'SMART SPECIALISATION' AND COHESION POLICY – A STRATEGY FOR ALL REGIONS?

IQ-Net Thematic Paper No. 30(2)

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Improving the Quality of Structural Funds Programme Management Through Exchange of Experience

32nd IQ-Net Conference (Phase V)

Tampere, Finland, 18-20 June 2012

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July 2012

PREFACE

The research for this paper was undertaken by EPRC in preparation for the 32nd IQ-Net meeting held in Tampere, Finland on 18-20 June 2012. The paper was written by David Charles, Frederike Gross and John Bachtler.

The paper is the product of desk research and fieldwork visits during Spring 2012 to national and regional authorities in EU Member States (notably partners in the IQ-Net Consortium). The field research team comprised:

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EPRC thanks all those respondents from national and regional authorities and other organisations who participated in the research. EPRC also gratefully acknowledges the financial support provided by participating Member States and regions, whose contributions are co-financed by technical assistance from the European Structural Funds. The authors are also grateful for helpful advice and feedback on earlier drafts of this paper from the IQ-Net research team, and for support with the formatting of the paper from Alyson Ross. The report is, however, the responsibility of the authors alone.

The partners in the IQ-Net network are as follows:

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- State Government of Niederösterreich (Lower Austria), Economic and Tourism Department
- State Government of Steiermark (Styria), Economic Policy Department

Belgium

- Enterprise Flanders Agency

Czech Republic

- Ministry for Regional Development

Denmark

- Danish Business Authority

Finland

- Alliance of Länsi-Suomi (Western Finland) and the Ministry of Employment and the Economy

France

- Délégation interministérielle à l'aménagement du territoire et à l'attractivité régionale (DATAR, Interministerial Delegation of Territorial Development and Regional Attractiveness)

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Greece

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- Ministry of Economic Development and Promuovi Italia SpA

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- Śląskie Voivodeship (Marshal's Office of Silesia)

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- Financial Institute for Regional Development (IFDR)

Spain

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Slovenia

- Ministry of Economic Development and Technology, EU Cohesion Policy Directorate

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- Department of Communities and Local Government
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- Welsh European Funding Office

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To cite this paper, please use the following: Charles D, Gross F and Bachtler J (2012) 'Smart Specialisation' and Cohesion Policy – A Strategy for All Regions?, *IQ-Net Thematic Paper 30(2)*, European Policies Research Centre, University of Strathclyde, Glasgow.

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It should be noted that the content and conclusions of this paper do not necessarily represent the views of individual members of the IQ-Net Consortium.

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EXECUTIVE SUMMARY

The Innovation Journey

Regional innovation policies have been promoted by the EU for almost two decades. The development of the EU approach in terms of concepts, policy content and funding constitutes a 'journey' in several respects. Over time, the concept of regional innovation strategies has evolved and become somewhat mainstreamed in Europe's regions. It is being further developed at present through the extension to 'smart specialisation strategies for regional innovation' in response to the Europe 2020 strategy.

Although the concept of smart specialisation is not necessarily different from regional innovation strategies, there is an enhanced focus on the diversification of the region on the basis of existing strengths as well as a more dynamic approach to cluster policy. This approach fits with current thinking on regional policy in being place-based, where regional strategies are distinctive and founded on exploiting local assets depending on their unique characteristics and evolutionary path. A final dimension is the recognition of inter-regional connectedness.

This new (re)conceptualisation of regional innovation strategies is being actively promoted by DG REGIO as the basis for the next generation of Structural Funds programmes post-2014. The presence of a smart specialisation strategy is to be a requirement, as part of the new *ex ante* conditionality framework, for a region wishing to use its ERDF for innovation activities. This inevitably raises questions as to what is a smart specialisation strategy, and whether it makes sense for all regions to follow this model.

Smart specialisation should not be seen as being about technology as such but about knowledge and its application. However, the current model of economic development and the importance placed on R&D indicators tends to favour a particular group of industries that draw on new *scientific* knowledge without taking activities related to 'hidden innovation' (e.g. creative industries) into account. Smart specialisation strategies may recognise these opportunities, and furthermore may seek to turn what have been seen as disadvantages in the past into assets from which new activities may be built.

Looking at the evolution of EU Cohesion policy allocated to R&D and innovation, there has been a steady increase over subsequent programming periods, reaching an estimated €86.4 billion in 2007-13, i.e. more than a tripling compared to the previous period. There are considerable disparities across countries in terms of funding amounts and targeted themes, as well as differences in terms of whether the funding is mainly allocated at the national or regional level. Comparing the two programming periods, the weight of the EU12 has increased significantly, notably with respect to core RTDI, while the EU15 remain predominant in the field of business innovation. However, it is important to stress that innovation governance arrangements remain centralised in most countries despite an increase in the regional focus.

The development of innovation strategy at the regional level can be seen as a form of innovation journey, with strategy evolving over extended periods on the basis of a policy cycle within which there are possibilities for failure, wrong turnings and difficult choices at junctions. Leadership is central to this process and recognition should be made that there are various forms of leadership needed to develop a strategy, implement it and then make further adjustments depending on results. Capacity-building is likely to be central to the success of such an approach.

Implementing Innovation through Structural Funds: Experiences of programme authorities

Research among IQ-Net partner countries and regions indicates varied approaches to strategy development, with examples of well-established strategies, strategies still under development and emerging strategies. Further, the presence or absence of a strategy is not conclusive: a number of regions implement advanced innovation policies without basing them on a single strategic document. Moreover, innovation strategies can be more or less formalised, they are not necessarily stand-alone documents and can be interlinked with other related strategies.

Among regional innovation strategies, there are many similarities in terms of the development process and content. Most IQ-Net partners define innovation in broad terms with a general move towards greater support for innovation in businesses, including less technology-oriented sectors. Efforts have also been made to make strategies more targeted with clusters receiving renewed attention in the context of the smart specialisation agenda.

The increasing importance of innovation in Structural Funds programmes suggests that innovation strategies and programming documents need to be connected more closely. At present, the links are variable, ranging from close integration to a parallel co-existence of the two. At the same time, the specific role of Structural Funds in innovation policy varies depending on the amount of funding available.

Based on experience of implementing innovation strategies, several lessons can be drawn. *Collaborative leadership and commitment* are crucial, a requirement which needs to be based on strong regional consensus and/or close integration with domestic strategic programmes. Serious difficulties are encountered where there is institutional instability or a lack political commitment. A clear allocation of responsibilities and effective coordination mechanisms are also important, sometimes (but not always) helped by the existence of dedicated implementation.

Another important pre-condition relates to *partnership arrangements*. This includes seeking ways to ensure collective 'ownership' of strategies, the creation of specific bodies with partner representation and/or the creation of networks to bring relevant actors together. While partner engagement can help secure wide-spread support for strategic decisions, it may also involve problems with decision-making as well as considerable costs, which need to be considered.

In order to implement innovation policies in a targeted way, they need to be based on *sound prioritisation of resource allocation decisions* at strategic and operational levels. Over time, efforts have been made by some IQ-Net partners to narrow down priorities, but in other cases prioritisation has been less successful, especially where funding is plentiful.

There are several options for translating programme priorities into relevant projects, e.g. commissioning projects at the outset, using criteria for strategic alignment during project appraisal or selecting projects via targeted calls. However, discrepancies can occur between strategic commitments and their implementation as well as difficulties with appraising or selecting specific projects.

Institutional capacity is crucial for successfully ensuring leadership, partnership and prioritisation. Conversely, the lack of capacity is a significant constraint, especially when there is a structural rather than a temporary gap in capacity. In order to enhance and build capacities, a number of IQ-Net partners use specialist bodies to deliver complex instruments and initiatives. Some have also introduced learning mechanisms, but overall there is surprisingly little focus on capacity development, which and is absent from most strategic documents.

Regulatory complexity represents another layer of constraints. This applies generally to all projects funded by Structural Funds, especially when State aid is involved, but *a forteriori* to innovation projects, which due to their complexity, risky character and lack of tangible outputs do not fit very well with the existing regulatory environment. This means that stringent regulations do not only make project implementation cumbersome but can lead to a situation where strategies cannot be implemented as intended or, in the worst case, are designed in a way to suit the regulatory environment.

Preparing for 'Smart Specialisation' in the 2014-2020 Programmes

Most managing authorities are currently at the stage of exploring the strategic options for the 2014-20 period with a focus on analytical work and consultation processes. As yet, there is no clear view on the allocation of resources in terms of R&D and innovation – beyond the guidance in the draft Common Strategic Framework. There are some indications regarding a strategic (re)orientation of programmes, aiming at a greater concentration of resources. In terms of the changes to the thematic focus, it is being discussed in in how far the next period will involve a further move towards 'soft' interventions and whether to complement an excellence focus by support for more 'everyday' innovation.

Management and implementation arrangements are evolving in some cases, with moves towards more effective coordination and changes to project development. Changes are also associated to institutional reform or reorganisation. These developments need to be kept in perspective as the overall picture emerging from the IQ-Net research is one of continuity (at least at this stage) in management arrangements. Challenges relate to the learning required in countries lacking regional innovation strategies, co-financing issues due to the on-going economic crisis.

Given the diversity of regional development needs and institutional arrangements across the EU, the views of managing authorities on 'smart specialisation' diverge considerably. The IQ-Net research suggests that they range from very positive (especially in cases where current innovation policies are already in line with the concept), to scepticism as to its utility, as well as cases, where the smart specialisation agenda raises uncertainty and concern. Questions about the practical implications of smart specialisation have also been raised. In this context, many partners have stressed the importance of keeping the

strategies flexible and of enhancing scrutiny regarding the growth potential of different sectors and individual initiatives, such as clusters.

At the heart of a smart specialisation strategy is the question of identifying regional strengths for innovation support. What guidance can be given to regional partnerships in trying to identify a focus?

- The focus of a smart specialisation strategy need not be high technology sectors. Sectors or clusters need to be selected which have growth opportunities and where support for innovation may be targeted.
- The selection of priorities needs to be made on the basis of some existing strength or expertise rather than aspiration.
- Regions should look to diversify their activities based on existing strengths and areas of expertise by moving into areas of related expertise.
- Regions need to be aware of the systemic nature of innovation and focus effort on enhancing existing or emergent systems rather than focusing on one-off firms.
- regions should look to develop inter-regional partnerships where appropriate but also help firms in wider networking to obtain the support which is right for them and maximises their opportunities for growth.

Conclusions

The smart specialisation approach offers opportunities for all regions by challenging assumptions that regional innovation should be somehow connected with high technology and R&D. However there remains considerable uncertainty about how it will be implemented.

- Some regions have all the necessary elements for such a strategy, but have not felt the need to encompass this within a formal written strategy document. For these regions (e.g. NRW, Scotland) producing such a strategy may be an administrative requirement which adds little value.
- At the other end of the spectrum, some regions lack fundamental capacities to develop an innovation strategy and lack the tools to prioritise regionally-based innovation actions. For these regions the development of a smart specialisation strategy seems very unrealistic. They may develop a document at great effort but it may not be deliverable.
- Other regions may have the tools to produce strategies but without the leadership to ensure they are delivered.
- Perhaps the regions where smart specialisation makes most sense is in those, which have ambitions and possibilities to enhance regional innovation capacities, but have so far not had the opportunity to do so (e.g. France)

- Whilst in theory smart specialisation should be a strategy for all regions, the practical implications pose challenges for a number of regions and countries as to whether they can gain the benefits from the effort involved.

Capacity-building is central to the success of this initiative, especially for those regions with little experience of previous innovation strategy-building, or with weak innovation support infrastructures.

Finally there are some challenges for the Commission in ensuring the effective implementation of this strategy. More consideration perhaps need to be placed on the development of smart specialisation strategies in weaker regions so the difficulties can be more clearly identified and addressed in the guidance. There is a need to recognise that the smart specialisation journey is likely to be a difficult one for many regions and with many false starts and missed turnings. This will require patience and much support but the focus so far is on the theory rather than the practice.

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1. INTRODUCTION

The role of innovation in Cohesion policy has increased considerably over time, to the extent that the Operational Programmes for the 2014-2020 period are expected to be built around this theme to a large extent. This move is largely promoted in the framework of the 'smart specialisation' agenda, which follows on from various Commission initiatives to enhance regional innovation strategies since the mid-1990s. This has been accompanied by a change in the orientation of Cohesion policy from a territorial to a more thematic approach, notably via the abolition of eligible areas in the 2007-2013 period.[1]

For the purpose of this paper, the development of innovation policy is considered as a 'journey' at EU level as well as at the level of individual regions. The importance of the regional level has received a significant boost in the field of innovation policy, where its role is about "identifying the high-value added activities which offer the best chance of strengthening a region's competitiveness. In particular, this requires strategic intelligence, coordination of the use of different sources of funding, and forward-looking exercises, e.g. foresight initiatives, technology road-mapping, innovation platforms, etc."[2]

According to the smart specialisation concept, all regions will have different strategies depending on their unique characteristics and evolutionary path. This means that they set out from different starting points with differences in their initial conditions, notably in terms of institutional capacity, with some regions already fulfilling all the necessary pre-conditions to develop smart specialisation strategies. However, given that not all are in a position to comply with these requirements, the paper looks at the question whether it makes sense for all regions to follow this model.

