in 2014. It is 25 years since our first clients commissioned Technopolis. Ten years ago, the fifth Technopolis office opened in Belgium. To celebrate this joint anniversary, the Brussels office is hosting a celebratory event on 10th June, providing an opportunity for clients and Technopolis colleagues, both past and present, to mix and mingle.

Principal Appointments

To support its growth strategy, Technopolis is delighted to announce that it has promoted three colleagues to lead its development in key areas. Rebecca Allinson has been appointed a Director, based in the Brighton office and will spearhead the Group's business in Higher Education. Michal Miedzinski and Peter Varnai have been promoted to the role of Principal Consultant in the areas of Green Economy and Health respectively. These colleagues will orchestrate the consultancy business across the Group's offices in their respective areas.

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Technopolis has revamped its website with a number of new features and translations of core content into 7 languages. There are links to the Group's Linked in and Twitter pages and many of our recent reports are available to download.



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