To begin with, the historical background of innovation policies at EU level are outlined as well as the context of regional innovation strategies at the level of Member States and regions. The following section focuses on IQ-Net partner experiences in terms of implementing innovation through Structural Funds programmes as well as at lessons of regional innovation support. Looking ahead towards the 2014-2020 programming period, the paper then explores partner preparations for future innovation support and what smart specialisation means to managing authorities. It concludes with a number of issues for discussion.

[1] For an overview of Cohesion policy and innovation in the 2000-06 period, see Davies S, Mendez C and Quiogue N C (2004) Cohesion policy funding for innovation and the knowledge economy, *IQ-Net Thematic Paper 15(2)*, European Policies Research Centre, University of Strathclyde, Glasgow.

[2] Technopolis group, Frauenhofer ISI and Maastricht University UNU-MERIT (2011) *Regional Innovation Monitor*, Innovation Patterns and Innovation Policy in European Regions - Trends, Challenges and Perspectives, 2010 Annual Report, p.53.

2. CONTEXT – THE INNOVATION 'JOURNEY'

2.1 EU Innovation Policy

2.1.1 Historical background

Europe has a long experience of regional innovation strategies, dating back to the late 1980s in some cases, with the European Commission taking an active role in promoting the use of such strategies from the mid-1990s. The driver for Commission interest was the reform of the Structural Funds in 1988 and the initial shifts in focus for ERDF towards endogenous development and innovation. The STRIDE community initiative in 1990 sought to implant RTDI actions into regional programmes and included the possibility for regional level studies of demand for innovation support. This initiative was designed on the basis of experience in a number of regions during the late 1980s in developing innovation policies, not least that of the Basque Country which had developed a series of programmes at regional level to support innovation.[3]

Whilst STRIDE demonstrated a range of different kinds of innovation measure, and was accompanied by a sharing of experience, the Commission felt there was a need to more formally support the development of innovation strategies and DG XVI launched the Regional Technology Plan (RTP) initiative in 1994, later renamed the Regional Innovation Strategy (RIS) programme. The idea of the RTP was to gain a better understanding of the existing strengths and weaknesses of a region, and the needs of firms, and compare this with the current and potential supply of innovation support in order to develop an action plan. In parallel, DGXIII had developed experience of technology transfer and innovation policies, and had a scheme of consultancy for new science parks based on a demand and supply analysis which was then modified for a regional strategy process called RITTS (Regional Innovation and Technology Transfer Strategies).[4] Coordination between DGXVI and DGXIII led to the formation of a joint approach to innovation strategies, funded under the two programmes (RIS and RITTS) and supported by a common guidance and network tools from 1996.[5]

Over 60 regions were supported by the RITTS programme between 1994 and 2000, 6 by the RTP programme and 26 by the RIS programme. As such then this process became quite common across the EU and the methodology became well embedded within the policy community. There were some subtle differences between RIS and RITTS, especially as RITTS projects did not have to be in Objective 1 or 2 regions, did not have to be led by a regional authority, and did not have to be confined to recognised regional boundaries. Thus some of the RITTS projects were at a sub-regional scale and were not tied into Structural Funds

[3] Charles, D R (2001) 'The Evolution of European Science and Technology Policy and its Links to the Cohesion Agenda', in H. Lawton Smith, *The Regulation of Science and Technology*, Palgrave.

[4] Charles D R *et al* (2000) *RITTS Evaluation*, Office of Official Publications of the European Communities, Luxembourg.

[5] Landabaso M and Reid A (1999) 'Developing regional innovation strategies: the European Commission as Animateur', in K. Morgan, C. Nauwelaers (Eds.), *Regional Innovation Strategies The Challenge for Less-Favoured Regions*, The Stationery Office, London (1999), pp. 1–18.

programmes. However, the approach was generally deemed to be useful in prioritising investment in innovation and a number of countries launched their own initiatives to encourage such regional strategies. In the UK for example the English regional development agencies were each required to develop a regional innovation strategy in the mid-2000s.

The results of these efforts were varied. Evaluation of the RITTS programme showed considerable variations in outcome with some strategies having little impact. Success was attributed to a combination of good underlying pre-conditions, strong legitimate leadership and sound managerial processes. Some criticisms of the approach may also be made in terms of the neglect of inter-regional linkages and interdependencies, an assumption of a linear process of innovation rather than interactivity, and insufficient attention to the issue of leadership.[6]

Following the RIS programme, DG REGIO continued to support this form of collaborative strategy-building via the Regional Programmes of Innovative Actions from 2001, as 'laboratories of ideas for regions to develop innovation strategies'. The results of this work were then published again as guidance for regions seeking to embed these activities in the 2007-2013 ERDF programmes.

During the 2000s, additional European Commission support for regional innovation strategies was provided within the Framework Programme for research through the Regions of Knowledge programme, which sought to build collaborations between regions and within regions to develop and share good practice for knowledge-based regional development. Regions of Knowledge was initially launched as a pilot action in FP5 in 2003, but then mainstreamed in FP6 and FP7. A key feature of the Framework Programme approach though has been a focus on research collaboration and partnerships within regions, termed 'research-driven clusters' which may be alternatively described as triple helix partnerships involving research bodies (e.g. universities), firms and government. This is somewhat different from DG REGIO's focus on regional innovation in the emphasis placed on research as a key driver, and building research capacity as a key outcome of the programme.

So following this long gestation period, the concept of regional innovation strategies has evolved and become somewhat mainstreamed in Europe's regions, and is being further developed at present through the extension of the concept to 'smart specialisation strategies for regional innovation'. Smart specialisation is a response to the Europe 2020 strategy with its focus on smart, sustainable and inclusive growth.

2.1.2 The 'smart specialisation' agenda

Smart specialisation emerged from a macroeconomic concern for the competitiveness of Europe and the trans-Atlantic productivity gap. Europe's opportunities were said to be likely to emerge in areas according to existing evolutionary pathways, and as a result of the discoveries of agents such as firms and universities. Smart specialisation was therefore

[6] Charles, D R *et al* (2000), *op.cit*.

initially a form of national innovation system theory linked with a strong sectoral orientation.

This was then applied to the regional scale in the expectation that regions might identify particular sectors of specialisation

> '*The idea is that regional authorities can exploit the smart specialisation logic by undertaking a rigorous self-assessment of a region's knowledge assets, capabilities and competences and the key players between whom knowledge is transferred. This militates against recommending off-the-shelf local economic policy solutions and instead requires a careful analysis of regional knowledge capabilities and research competences. However, following a regional innovation systems way of thinking, as well as technological, sectoral, and geographical features, this regional analysis would also necessarily involve a consideration of the local institutional and governance issues which foster or mitigate the diffusion of innovations.*'[7]

It is difficult to see a real difference between this new idea of smart specialisation and previous work on regional innovation systems and strategies. Both place an emphasis on context and path dependency in shaping a knowledge ecology, and both place an emphasis on the actions of agents to identify new opportunities within technological trajectories. However, a new dimension is a focus on diversity which emerges from Philip McCann's interpretation. McCann notes that it is the more successful regions that have all of the advantages in implementing smart specialisation and innovation, and that part of this advantage lies in their greater diversity of economic activity. Whilst specialisation can lead to advantages as a result of cluster economies it also brings fragility, and if a region is specialised in weak or non-innovative industries then growth will be weak. Diversity leads to greater opportunities for growth, although without some specialisation around those growth sectors the benefits may not be fully realised. The idea of related diversity however explains how regions are able to diversify into activities that are related to existing strengths.[8] Again this is not new, but is perhaps a more sophisticated understanding that clusters are not fixed but constantly evolving and stretching to incorporate new related products and services drawing on existing expertise, knowledge and skills. What it does do though is reinforce that clusters in regional innovation systems are not tightly defined in sectoral terms but are bundles of expertise that evolve and diversify over time.

Smart specialisation fits with current thinking on regional policy in being a place-based form of policy where local specificities and institutions form the basis of regional strategies that are distinctive and founded on exploiting those local assets. All regions will therefore have different smart specialisation strategies depending on their unique characteristics and evolutionary path. However, the policy should be devoted not just to supporting existing

[7] McCann and Ortega-Argilés (2011) 'Smart Specialisation, Regional Growth and Applications to EU Cohesion Policy', *Economic Geography Working Paper 2011 : Faculty Of Spatial Sciences, University Of Groningen*, p.3 [URL: http://ipts.jrc.ec.europa.eu/docs/s3_mccann_ortega.pdf]

[8] Boschma, R A and Iammarino S (2009) 'Related Variety, Trade Linkages and Regional Growth', *Economic Geography*, 85(3), 289-311.

specialisation of the region, as this may reinforce vulnerability, but to facilitate related diversification. This is not usually explained in concrete terms as what might be done varies by region, and carries a risk, but might include the development of generic skills that fit with existing regional needs but also extend into new areas of application.

A final dimension is the recognition of connectedness, that regions are connected and that they are affected by what happens in other regions. Thus developments in one region may lead to an outflow of people from another, regions may collaborate and learn from each other, or success in one region may limit the possibilities for others. Here the regional economic theories need to be tempered by reality in that whatever can be modelled is much less simple than real regions which are already highly interconnected in many dimensions. Smart specialisation strategies thus need to take account of regional connectivity, but again this needs to be done in the context of existing relationships and interdependencies.

This new (re)conceptualisation of regional innovation strategies is being actively promoted by DG REGIO as the basis for their thinking in the next generation of Structural Funds programmes post-2014. Various studies and reports have been produced and are being circulated with seminars across Europe. The presence of a smart specialisation strategy is to be a requirement, as part of the new *ex ante* conditionality framework, of a region wishing to use its ERDF for innovation activities. This inevitably raises questions as to what is a smart specialisation strategy, and whether it makes sense for all regions to follow this model. Certainly if smart specialisation meant a high technology production strategy then this would not be appropriate for all regions, and many of the exemplars being discussed fall into this category. There are however wider interpretations of the concept that offer opportunities for most regions, including those that lack a base in R&D-intensive sectors.

Smart specialisation should not be seen as being about technology as such but about knowledge and its application, and this applies to all sectors, even agriculture and craft-based industries. Innovation in these sectors may encompass the applications of generic technologies such as ICT to all aspects of the value chain including marketing and distribution. The current model of economic development and the importance placed on R&D indicators in measurement of innovation tends to place importance on a particular group of industries that draw on new *scientific* knowledge. Some of these industries have been extremely high growth and export oriented which reinforces their position in economic development narratives, but not all display such growth, and most are concentrated in a few regions. Traditional industries may also be a source of exports and growth, and are a major opportunity for productivity improvements, but innovation in these industries is not captured by R&D expenditure or patents. This has been described as 'hidden innovation'[9] in that innovation is not visible in the usual OECD indicators, yet it may be just as significant for economic development. The creative industries are one example of new and growing innovative sectors which do not appear in national RTD indicators, yet may appear in less industrialised regions as well as the more cosmopolitan

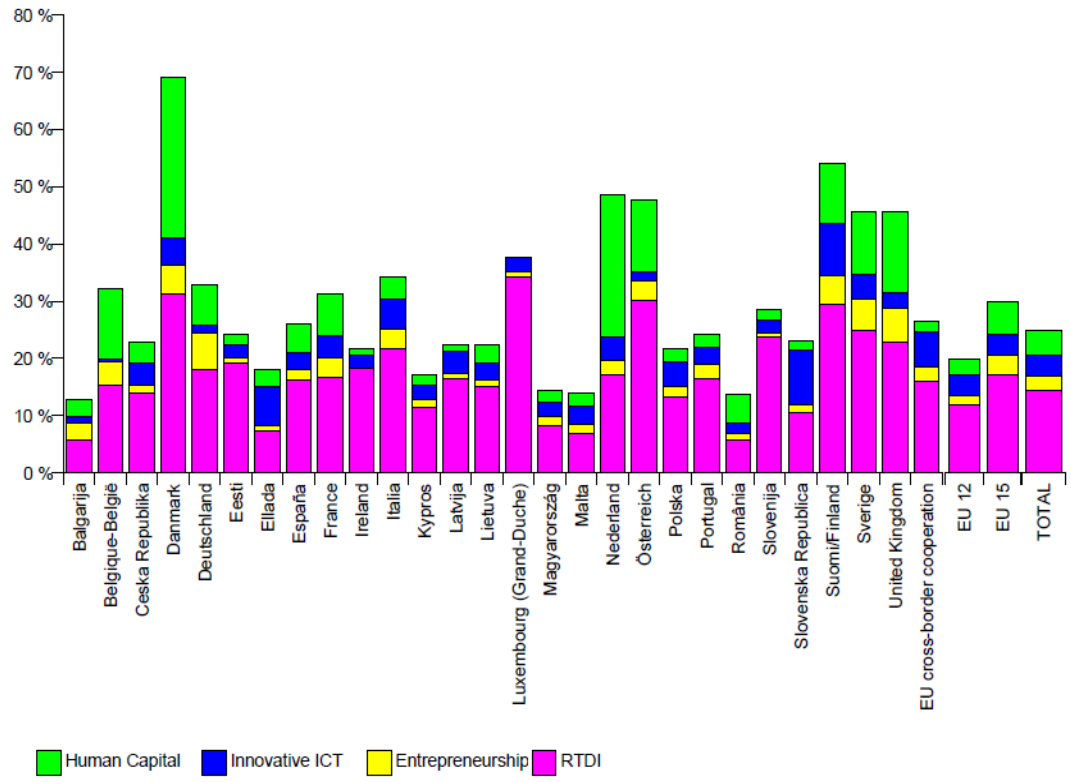
[9] NESTA (2007) *Hidden Innovation: How innovation happens in six 'low innovation' sectors*, NESTA, London.

cities. Smart specialisation strategies may recognise these opportunities, and furthermore may seek to turn what have been seen as disadvantages in the past into assets from which new activities may be built.

2.1.3 Evolution in terms of themes and scope of funding

Over subsequent programming periods, there has been a steady increase in EU Cohesion policy investments in R&D and innovation. For 2007-13, an estimated €86.4 billion will be allocated, i.e. more than a tripling of absolute financial resources compared to the 2000-06 period. There are considerable disparities across countries in terms of funding amounts and targeted themes (see Figure 2.1). The EU12 allocates an average of 20 percent of total Structural Funds allocations on innovation (i.e. around €34.7 billion), with Bulgaria having the smallest share on innovation with 12.8 percent of total Structural Funds allocations, while Slovenia has allocated most (28.5 percent). In the EU15, where the average reaches 30 percent of total allocations (i.e. around €48.7 billion), Greece has planned to allocate 18 percent of ERDF and ESF funding to innovation, while Denmark's share is at 69.2 percent.[10]

Figure 2.1: Structural Funds allocations to Research and Innovation (ERDF and ESF) in 2007-2013



Source: European Commission (2010) Cohesion Policy 2007-2013: Research and Innovation, p.7 [URL: http://ec.europa.eu/regional_policy/archive/themes/statistics/2007_rd.pdf] based on DG REGIO SFC2007, May 2010.

[10] European Commission (2010) *Cohesion Policy 2007-2013: Research and Innovation*, p.7 [URL: http://ec.europa.eu/regional_policy/archive/themes/statistics/2007_rd.pdf] based on DG REGIO SFC2007, May 2010.

Looking at the different themes supported under the overall heading of 'Research and Innovation', these can be subdivided into RTDI, entrepreneurship, innovative ICT and human capital, according to a classification devised by DG REGIO.[11] There are again marked differences between different groups of Member States, with EU15 countries spending an average of 17.2 percent on RTDI, 3.3 percent on entrepreneurship, 3.6 percent on innovative ICT and 5.8 percent on human capital. The figures for the EU12 are lower (11.8 percent on RTDI, 1.6 on entrepreneurship and 2.8 percent on human capital) except for allocations to innovative ICT (3.7 percent).

When considering the national and regional levels separately, one third of the Member States implement most if not all of ERDF funding allocated to innovation at the regional level (Austria, Belgium, Finland, France, Germany Ireland, the Netherlands, Sweden, the United Kingdom). Whereas in Italy and Spain, around two-thirds of innovation funding is implemented at regional level, In Greece and Portugal it is around half of ERDF. In most of the remaining Member States, funding is allocated centrally (although sometimes implemented at local level), with the exception of the Czech Republic, Hungary, Poland and Slovakia, where some funding is regionalised.[12] This gives an indication of the potential role of ERDF to stimulate or support regional innovation policies and strategies.

A 2011 study prepared for DG Research and Innovation attempts to provide a comparison between RTDI expenditure/ allocations in the 2000-06 and 2007-13 programming periods at the level of individual regions, covering ERDF, ESF and EAGGF.[13] Although there are methodological difficulties with comparing evolving RTDI categories, as well as with comparing certified expenditure (2000-06) with planned allocations (2007-13), the study comes up with some interesting findings.[14] By not only looking at relative percentages but also at absolute amounts and per capita allocations, a more nuanced picture emerges, notably regarding the role of the EU12. Regarding the evolution of the geographical spread of RTDI allocations, EU12 regions increased the share of RTDI by 12 percentage points on average between 2000-06 and 2007-13, whereas EU15 regions saw an increase by 8 percentage points. Only the Finnish regions show a decrease (from 42 to 37 percent), but Finland stays second in the EU27 in terms of the share of Structural Funds allocated to RTDI in 2007-13.

[11] *Ibid*. Calculations for the different categories are based on the following earmarking codes: 01, 02, 03, 04, 05, 06, 07, 09, 11, 12, 13, 14, 15, 62, 63, 64, 68, 74.

[12] Applica and Ismeri Europa (2010) *Policy Papers on Innovation*, Synthesis Report, Expert Evaluation Network Delivering Policy Analysis on the Performance of Cohesion Policy 2007-2013, p.18/19.

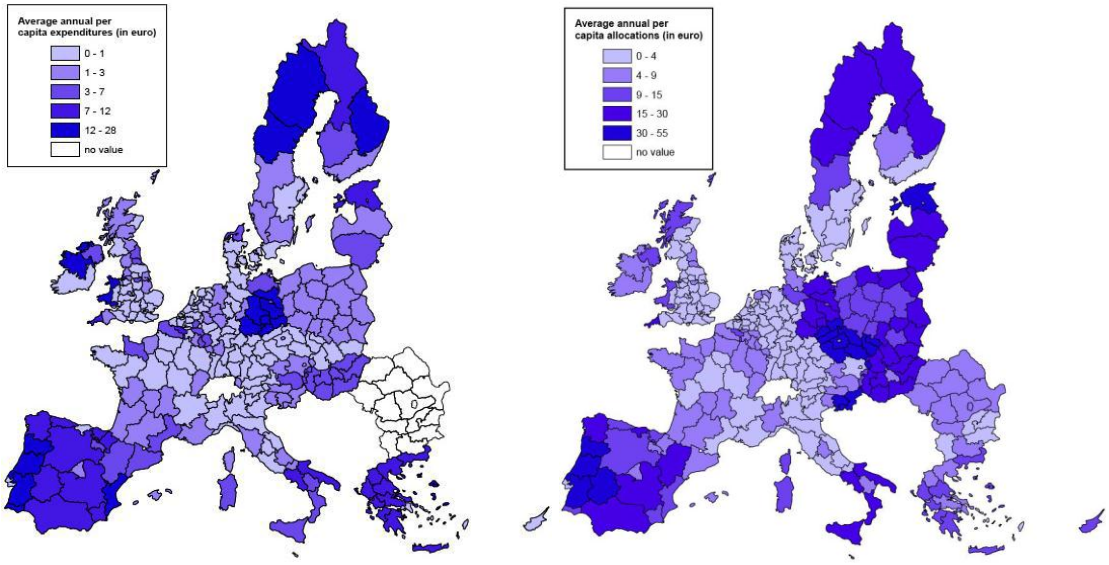
[13] European Commission (2011) *Cohesion policy and regional research and innovation potential*, An analysis of the effects of Structural Funds support for Research, Technological Development and Innovation 2000-2010, Prepared by the Technopolis Group.

[14] The following earmarking codes are used for 2007-13: Core RTDI (01, 02, 03, 04, 74), business innovation (05, 06, 07, 08, 09, 14). For details on the methodological approach, see European Commission (2011) *op.cit.*, pp. 9-16. The main difference as compared to DG REGIO's approach relates to code 08 ('other investment in firms'), which is not included in DG REGIO's calculations, whereas codes linked to ICT are not included in the Technopolis study. The latter calculates a lower amount of overall allocations in 2007-13 of around €70 billion.

The weight of EU12 regions has notably increased with respect to *core RTDI* (research projects, technology transfer, RTDI infrastructure and training of researchers) (see Figure 2.2). For this category, the top ten regions were from six EU15 countries in 2000-06 compared to the representation of Slovakia and Slovenia among the top ten regions in 2007-13. As to per capita expenditure on core RTDI, the top 60 regions with the highest average annual expenditure were EU15 regions (notably from cohesion countries) in 2000-06, while in 2007-13, Slovakia is at the top, followed by Slovenia and Czech Republic. In terms of the shares allocated to RTD infrastructure and competence centres, there is also no clear EU15 – EU12 division with the highest shares found in regions in Belgium, Czech Republic, Finland, France, Lithuania, Luxembourg, Poland and Slovakia.

Figure 2.2: Average annual per capita (NUTS2) SF expenditure (ERDF & ESF) on core RTDI in 2000-2006 and 2007-13, € per inhabitant

2000-2006 *2007-2013*



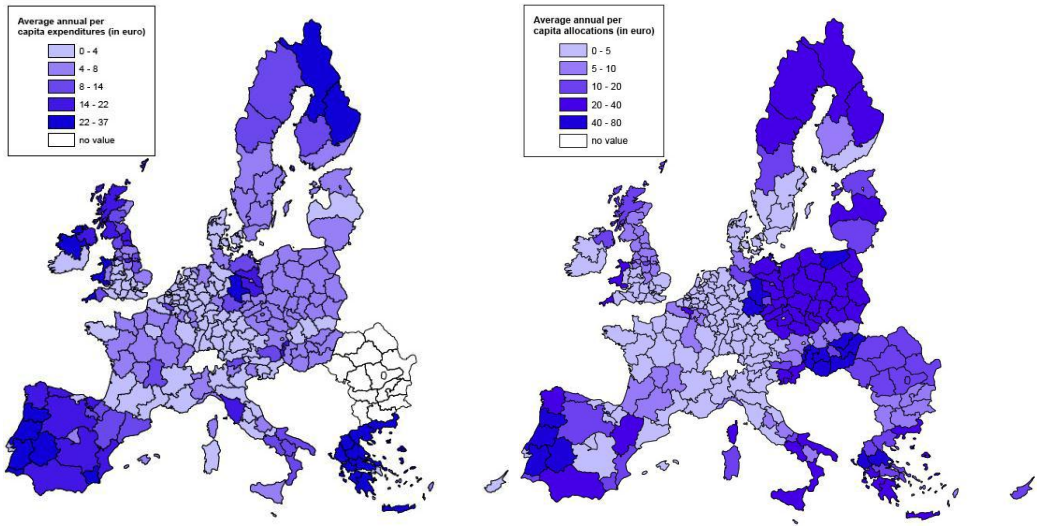
Source: European Commission (2011) *Cohesion policy and regional research and innovation potential*, An analysis of the effects of Structural Funds support for Research, Technological Development and Innovation 2000-2010, Prepared by the Technopolis Group.

Looking at business innovation (business services, environment-friendly technologies, adaptability and entrepreneurship of persons and firms), the role of the EU15 remains predominant in both periods, but there have been shifts at the level of the EU15 (in 2000-06, the top ten regions were from Finland, Sweden and United Kingdom, while Austrian, Belgian, Swedish and British regions are at the top in 2007-13) (see Figure 2.3)

In terms of per capita expenditure the top regions in 2000-06 were mainly Spanish, compared to a stronger representation of Portuguese regions in 2007-13.

Figure 2.3: Average annual per capita (NUTS2) SF expenditure (ERDF & ESF) on business innovation in 2000-2006 and 2007-13, € per inhabitant

2000-2006 *2007-2013*



Source: European Commission (2011) *op.cit.*

2.2 The innovation 'journey' of individual regions

2.2.1 Context – the governance of innovation policy

The institutional set-up of innovation policy in individual Member States plays a crucial role in determining the extent to which regions are able to develop their own innovation strategies. As part of the Expert Evaluation Network, work has been commissioned by DG REGIO on the different governance settings for RTDI policy across the EU.[15] It finds that governance arrangements are centralised in most countries with the central government controlling RTDI policy to a large extent. There are some examples of a 'mixed' approach, with central governments defining the strategic and regulatory framework, which is implemented by sub-national authorities according to their needs. Policy is fully regionalised in a minority of countries with competences being shared between central and regional governments (see Table 2.1).

Table 2.1: Main governance types of RTDI policy

Governance type	**Centralised**	**Mixed**	**Regionalised**
Country examples	BU, CY, CZ, EE, FR, GR, HU, LT, LU, LV, MT, NL, PL, PT, RO, SI, SK	AT, DK, FI, IE, SE, UK	BE, DE, ES, IT

Source: Based on Applica and Ismeri Europa (2010) *Policy Papers on Innovation*, Synthesis Report, Expert Evaluation Network Delivering Policy Analysis on the Performance of Cohesion Policy 2007-2013, p.5/6.

[15] Applica and Ismeri Europa (2010) *Op.cit.*

The report also observes an increase in the regional focus of RTDI policy over time, and different forms of decentralisation supported by enhancing existing or creating new institutions (e.g. Belgium, France, Poland, United Kingdom). In the EU12, there has been a trend of adapting national policy more to regional needs and focusing more on SMEs. Alongside progress in terms of strategy development, these developments have led to issues around coordination between an increasing number of actors as well as between different funding sources, sometimes leading to dispersion of funding, and regarding capacity. These can have an important impact when it comes to putting regional innovation strategies into practice. The report claims that where ERDF has promoted the development of a strategic approach to innovation (e.g. France, Greece, Ireland, Italy, Portugal, Spain and EU12), it has also led to a clarification of competences and roles among actors and different government levels.[16]

The report concludes that there is considerable need for further improving governance capacities in terms of policy design, implementation, monitoring and evaluation with a focus on the regional level. In the field of innovation policy, particular efforts are required with respect to scenario foresights and technological intelligence in order to facilitate strategic decision-making and to select the projects with the highest potential.[17] Partner experiences regarding some of these aspects will be discussed in Section 0 further below.

2.2.2 The regional innovation journey

The development of an innovation strategy is a process which usually goes beyond a one-off strategy document, but can extend over several generations of strategies in which any one strategy is dependent on previous investments and interventions. Central to most innovation strategies are efforts to build capacity and innovation cultures, and such developments tend to unfold over longer periods than the normal policy cycle or Structural Funds programming periods. Thus the innovative capacity of a region will depend on more than one strategy, and any strategy will be influenced to some degree by previous efforts.

One way of thinking of this process is to see the development of an innovation strategy as a journey, in a similar way to the innovation process within the firm. Andrew Van der Ven introduced the journey metaphor after detailed study of the innovation process in American companies.[18] He discovered that, rather than a well-planned process, innovation typically involved convoluted routes, with junctions where choices had to be made on the basis of little information or guidance, blind alleys where companies had to reverse direction, and alternative paths which may lead on to different destinations than originally planned, and which may take longer than planned. Innovation strategies have similar characteristics as early choices constrain future options but may need to be rethought later as changes over time in the nature of technologies and regional actors lead to alternative pathways opening up.

[16] *Ibid*, p.16.
[17] *Ibid*, p.47.
[18] Van de Ven, A, D E Polley, R Garud and S Venkataraman (1999) *The Innovation Journey*, Oxford University Press, New York.

A central issue in the innovation journey, or innovative strategy journey, is the nature of leadership as this determines how choices are made and pursued, and how regions react to problems, blind alleys or external shocks. Van der Ven identifies four types of leadership used in projects: the entrepreneur, mentor, institutional leader and critic, and each of these can be identified in regional partnerships developing innovation strategies.

- ***Entrepreneur***: this role is likely to be played by a core network of interested actors from the regional innovation system, comprising a limited number of firms, universities, public research laboratories and government institutions.

- ***Mentoring/ sponsorship*** comes from wider supportive networks, potentially enrolled by representative business organisations, regional platforms, cluster groups and other regional partnerships.

- ***Institutional leadership***: this is provided by bodies which 'speak for the region' and can create a protected space where the core network of interested parties can experiment with the idea of innovation-based approaches to economic development. This could include regional media, think-tanks, elected bodies – whose legitimacy extends beyond the formal organisational boundary.

- ***Critics***: these may come from a range of quarters, including those satisfied with the present arrangements but also outsiders who insist that the innovation journey takes heed of the external environment and learns lessons from elsewhere.

These different leadership roles reflect the reality of collective or shared leadership in regional development processes, especially when considering that regional innovation strategies operate through multi-level governances as well as cutting across different policy domains: regional development, research and innovation, higher education, skills, industrial policy and even health or industrial standards.

Leadership in regional development is typically

- fragmented or shared amongst a number of institutions and/or individuals rather than (as in traditional understandings of leadership) 'top-down';

- not all leaders are formally recognised as such (and some holding a formal leadership position may achieve very little, if anything); and

- promoting regional economic development can be viewed as an interactive process between firms, universities, research institutions, public or semi-public development agencies and local and regional government actors.[19]

Hence cooperation is necessary to achieve change, and leaders need to be able to influence action both within their own domains and organisations but also in other settings where

[19] Sotarauta, M (2006) 'Where have all the people gone? Leadership in the fields of regional development', *SENTE Working Papers*, 9/2006, Research Unit for Urban and Regional Development Studies, University of Tampere. p. 8-9

they have no formal authority. Leaders must therefore be leaders on some issues whilst being followers on others.

Four key tasks in developing a regional strategy can be identified, fitting with the idea of the innovation journey. First, creating strategic awareness about a particular situation or issue is central to leadership in policy networks. Attention must be drawn to the issues which are believed to require action, and to do this it is necessary to provide a storyline which gives meaning to the action. Creating strategic awareness will require "almost endless discussion with different interest groups and stakeholders"[20] – strategy preferences (for the network) will be formed and reformed by balancing different interests and seeking alternative solutions.[21]

A second key element of the leadership task is mobilisation – in other words ensuring that all relevant actors are involved in framing strategic discussions and making strategic decisions. Mobilisation happens most easily at a time of crisis, at other times network leaders may need to 'seduce' potential actors into cooperating. Since the command and control of other actors is not possible, this will involve an understanding of other actors' needs, strategies, visions, language and thinking. There is, however, also an opportunity here for actors to be denied a voice – decisions may be made to exclude particular actors or organisations from discussions.[22]

The third element is the powerful, subtle and largely invisible aspect which Sotarauta calls framing – "the way in which actual conversations are created and in which problems and challenges are defined and framed". It represents the power to shape conversations and frame strategic issues (to decide what is talked about and how), based on an understanding of a variety of organisations all with potentially different strategies and objectives needs and resources. Framing facilitates creating shared mental models and world views between participants, which Sotarauta describes as the strongest glue in holding networks together.

The fourth key task is to improve coordination between a diverse bunch of actors, to foster collaboration and cooperation, and if possible to influence the division of labour within the network. The different aims and objectives of participating actors must be taken into account if strategic action is to be possible.

Taking all these things together, the innovation policy journey can be represented as a cyclical process of learning proceeding through a series of stages and with different forms of leadership emphasised at different stages. One characterisation of this illustrates the major phases and tasks (Figure 2.4).[23]

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[20] Sotarauta, M (2005) 'Shared Leadership and Dynamic Capabilities in Regional Development' in *Regionalism Contested: Institution, Society and Governance*, *ed.* I. Sagan and H. Halkier. Ashgate Publishing Ltd, Aldershot, p.16.

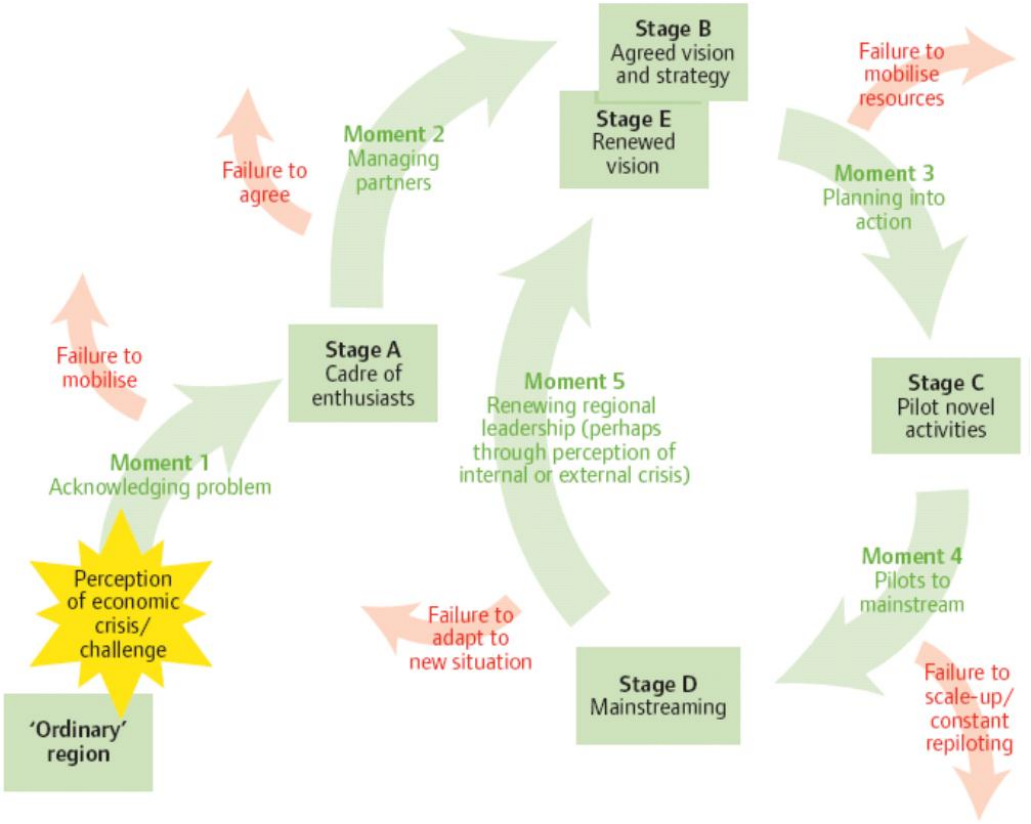
[21] Sotarauta (2005) *op.cit.*, p.9.

[22] Hadjimichalis, C and Hudson, R (2006) 'Networks, Regional Development and Democratic Control' *International Journal of Urban and Regional Research*, 30 (4), pp. 858 – 872.

[23] Benneworth, P (2007) *Leading Innovation: Building effective regional coalitions for innovation*, NESTA, London.

The decision of a regional partnership to embark on the development of an innovation strategy is usually as a result of some form of crisis or external pressure and requires an initial perception of a problem and the creation of strategic awareness of the need for action. This then leads to a group of actors coming together to agree a vision and strategy, often assisted by a RIS or RITTS-type process. This strategy is put into action through new pilot interventions which are gradually mainstreamed but inevitably this leads back to a reconsideration of the strategy as a result of evaluation of progress, political or institutional changes in the region, or changing perceptions of the problems and challenges faced by the region.

Figure 2.4: The regional innovation journey cycle



Source: Benneworth 2007

At various points in this cycle the region will face challenges which may prove to be difficult to overcome, and the process may be abandoned or may lose partners and momentum. This is represented in the diagram by a divergent path and exits from the cycle, and has been seen in a number of regions, where for example RITTS projects have led to a vision which has not been allocated resources, or where political change has led to the abandonment of a strategy after mainstreaming, and a need to start again with a new partnership.

3. IMPLEMENTING INNOVATION THROUGH STRUCTURAL FUNDS PROGRAMMES: IQ-NET PARTNER EXPERIENCE

Having examined how the strategic development and governance of regional innovation support has evolved across the EU, the next task for this paper is to consider how EU Cohesion policy has been used to promote regional innovation, based on the experience of IQ-Net managing authorities and implementing bodies. This section begins by reviewing the different trajectories of regional innovation policies and their funding under Operational Programmes, and then examines the lessons that have emerged to date.

3.1 Different trajectories

3.1.1 Strategic approach to innovation policy – different scenarios

The experience of IQ-Net countries and regions with regional innovation policies typifies the broader picture across the EU, with considerable variation in the degree to which a strategic approach is evident (see Table 3.1). Some partners have been developing strategies since the early 1990s (i.e. well before the RIS initiative), whereas others have become involved in related processes relatively recently.

Table 3.1: Development of innovation strategies in IQ-Net partner regions

Region	Timing		
	First innovation strategy	*Second innovation strategy*	*Most recent innovation strategy*
AT – Nieder-österreich	1997 (RIS)		2010: Economic Strategy Niederösterreich 2015
AT - Steiermark	1995: Technology Policy Concept I	2005: Technology Policy Concept II 2006: Economic Strategy Steiermark	2011: Economic Strategy Steiermark 2020
CZ - Jihomoravský kraj	2002 (RIS)	2005 (RIS2)	2009 (RIS3), RIS4 under development
DE – Sachsen-Anhalt	Early 1990s	2006: Innovation strategy (revised in 2009)	Under development
DK - Nordjylland	2007: Business Development Plan		2009: Regional Business Development Strategy and Action Plan 2010-2014
ES – País Vasco	1990: Plan for Strategic Technology 1993: Plan for Industrial Technology	1997: Plan for Science & Technology 2001: Plan for Science Technology & Innovation	2007: Science, Technology and Innovation Plan 2010 (updated in 2011)
FI – Keski-Suomi	2005: Regional Technology Strategy		2010: part of Regional Development Programme
FR – Centre	2009 (RIS)		Under development
IT – Emilia Romagna	2003: Regional Programme for Industrial Research, Innovation and Technology Transfer		2012: 2nd Regional Programme for Industrial Research, Innovation and Technology Transfer

PL – Śląskie	2001 (RIS)	2004	Under development
UK – East of England	2004	2008	-
UK - Scotland	2001: Science Strategy	2008: Science for Scotland 2009: Innovation Framework	Under development
UK – Wales	1996: Regional Technology Plan	2003: Innovation Action Plan	2012: Science Strategy; RIS under development

From the above table, three stages of strategy development can be identified, although the boundaries between the different types are not necessarily clear-cut, as regional approaches are in constant flux; for example, half of the RIS identified in IQ-Net partner regions are currently under development.[24]

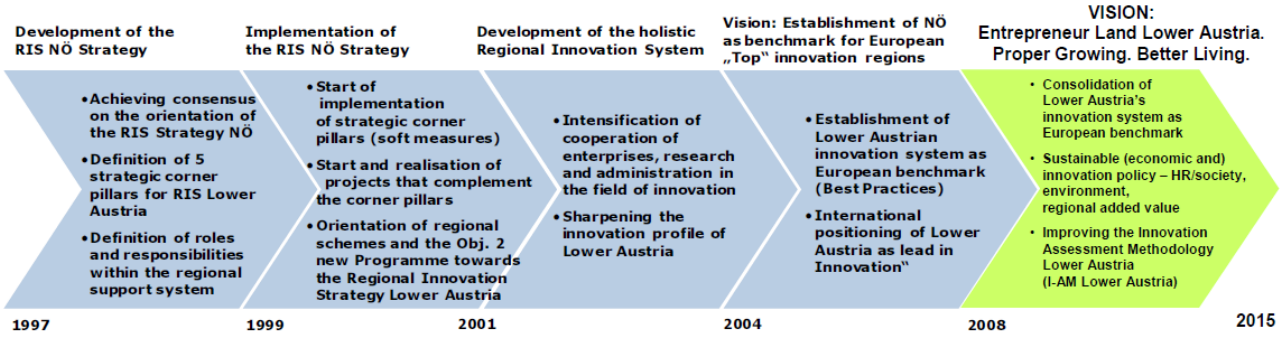
- ***Well-established strategies***, such as in the two Austrian *Länder* of Niederösterreich and Steiermark, apply innovative methods to assessing and measuring their respective strengths (see Figure 3.1 and Box 3). País Vasco is also an example for an advanced strategic approach, which has been built up since the early 1990s. Further instances of comparatively advanced strategy development can be found in Keski-Suomi (Finland) and Emilia-Romagna (Italy). *Land*-level technological innovation strategies are well-established in Germany. In Nordrhein-Westfalen, strategies date back at least to 1987, with the Future Initiative of the Coal and Steel Regions (*Zukunftsinitiative Montanregionen*, ZIM). In Sachsen-Anhalt, an innovation-oriented economic development strategy was introduced soon after German reunification in 1990, drawing on the experiences of western *Länder* in regional innovation policies.

- ***Strategies in development***, which have been introduced relatively recently, are typified by examples in France, and there are other cases where progress still needs to be made regarding the methodologies applied. In the Czech region of Jihomoravský kraj, strategy development was based on the recognition that it was not possible to rely solely on the attraction of FDI and since then the stimulation of local assets in support of endogenous development has received greater attention. In Scotland, which has undergone a similar cultural change, it has not yet been decided how the strategic approach to innovation is going to be taken forward. In Wales, a strategy development process has been launched recently, building on the Science Strategy for Wales and the Economic Renewal Programme. In the Polish Śląskie region, a strategy has been in place for some time, but it is felt that a closer link needs to be established between the strategy as a document and actual implementation.

[24] Please note that this typology only relates to identified Regional Innovation Strategies, i.e. not to cases where regional innovation policies are more loosely based around a number of policy documents.

- ***Emerging strategies***, where capacities for innovation policies at the regional level are relatively weak and first efforts are being made to introduce strategies in preparation to the 2014-20 programming period. In Portugal, for example, it is recognised by managing authorities that a more proactive focus on regional innovation systems is needed, and DG REGIO has recommended promoting business innovation partnerships to consolidate regional economic structures or smart specialisation strategies.

Figure 3.1: The Niederösterreich RIS – Becoming a European Benchmark



Source: Priedl I (2010) Creating new innovation policy tools through pilot actions. SCINNOPOLI Interim Conference in Collaboration with the Marshal's Office of Wielkopolska, 16.11.2010, p.4.

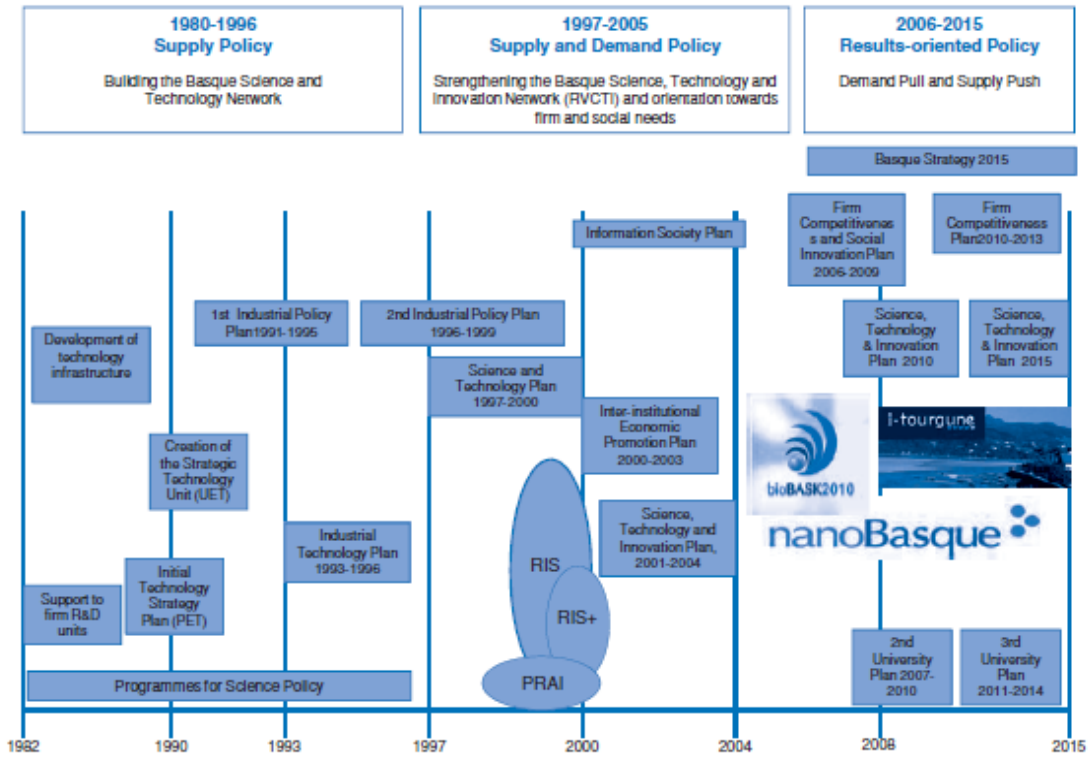
It is important to note that a number of regions implement very advanced innovation policies without basing them on a single strategic document. Examples among IQ-Net partners can be found in Nordrhein-Westfalen (Germany), where *Land* innovation policy is so long-standing and well-established that it is extensively mainstreamed throughout *Land* policies, so that in recent years different aspects of innovation policy have been outlined in various policy documents and a series of cabinet statements. Similarly, in Vlaanderen (Belgium), innovation policy is dealt with in a number of different documents.

Moreover, innovation strategies can be more or less formalised; they may not necessarily be expressed in stand-alone documents and may be integrated in (or subsumed within) other related strategies. In Finland numerous strategies have been drafted over the years on research, development and innovation, but these were usually not called Regional Innovation Strategies. While there has not been a separate strategy as such in Keski-Suomi, the region has drafted and implemented numerous strategies in the area since the mid-1990s, so much so that a report published by the Finnish parliament in 2003 stated that the region had 20-30 parallel strategies of relevance for regional innovation and that cutting down on these might be necessary.[25] For the current 2007-13 period, the regional Growth Programme contains the main elements of an innovation strategy and is built around cluster-based specialisation. In Denmark, business development policies which revolve around Regional Development Plans are effectively considered to be innovation policies. In both the Austrian *Länder* of Niederösterreich and Steiermark, the strategies are subsumed

[25] Ståhle P & Sotarauta M (2003) *Alueellisen Innovaatiotoiminnan Tila, Merkitys Ja Kehityshaasteet Suomessa*, Tulevaisuusvaliokunta, Teknologian arviointeja 15 [State of the Art, Meaning and Development Challenges of Regional Innovation in Finland, Report Commissioned by the Parliamentary Committee for the Future].

under the respective state Economic Strategy. Figure 3.2 shows the dynamics and linkages of subsequent innovation strategies in the Spanish País Vasco region.

Figure 3.2: Evolution and linkages of innovation strategies in País Vasco



Source: Science, Technology and Innovation Plan 2010.

Many national innovation strategies have no specific regional focus (e.g. England since the abolition of the RDAs, Latvia, Portugal, Slovenia). Finland is a notable exception, since the strategy states that "the specialisation of regions and their strengths will increase their critical mass of expertise and improve their ability to link with expertise and value networks vital to their own development. Furthermore, regionally decentralised research, development and innovation activity will become a national resource when pooled into networked innovation communities".[26] Another interesting case can be found in Germany, where some dimensions of research and innovation policies are undertaken at federal level and others at *Land* level, and there is extensive interaction between federal and *Land* authorities in this, as in other policy fields. For example, during preparations for the 2007-13 Cohesion policy programmes, a 'joint memorandum on innovation policy' was drawn up between the Federal Ministry for Education and Research and the eight *Land* ministries for science and the economy in all of the new *Länder*. It opens with the statement that "Innovation policy lies at the heart of government action at both federal and *Land* levels", reflecting the strong focus on innovation within German economic development policies and the economy as a whole.

[26] Ministry of Employment and the Economy (2008) Valtioneuvoston Innovaatiopoliittinen Selonteko Eduskunnalle (Green Paper on Innovation).

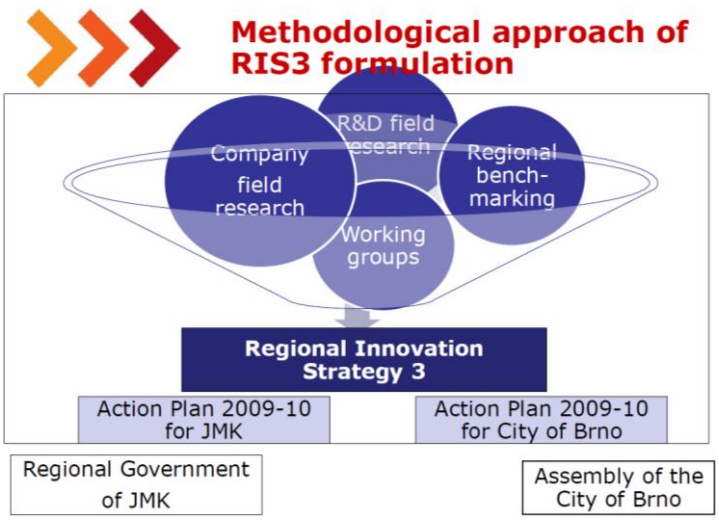
3.1.2 The process and content of innovation strategies

(i) Process

Where an explicit RIS is in place, the actors involved in its development typically included public sector agencies (such as RDAs), consultants (though sometimes only indirectly), private sector firms, universities, socio-economic actors and experts. Political representatives were also sometimes associated and, to a lesser extent, public research labs. Non-profit organisations were hardly represented. It was not always straightforward to involve the private sector in the exercise, but where this was done effectively it was found to be highly valuable to the success of the strategy. A number of original initiatives were launched in some of the French regions, associating business leaders and citizen entrepreneurs to the exercise's governance e.g. Alsace, Bourgogne, Bretagne, Midi-Pyrénées, Languedoc-Roussillon (see also Section 3.2.2).[27]

The nature and degree of partner involvement has varied across regions, ranging from mere consultation to active engagement, e.g. via committees, thematic workgroups/workshops, advisory groups, seminars, conferences, interviews and company surveys. The case of Jihomoravský kraj (Czech Republic) is a particularly interesting example, as the process of strategy development was based on a strong regional consensus (see Figure 3.3).

Figure 3.3: Development process of the RIS of Jihomoravský kraj



Source: Chládek P (2012) *Regional Innovation Strategy of the South Moravian Region*, Presentation given at ECIU Workshop on Smart Specialisation on 13.04.2012.

Carried out under the overall responsibility of the Regional Development Agency, it involved a Steering Committee (composed of regional authority and university representatives) with support from a Coordinating Committee (bringing together relevant public sector agencies, local authority technicians, managers of key R&D projects, representatives from the chamber of commerce and university technology transfer

[27] ADE and LL&A (2010) *Study on the development of diagnoses and regional innovation strategies in the French regions under the ERDF Operational Programmes for the 2007 - 2013 programming period*, Volume 1 - Final report (Summary) Report prepared at the request of the European Commission, p.44/45.

centres). After the objectives of the RIS had been agreed and the methodology approved, a wide spectrum of actors was involved in the framework of thematic working groups (political representatives, universities and research institutions, entrepreneurs, financing bodies, NGOs, intermediate agencies). These formulated measures, which were subsequently presented and discussed with firms and research teams during field research and in-depth interviews. This step also helped to verify the findings of earlier desk research and identify business demand. The combined input from the private sector is largely reflected in an Action Plan for the RIS.

(ii) Content

Most IQ-Net partners define innovation in broad terms in both domestic and Cohesion policy documents, sometimes also encompassing new concepts, such as 'open innovation' (East of England, Finland, Vlaanderen) or user-based/driven innovation (Finland) in reference to the OECD definition.[28] This has not always been the case, as can be seen from examples of change in the conceptualisation of innovation. In the German *Land* of Sachsen-Anhalt, there has been a recent broadening in the definition of innovation, from a focus primarily on technological change to include also 'soft' forms of innovation, such as innovations in market development and business models, as well as low-level innovation. This reflects a general move among some IQ-Net partners towards greater support for innovation in business, including less technologically-oriented sectors.

- In Portugal, although there is still a strong technological component, it is recognised that there is a need to give more emphasis to organisational, marketing and social innovation issues, but there is concern over broadening the innovation concept too much.

- In Nordrhein-Westfalen, the *Land* authorities draw on a sophisticated definition, which includes a strong emphasis on technological innovation but also on social innovation, as noted in the 2007-13 ERDF OP, which states that: "The NRW *Land* government therefore believes that innovation should be seen as a complex, societal process which, alongside technological changes, also includes organisational, logistical, financial, marketing, design-oriented and human resource changes. Thus a comprehensive concept of innovation is used, which goes beyond technological changes."[29]

Other dynamics in the content of innovation strategies includes efforts to make them more targeted. In the Austrian *Land* of Steiermark, there has been a more general evolution from grant-based support to a more proactive, holistic approach to the region as a business location. This is also reflected in a move from many thematic strengths to a targeted number of themes. In Scotland, the sectoral focus has also changed over time (from life

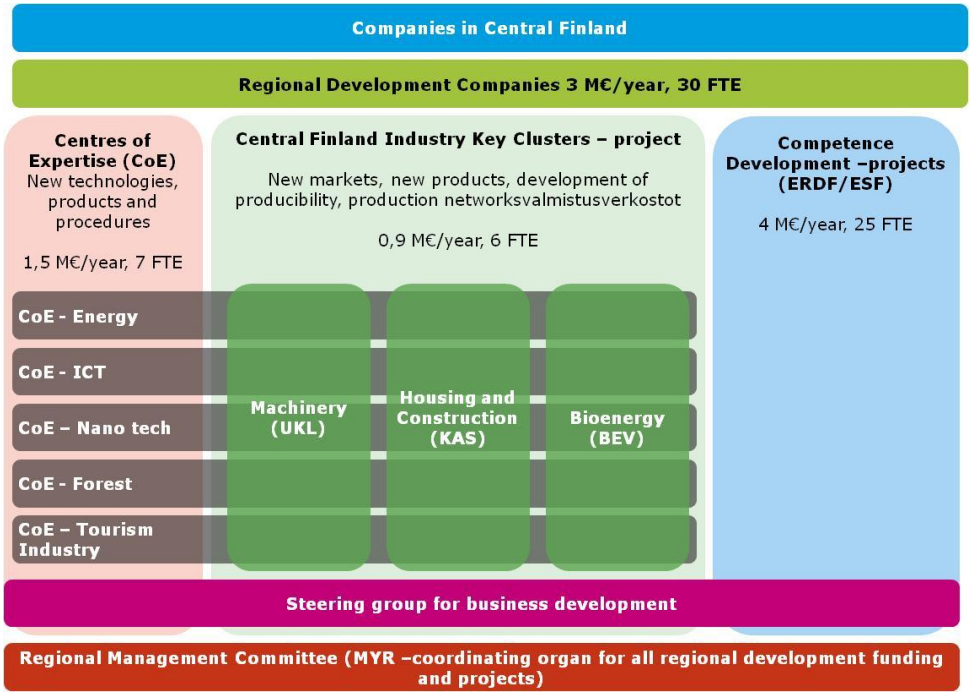
[28] OECD (1997) *Oslo Manual: the Measurement of scientific and technological activities. Proposed Guidelines for Collecting and Interpreting Technological Innovation Data*, OECD/Eurostat, Paris 1997.

[29] Land Nordrhein-Westfalen (2007) *Operationelles Programm (EFRE) für das Ziel 'Regionale Wettbewerbsfähigkeit und Beschäftigung' für Nordrhein-Westfalen nach Artikel 37 der Verordnung (EG) Nr. 1083/2006 des Rates vom 11. Juli 2006*, Düsseldorf, p.65

sciences towards renewables), requiring flexibility in Structural Funds programmes to accommodate this.

Clusters are a common element of regional innovation policies and have received renewed attention in the context of the 'smart specialisation' agenda (see Section 2.1.2). There are examples of well-established cluster policies, such as in the German *Länder* of Nordrhein-Westfalen and Sachsen-Anhalt based on cluster strategies or in the Austrian *Land* of Steiermark, some dating back to the start of the 1990s. Over time, they have become a feature of virtually all regional innovation policies. Also, in Finland, cluster-based policies are accepted as the norm and are seen as well functioning.[30] In line with this, the cluster development model is at the core of local and regional development activity in the Finnish Keski-Suomi region (see Figure 3.4), which benefits from active intermediary organisations and a network of seven regional development agencies.

Figure 3.4: Cluster-based approach with domestic and Structural Funds in Keski-Suomi



Source: Regional Council of Keski-Suomi 2012.

Some IQ-Net partners are still in the process of developing cluster-based approaches. In Wales, steps have been taken since 2010 to develop existing areas of expertise. The Polish region of Śląskie is planning to capitalise on sectors crucial to the traditional heavy industrial profile of the regional economy. In Portugal, cluster development is also a new experience with the expectation of promising results, although there has been criticism of there being too many clusters. A first systematic and strategic national cluster has also been initiated in Greece (Corallia - Hellenic Technology Clusters Initiative) and is showing

[30] However, a 2010 evaluation pointed out that the critical mass required for cluster-based development was not always in place. See: Pelkonen *et al* (2010) *The role of competence clusters in pooling the strengths of regions - interim evaluation of the Centres of expertise Programme (2007-2013)*, Ministry of Employment and the Economy.

first results, reflected in the emergence of several innovative clusters (micro-electronics, space technologies and applications and creative industries).

Apart from the cluster approach, the content of the regional innovation strategies undertaken by IQ-Net partners includes some other standard elements, such as SWOT analysis, regional or EU benchmarks and explicit links to national regional policies. However, there is generally only limited reference to quantified targets, and no interregional linkages - although these should be an integral part of smart specialisation strategies. EU policies are mentioned more systematically, but not necessarily always in relation to Cohesion policy. Interestingly, there is limited focus on existing capacities and capacity-building needs in the strategy documents.

3.1.3 The relationship between regional innovation policies and Structural Funds programmes

The role of innovation in Cohesion policy programmes has increased significantly over recent years (see Section 2.1.3). Should the development of regional innovation strategies become a condition for Structural Funds programmes in the 2014-20 programming period, as it is currently foreseen in the current regulatory proposals, this would require a very close connection between innovation strategies and programming documents. The current picture of how individual regions link the two policy areas is extremely diverse, ranging from close integration to a parallel co-existence of the two.

There are a number of cases of **domestically-driven innovation policy**, especially (but not exclusively) where regional autonomy is relatively strong.

- ***Alignment of OPs with domestic innovation strategies/ policies***: The focus and instruments of domestic and Cohesion policies in the Austrian and German *Länder* are the same, as is the case in País Vasco (Spain) in line with the objectives and targets of domestic strategies. The same applies to Denmark, Finland and Scotland and was also the case formerly in some English regions such as North East England.

- ***Complementary approach***: In the Belgian region of Vlaanderen, the ERDF OP has been designed in a way as to avoid overlap with domestic innovation policy by targeting innovation implementation rather than technological innovation, but policy objectives are closely aligned. The Emilia-Romagna region in Italy has also divided up the tasks between domestic and Cohesion policy support for innovation, but unlike in Vlaanderen, Structural Funds are used to promote research and innovation supply, while other measures of the RIS promote demand.

In other cases, notably where regional innovation policies are not strongly institutionalised or are still emerging, a stronger **EU influence on regional innovation policy** can be detected.

- ***Close integration of innovation strategies and OPs***: In Wales, innovation policy was first promoted under the Structural Funds via several generations of innovation strategies, before becoming increasingly aligned with domestic schemes. Recent domestic strategy development has led to revision of the Structural Funds

programme priorities to ensure closer alignment. In England, RIS had become embedded in OPs over time, but this will be different in the 2014-20 period due to the abolition of the Regional Development Agencies. In Śląskie, one of the first RIS in Poland was developed from 2002. It has been strongly embedded in the 2004-06 and 2007-13 programmes and has been continually adapted to changing circumstances, particularly those related to Cohesion policy management and implementation.

- ***Indirect links between RIS and Structural Funds programmes***: In Jihomoravský kraj (Czech Republic), the RIS process was launched in 2002 but the strategy is not connected to the regional OP, which targets other themes. It is though indirectly linked to the national OPs 'R&D for Innovation' and 'Enterprise and Innovation'. Where RIS have only been developed very recently it is still too early to say how they will be coordinated with Structural Funds programmes. In France, the RIS process was finalised in 2009/10 as an integral part of the OPs, but so far, direct connections with Structural Funds implementation are limited. However, the RIS are expected to become a key element of the post-2013 period (see Box 1).

Box 1: Developing French RIS as part of ERDF OPs – The example of the Centre region

The process of drafting Regional Innovation Strategies in France was initiated based on a joint initiative by DG REGIO and DATAR (*Délégation interministérielle à l'aménagement du territoire et à l'attractivité régionale*). The overall aim was to enhance the innovation component of ERDF programmes. A standardised approach was taken across all regions, with centralised guidance provided by the Ministry of Economy from 2008.

Some, such as the Centre region, formulated their RIS in a way that lends them to being transformed into smart specialisation strategies, taking a selective focus on regional specialisms. In Centre, this reflects an important step forward from the initial 2007-13 OP, notably in terms of the SWOT analysis.

Although this has not led to a major change regarding the role of innovation in regional development, it involved a shift away from the supply side towards a greater focus on firm support. As part of this, efforts are being made to improve the network of intermediaries.

The above has not led to changes in the 2007-13 ERDF OP, but it will have a strong influence on the future programme. The region is showing its commitment to the smart specialisation approach process by being involved in the peer review exercise initiated by the European Commission.

The timing of domestic and Structural Funds initiatives can be an issue, such as in Niederösterreich (Austria), where the OP is still linked to the 1997 RIS with the latest strategy only completed in 2010. In Portugal, there have been some challenges in coordinating the cluster policy with the national OP Human Potential, which can partly be explained by the delayed launch of the clusters.

Interestingly, the different relationships between EU and domestic innovation support are not necessarily linked to the amount of EU funding available. In the Czech Republic, Greece, Latvia, Poland, Portugal and Slovenia, Structural Funds play a pivotal role for innovation policy – as one might expect from the scale of EU funding - and domestic policy influences tend to be negligible. However, the Structural Funds contribution has also been significant in the German *Länder* of Nordrhein-Westfalen and Sachsen-Anhalt and the Austrian *Länder* of Niederösterreich and Steiermark, in the French regions, as well as in

Denmark. It is also noteworthy that the ERDF has been providing an increasing share of funding to the Finnish Centres of Expertise programme in a context of budgetary constraints. Similarly, Structural Funds are seen as providing a crucial element of continuity to the RIS in the Italian region of Emilia-Romagna. In contrast, Structural Funds support has been less important compared to domestic spending in England and Scotland, the Belgian region of Vlaanderen and in the Spanish País Vasco region (although, in the latter case, ERDF plays a bigger role in relation to GERD at the national level).

At the same time, the specific role of Structural Funds in innovation policy varies depending on the amount of funding available. In the Czech region of Jihomoravský kraj, for example, the view is that Structural Funds support is suitable to finance large-scale innovation and R&D infrastructure projects, while domestic sources (national/regional) should be focused on smaller or 'softer' types of intervention, since domestic funding is more flexible, readily available and less administratively demanding. The opposite situation applies in Vlaanderen (Belgium), where Structural Funds are largely used to promote 'soft' measures, such as awareness-raising and networking.

3.2 Lessons of regional innovation support

Given this range of experience with regional policy support, the question is what lessons can be drawn. The following sections review IQ-Net partner experience with three crucial aspects relating to the implementation of innovation strategies: leadership; partnership; and prioritisation (see Section 2.2.2). This is followed by an assessment of the main facilitators and constraints identified by IQ-Net partners.

3.2.1 Collaborative leadership and political commitment

Leadership is crucial for establishing a clear sense of direction in any policy field. The IQ-Net research reinforces this general message, finding that the effective implementation of regional innovation policies requires political leadership and commitment, in particular a level of commitment that transcends changes of government. Strong, transparent leadership also needs to be built on institutional structures with a clear allocation of responsibilities among the organisations involved in steering innovation. Positive examples of well-developed leadership in innovation policy can be identified among IQ-Net partners, but there are also cases, where there is a perceived lack of competent leadership.

- ***Strong regional consensus*** formed the basis of strategy development in both the Czech region of Jihomoravský kraj and the French Centre region. Whereas in France governance structures are still under development, consensus has proved to be sustainable in Jihomoravský kraj and has led to the introduction of a robust managerial structure for the design and implementation of the RIS3. However, concerns remain regarding the necessity of taking on the responsibility for strategy design at the same time as assuming the risk of potential failure. In both regions, the RIS were validated by elected assemblies. Another example is Denmark, where it was recognised that consensus among central stakeholders is vital.

- Similarly, ***close integration with domestic strategic programmes*** and policy initiatives has been shown to underpin strong leadership, especially if it is

supported at a high political level and secured by cross-party consensus (e.g. in Denmark, Nordrhein-Westfalen (Germany), Finland).

In the absence of the above pre-conditions, problems with leadership structures have occurred in cases of government change but also where overall political commitment was weak.

- ***Institutional instability and insufficient political commitment*** can have a considerable impact in cases where changes in government are accompanied by major turnover of staff (e.g. Czech Republic). In Slovenia, implications for the coordination and transparency of innovation policies and issues with controlling strong interest groups have been detected, combined with an overall resistance to change. Similarly, the Greek national innovation strategy illustrates the segmentation of public R&D efforts across many areas, organisations and groups. The situation was aggravated by several changes in governance and funding arrangements.

In terms of organisational structures, it is important, on the one hand, to clarify responsibilities (including funding arrangements) in order to avoid overlap of policy interventions and, on the other hand, to establish mechanisms for coordination to enable different government departments and agencies to collaborate. In some cases, dedicated implementation bodies are overseeing strategy development and implementation.

- Regarding the ***division of responsibilities***, Portugal put in place a clear functional separation of responsibilities between the national and regional levels with respect to innovation aid schemes, according to the size of the firm receiving support. In contrast, in Poland, there is competition between national and regional OPs, notably regarding the support of micro-enterprises and SMEs with higher funding levels available under the national OP. Problems have also arisen in Greece, where innovation policy is characterised by complicated interaction between national and regional funding arrangements.

- ***Mechanisms for coordination*** are strongly institutionalised in the German *Land* of Sachsen-Anhalt at the level of ministries and units of the *Land* government. In the Polish region of Śląskie, the Marshal Office Innovation Body is an inter-departmental team responsible for ensuring the coordination of innovation-related activities in the Office. In País Vasco, the collaboration between the national and regional levels has improved since competences were clarified (including resource transfers). In other instances, there is scope for further coordination, such as in Steiermark (Austria), where two parallel strategic strands are in place, one for R&D and one for economic development, overseen by two separate government departments.

- ***Dedicated implementation bodies*** are felt to play a crucial role in coordinating regional stakeholders in Jihomoravský kraj (Czech Republic) and Centre (France). In the case of Poland, the ESF Department in the Śląskie Marshal Office is both the management and coordination unit for the RIS under the oversight of the Board of

the Śląskie Region. However, there are also cases where their contribution to overall leadership is less clear. In the País Vasco region (Spain), the 'Council for Science Technology and Innovation' has overall political responsibility for the design and delivery of the innovation strategy, including interdepartmental coordination, but its effectiveness has been hampered due to the general nature of its mission, the lack of legally specified requirements, and the existence of parallel formal or informal networks.[31]

3.2.2 Partnership arrangements for effective actor involvement

The complexity of innovation policies and related interventions means that it is important to organise the involvement of numerous actors effectively. This can be achieved by developing strategy ownership from early on in the process, by setting up specific bodies with partner representation, or by creating networks to bring relevant actors together.[32]

- In terms of ***ensuring ownership***, good practice can be found in the Czech region of Jihomoravský kraj, where the involvement of a wide range of regional actors was one of the key objectives of RIS3. The Centre region in France also placed particular emphasis on partner coordination to allow all actors to feed into the strategy and take ownership via a series of conferences.

- A ***structured approach around steering and advisory groups*** has been applied in a number of regions (see Table 3.2). Whereas their membership and size varies, steering groups usually involve senior civil servants and associated actors (socio-economic partners, universities), while advisory groups often comprise experts with knowledge at a more operational level. In some of the regions, partnership working has been institutionalised at the implementation level, whereas for others the involvement of partners has been, in the first instance, focused on the strategy development process. The Finnish Keski-Suomi region has been particularly active in developing its approach to partnership working between public authorities, companies and higher education institutions (HEI) (see Box 2).

[31] OECD (2011) Review of regional innovation policy in the País Vasco.

[32] The importance of consensus, ownership and cooperation also emerges from a stakeholder survey; see: Eurada, Committee of the Regions and European Commission (2011) *The S3 Platform, How to assist regions in developing smart specialisation strategies?*, Snapshot of participants' replies to the enquiry, 10/11 March 2011, Brussels.

Table 3.2: Partnership bodies involved in the development and implementation of regional innovation strategies

Type of body	Regional examples	Composition	Strategy development	Implementation
Steering/ coordinating groups	AT (Niederösterreich)	Regional Government Departments, Regional intermediaries/ company reps, university HEI reps		X
	CZ (Jihomoravský kraj)	Political and university reps	X	X
	DE (Sachsen-Anhalt)	*Land* ministry reps	X	X
	FI (Keski-Suomi)	Local authority, State and third sector reps		X
	FR (Centre)	Reps of region and State services, innovation agency, chambers of commerce	X	
	PL (Śląskie)	Chaired by (Vice-) Marshal, 21 reps of HEI, public research org, regional agencies, funds…	X	
Advisory/ technical committees	CZ (Jihomoravský kraj)	Experts from local authorities, public agencies, key project promoters, chambers of commerce, technology transfer centres	X	X
	DE (Sachsen-Anhalt)	Reps from universities, chambers of industry & commerce, craft chambers, firms, external experts	X	X
	FI (Keski-Suomi)	Public sector actors (State, region, RDA), company and university reps		X
	FR (Centre)	Steering group members & research institutions, competitiveness poles, university rector, independent expert, regional council vice-presidents	X	
	IT (Emilia Romagna)	Expert committee, possibility to draw on Conference of Rectors and Committee for Scientific and Industrial Direction and Monitoring		X

Box 2: A Finnish example of partnership working - The Keski-Suomi region

The partnership model in Keski-Suomi is based on the perception among regional actors of too many insufficiently coordinated activities in the field of innovation and business development. It was developed under the lead of the Regional Council, following auto-evaluation of previous approaches, and involves private sector actors, public sector agencies and the main university. The partnership is organised at two levels:

- *Strategic level*: Decisions are discussed and agreed by the Regional Management Committee to ensure commitment and coordination.
- *Operational level*: Meetings of the regional business steering group are organised in a way that suits companies (i.e. by early morning meetings) to provide targeted project support and enhance the coordination of business development activities.

ERDF funding for the partnership work is provided in the framework of a 'coordination project', conceived as meta-coordination support for other Structural Funds and domestic activities. €800,000 have been allocated to this project for the 2010-12 period.

- ***Networks*** are used to bring together partners at different levels and on different themes. In the Spanish País Vasco region, the 'Innovanet' network was created to promote vertical collaboration across regional, provincial and local governments and with other actors in business and innovation promotion with the aim to share ideas, experience and knowledge regarding innovation. In the Centre region of France, a single network for innovation support has been set up in a situation where the multiplicity of services and actors was felt to be counter-productive. There are also examples of more targeted partner involvement for individual projects, such as the Technopol Programme in Niederösterreich (Austria), which involves relevant actors and stakeholders in line with the 'triple helix' approach, i.e. higher education, science & research and businesses.[33]

Based on partner experience, some brief observations can be made as to the advantages and drawbacks of partnership working.

- ***Partner association can help secure wide-spread support for strategic decisions***. In Vlaanderen (Belgium), for example, the Flemish Council for Science and Innovation (VRWI), which is based on a broad membership, took a lead role in developing a cluster-based approach due to its ability to achieve agreement on six strategic technological clusters with all involved actors.

- ***Equally, partner involvement can lead to problems with decision-making*** if there are too many divergent interests. The experience of French Centre region was that, while broad participation in the development of actions encouraged actors to unite around a joint strategy, it also led to difficulties regarding prioritisation, and proposed actions were often imprecise.

[33] RegioStars 2012 Finalist under 'Smart Growth' category: http://ec.europa.eu/regional_policy/cooperate/regions_for_economic_change/doc/regiostars/2012/regiostars_finalists_2012.pdf.

- ***Partner involvement comes at a cost***, as in the case of the Finnish Centres of Expertise Programme, for which an evaluation identified considerable coordination and transaction costs.[34]

Problems regarding partnership have occurred in Portugal, where the national innovation system is weakly articulated, particularly between the various actors at the policy design stage. However, progress has been made recently regarding the coordination of incentive schemes through the creation of a network to coordinate the work of national and regional Managing Authorities and Intermediate Bodies. In Greece, there is only limited contribution by various stakeholders within the national innovation system at the stages of policy formulation and priority selection. And despite the participation of business and academic representatives in the Steering Committees of regional OPs, regional RTDI strategies in line with regional needs have not been developed.

3.2.3 Prioritisation at strategic and implementation levels

In order to implement innovation policies in a targeted way, strategic choices need to be made at several levels. First and foremost, priorities need to be selected in line with regional needs and potentials. However, it is equally important to translate these priorities into projects at a more operational level. This process is complex and involves a number of different steps, which are not always coherent.

As part of an OECD project running from late 2011 until the start of 2013 and implemented in cooperation with DG REGIO, governance profiles for smart specialisation strategies are being developed for a number of case-study regions.[35] The project has identified several issues regarding the prioritisation process. These relate to contradictions between announced priorities and actual prioritisation, difficulties in assessing the role of studies and selection criteria in priority selection versus the influence of lobbies, and also inconsistencies between the different steps of prioritisation: On the one hand, the existence of explicit priorities does not automatically lead to effective prioritisation of the policy mix; on the other hand, effective prioritisation can take place through the policy mix even in the absence of explicit priorities. Further tensions are observed between the need to achieve stability in prioritisation versus the flexibility required to adjust to the changing context.[36]

(i) Strategic concentration

Depending on the experience with innovation policies but also the funding environment, selecting strategic priorities and objectives can be difficult and is usually a process that takes time.

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[34] Pelkonen *et al* (2010) *op.cit*.

[35] For further information, see https://community.oecd.org/community/smartspecialisation.

[36] Nauwelaers C (2012) *Enquiry on S3 governance, Methodological issues and snapshots of preliminary findings*, Presentation at the 2nd TIP Workshop on Smart Specialisation Strategies for Innovation-driven Growth, OECD, 10-11 May 2012, Paris.

- In the case of Steiermark (Austria), priorities have been narrowed down over time, from 11 thematic strengths in 2005 to three 'thematic foci' in 2011. The process was based on measuring regional fields of strengths (see Box 3).

- Similarly, the German *Land* of Nordrhein-Westfalen is planning to reduce the number of clusters or 'future markets' (*Leitmärkte*) which it supports by focusing support onto a limited number of themes, which are not only areas of genuine strength in the Land but which are also likely to become important growth sectors in the future.

- Efforts to enhance strategic concentration have also been made in Portugal, by reducing the number of investment typologies. In line with the increased 'selectivity' envisaged in the NSRF strategy, the incentive schemes have become more focused on innovative and 'anchor' projects and advanced competitiveness factors; moreover, specific sectors and themes are emphasised during the definition and design of the schemes and subsequent calls.

Box 3: Measuring regional strengths in Austria: '*Stärkefeldmessung*' in Steiermark

When developing the Economic Strategy Steiermark 2020 (*Wirtschaftsstrategie Steiermark 2020*, WiSt 2020), a specific method was applied in order to narrow down the number of the 11 priorities defined in the previous Technology Policy Concept. The 11 themes (*Stärkefelder*) defined in the 2005 concept are:

- Automotive/mobility
- Engineering
- Timber, furniture, construction
- Telecommunication/IT/new media
- Energy, environment
- Human life science technology
- Food technology
- Creative industry
- Nano- and microtechnology
- Simulation and mathematic modelling
- Materials

The themes are not only based on businesses, but also reflect the degree of cooperation between companies, research and educational institutions. The *Stärkefelder* cover about 2,000 companies with 115,000 employees in Steiermark, which corresponds to a fourth of all jobs in the *Land*. Yet, R&D activities of these 2,000 firms represent 95 percent of all private R&D expenditure in Steiermark.

For the new WiSt 2020, a study[37] measured the strengths of these themes in 2010. This so-called *Stärkefeldmessung* assessed the degree of proximity and overlaps between the different themes. This allowed the reduction of the number of themes to the three thematic foci (*Leitthemen*) mobility, eco-tech and health-tech of WiSt 2020:

- Mobility: builds on traditional strengths in the automotive sector and aims to further develop the area of clean mobility, high-value niche products and aviation/rail.
- Eco-tech: uses natural resources in Steiermark, e.g. as part of the wood cluster (*Holzcluster*). Focus is on increased technological development and investments.
- Health-tech: Health and food technology.

[37] Joanneum Research (2010) *Stärkefeldmessung 2010. Kurzfassung* [URL: http://www.wibis-steiermark.at/_uploads/_elements/1307702283__2407_file1.pdf] (German)

Where there is less experience with selecting strategic priorities, this situation has not been aided by the scale of funding, such as in Czech Republic and Poland. There was simply no perceived need for thematic prioritisation in the 2007-13 period. In addition, methodological difficulties in some cases caused problems with selecting relevant priorities. The public sector in Greece, for example, showed limited capacity to coordinate the process and set policy priorities. In the Czech region of Jihomoravský kraj, the RIS design team was unable to assess the global competitiveness of local assets and therefore had difficulties with deciding which should be included as priorities.

(ii) Prioritisation at project level

There are several ways to translate objectives and programme priorities into relevant projects.[38]

- ***Commissioning***: Projects can be decided and commissioned at the outset in close alignment with the strategy, such as in País Vasco (Spain). Similarly, in Denmark, some initiatives are already decided during strategy development.

- ***Criteria for strategic alignment***: In Sachsen-Anhalt (Germany), grant applications are assessed on whether they are in line with the *Land*'s innovation and cluster strategy, as well as in terms of the overall quality. The regional OP of the Polish Śląskie region gives extra points to projects in the areas of technological specialisation defined in the RIS.

- ***Targeted project calls***: Examples for the successful implementation of competitive calls can be found in Vlaanderen (Belgium), Nordjylland (Denmark) and in the German *Land* of Nordrhein-Westfalen (see Box 4). In Vlaanderen, it was found that strategic/thematic calls for specific innovation-related interventions, which were in line with the overall strategy and political support, have worked well. The calls were drafted by a technical working group and assessed by a steering group with representatives from the Government Agency for Innovation Technology and Science (IWT), which brought essential expertise to the process.

[38] See also Ferry M *et al* (2007) *Turning Strategies into Projects: The Implementation of 2007-13 Structural Funds Programmes*, IQ-Net Thematic Paper No. 20(2), European Policies Research Centre, University of Strathclyde, Glasgow.

Box 4: Successfully using competitive calls – the example of Nordrhein-Westfalen

In the German *Land* of Nordrhein-Westfalen, the 2007-13 period saw a greater use of competitive calls, notably funding innovation-oriented projects. An initial evaluation of the competitive calls approach was undertaken in 2008.[39] It focused on two questions: a) whether the calls were aligned with the OP's goals and b) whether the calls approach represented value for money and efficiency. The evaluation noted that, in 2007-08, 25 calls were implemented in the NRW ERDF OP, with a financial allocation of €472.4 million (ca €317 million from the ERDF and ca €155 million from the *Land*) or around 25 percent of total ERDF funding in 2007-13.

The evaluation found that the calls were closely aligned with the goals of the ERDF OP. However, it also argued that the number of calls in the NRW ERDF OP should be reduced due to the high administrative cost associated with each call, especially when a call's theme is defined very narrowly so that demand for funding is relatively small. It also noted that the high level of applications received in the first round might well not be repeated in subsequent rounds.

One of the main benefits is that it reduces the risk of bias in project selection because decisions on project funding are taken by selection juries made up of experts from outside the public administration; they feel that the quality of projects selected is leading to wider support for the competitive call approach among public bodies and politicians, some of whom had been concerned that it would limit their influence.

Currently, a second evaluation is underway, and initial findings suggest that some target groups are too small for a specific call and that some respond better than others (e.g. R&D-oriented SMEs are more responsive than traditional SMEs or start-ups. This suggests that more traditional application procedures may be more appropriate for some target groups.

However, Nordrhein-Westfalen's size and structure mean that there is significant potential demand for innovation support and this may contribute to the success of the competitive call approach. Not only is the Land very large (ca. 18 million inhabitants) but it also has a diversified and technologically sophisticated sectoral structure, as well as a dense landscape of universities and research centres with extensive R&D expertise in a range of specific technological fields.

However, it is not always straightforward to establish a clear link between strategic priorities and implementation. Despite the specific appraisal criteria in place in Śląskie, the call system used made it impossible to channel funding to a limited number of strategic projects, and an evaluation found that so far ERDF projects only contributed to the RIS to a limited extent. In Slovenia, a discrepancy was found between strategic documents and commitments and their implementation, and in some cases, specific measures do not address policy priorities. A similar issue exists in the Czech Republic where different actor groups are responsible for strategy design and the design of calls in a context of high turnover. To some extent there is a reversal of the priority-setting process, since the very general strategy is being fleshed out *ex post* during the preparation of calls.

Finally, there can be difficulties with appraising or selecting specific projects, such as in Emilia Romagna (Italy), where it was difficult to agree on a definition of 'Tecnopoli', since involved universities and research centres were new to this kind of procedure. The appraisal of cooperative research projects presented by SMEs was also found to be complex. There remain issues with the role of individual interests, such as in Keski-Suomi (Finland), despite efforts to focus and concentrate funding.

[39] G. Untiedt and J. Damberg (2008) *Wettbewerbe des Landes NRW: Zwischenevaluierung*, Report to Ministeriums für Wirtschaft, Mittelstand und Energie des Landes Nordrhein-Westfalen, Bremen and Münster: MR Gesellschaft für Regionalberatung mbH and GEFRA Gesellschaft für Finanz- und Regionalanalysen

3.2.4 Facilitators and constraints

(i) Institutional capacity

The preceding sections have noted that successful development and implementation of regional innovation policies - in terms of establishing clear leadership, effective involvement of partners and selection of relevant priorities and projects - is closely linked to the institutional capacity that is present in the region. The 2010 Annual Report of the Regional Innovation Monitor states that:

> *"(...) the amount of governance capacity at the regional level determines the likelihood that a regional innovation strategy is already present independent of strategic guidelines of the SF. To a degree, this also reflects a country's position on the governance learning curve."*[40]

It can therefore be concluded that pre-existing institutional capacity acts as a facilitator in some regions, whereas its absence constitutes a significant constraint, especially when there is a structural rather than a temporary gap in capacity.

- A ***structural lack of capacity*** can be mainly found in Convergence regions and Cohesion countries, but also elsewhere. In countries with a predominantly national approach to innovation policy this often concerns both central and local levels. In the Czech Republic, the innovation support system is perceived to be overly complicated, and experience on how to deal with very high funding amounts for R&D is limited. Good ideas have been difficult to realise in practice due to limited capacities on the ground. At the level of the Jihomoravský kraj region, a lack of technological knowledge was noted in the team designing the RIS3. In the case of Greece, despite efforts to create new structures and use skilled employees from special services, it has been problematic to create a climate of confidence in the business sector and to significantly improve accountability and procedural simplification. Regional involvement in innovation policies is mainly restricted by a lack of capacity in policy-making rather than a lack of authority or financial resources. Other examples of a lack of capacity on the ground can be found in Śląskie (Poland), where beneficiaries need greater expertise in project implementation in the RTD and innovation areas. In the French region of Centre, the lack of private sector professionals in a position to advise entrepreneurs was identified as a specific weakness.

- The introduction of new procedures can lead to ***temporary gaps in capacity***, during which staff need to familiarise themselves with the new requirements or new staff with expert knowledge have to be recruited. The ERDF authorities in Nordrhein-Westfalen (Germany) feel they were too slow to build up their own human resources to deal with competitive calls, which required much administrative work and new types of administrative tasks (drafting, agreeing and publicising calls, receiving applications by deadline, setting-up and supporting a

[40] Technopolis group, Frauenhofer ISI and Maastricht University UNU-MERIT (2011) *op.cit.*, p.59.

selection jury), especially since the approach proved more successful than expected. As a result, they needed to recruit additional staff to deal with associated commitments and payments. Now, there is sufficient administrative capacity.

- Changes in strategies and institutional set-ups may require an ***adaptation in capacities***. In Wales, six key sector advisory panels were set up after the launch of a new sector-based Economic Renewal Plan. Most managers and staff with responsibility for innovation support delivery were then allocated to one of the sector teams as innovation specialists. By contrast in England the abolition of the Regional Development Agencies (RDAs) involved a significant reduction in capacities. In the East of England region, for example, the RDA had an innovation directorate with a team of 14-20; since abolition, innovation-related expertise is considerably scarcer (one person out of a team of 14) and some important projects were terminated early.

Managing authorities would have the scope of including capacity-building as part of programme strategies, yet this appears to be uncommon - certainly among IQ-Net partners. Instead, implementation tasks tend to be out-sourced to specialist bodies with the capacity to deliver complex instruments and initiatives – although there are also some examples of 'learning mechanisms' being used to build capacity within or across regions.

- ***Inclusion of capacity-building objectives in strategic and programming documents***: One of the main objectives of the Latvian national OP Competitiveness and Innovation is to address insufficient capacity of the National Innovation System by "establishing a favourable regulatory, financial and legal framework for innovation-related activities". Similar aims are pursued in Greece and Slovenia. Programme bodies in the Polish region of Śląskie assert that an efficient Regional Innovation System has to be based on mutual confidence, creativity and excellence. This includes developing networks of institutions to deliver information to economic and administrative units in order to increase access of entrepreneurs, scientists and local government to relevant data. In the French Centre region, important training efforts are foreseen by the strategy in order to make innovation support (i.e. intermediaries) more professional (e.g. regarding enterprise assessment).

- ***Use of specialist bodies***: There are several examples of specialist bodies among IQ-Net partners (e.g. Nordrhein-Westfalen (Germany), Emilia Romagna (Italy), Scotland, and the Austrian *Länder* of Niederösterreich and Steiermark). The German *Land* of Sachsen-Anhalt has found insufficient administrative capacities for developing and selecting projects in the field of innovation and therefore some implementation tasks are delegated to the SA Investment Bank, which has expertise in this field (and in other aspects of business support). In Scotland, there is overall satisfaction with how 'strategic delivery bodies' have performed, although there may be a need for some adjustment to make sure that there is wider involvement than just the 'classical institutions'. An interesting approach has been developed in Śląskie (Poland), where project selection procedures under the ESF OP changed from competitive-based funding to the 'systemic project' approach in 2007-13: The

regional ESF unit plays a leading role in developing applications and provides a substantial share of co-funding (it has a dual role of Intermediary Body and substantial beneficiary and is split in two sections). Other beneficiaries are drawn into the process as much as possible (universities), and the idea is to gradually build capacity and experience while guaranteeing quality projects.

- ***Learning mechanisms***: Under the Śląskie (Poland) ESF OP, support is provided to set up local partnerships to devise and implement strategies to anticipate and manage economic change, as well as training and measures to set up cooperation networks to promote social dialogue and joint initiatives. This is regarded as contributing to the engagement of bodies in developing the regional economy and in creating new skills and partnerships. With respect to inter-regional dialogue, the five Danish regions hold regular meetings to ensure an inter-regional dimension regarding knowledge and experience sharing. The Italian region of Emilia Romagna plans to open up towards the inter-regional level in the framework of the Regional High Technology Network to promote the connection with innovation systems, enterprises and/ or research centres in other regions.

(ii) Regulatory complexity

Regulatory complexity represents another layer of constraints. This applies generally to all projects funded by Structural Funds, especially when State aid is involved, but *a forteriori* to innovation projects, which due to their complexity, risky character and lack of tangible outputs do not fit very well with the existing regulatory environment. This means that stringent regulations do not only make project implementation cumbersome but can lead to a situation where strategies cannot be implemented as intended or, in the worst case, are designed in a way to suit the regulatory environment.

- Experience with implementing Structural Funds demonstrates that ***complex regulatory requirements at both EU and domestic level*** either put off applicants or limit applications to those organisations that have the scale or experience to engage with the application process. An example can be found in Nordrhein-Westfalen (Germany), where difficulties stem from the interaction of heavy EU rules with heavy domestic rules. There is therefore scepticism over the usefulness of EU programmes for SME support due to deadweight and other detrimental effects as well as considerable administrative burden that deters SMEs; this means that it is difficult to find a way of channelling funding to a representative sample of SMEs (there is an on-going risk that funding tends to go to a minority of firms who are good at getting grants). In Greece, the unfavourable domestic legal framework is one of the factors preventing the implementation of effective RTDI policies at the regional level.

- There have been ***inconsistencies between DG REGIO and DG COMP rules***, generating additional burdens for managing authorities and implementing bodies as well as problems for applicants. Sachsen-Anhalt (Germany) had significant problems with EU rules, particularly on State aid (e.g. in relation to R&D), which generate major additional administrative burden, leading to questions over efficiency and

impact of funding. Inconsistent statements by DG REGIO (need to support R&D and innovation) and DG COMP have been a particular issue in structurally weak regions, where R&D activities are mostly market-oriented rather than relating to basic research (State aid rules are stricter on funding for development/ innovation than on funding for basic R&D). Inconsistencies were also identified in Vlaanderen (Belgium), where private companies encountered difficulties and the regulations are seen to present an increasingly disproportionate burden for smaller ERDF OPs. The Polish Śląskie region has been facing State aid issues in the context of its regional OP for business intermediaries providing advisory services. It was found to be impossible to continue implementing projects developed during 2004-06 due to financial and time limits; also, aid intensity levels are too low (40 percent for scientific units or universities, which are categorised as large firms under domestic law), and it is challenging for beneficiaries to ensure the required contribution.

- Other ***specific problems regarding innovation-related interventions*** stem from the risk-averse regulations. According to the Austrian authorities, the regulations do not allow for failure, the risk of which is increased for innovative projects. An increased results-orientation may increase this, and it remains to be seen how results of innovative projects can be measured. More specifically, projects involving universities were felt to be problematic in the *Land* Niederösterreich, since they involve considerable amounts of third-party funding, thus creating problems with double-financing. In the East of England, the private sector has been reluctant to get involved, since innovation projects tend to be spent on salaries, requiring the filling in of time sheets and providing required evidence. Therefore, and despite a focus on businesses, around half of the projects are university-led. Authorities in Spain are also keen on seeing a reduction in the ambiguity of the regulations on eligibility to narrow the scope for interpretation, e.g. by aligning categories of eligible cost and their calculation with the nature of the RTDI project.

4. PREPARING FOR 'SMART SPECIALISATION' IN THE 2014-2020 PROGRAMMES

4.1 Planning the role of innovation support post-2013

Most managing authorities are currently at the stage of **exploring the strategic options** for the 2014-20 period. The focus is on two main activities:[41]

- ***analytical work*** (socio-economic analysis, SWOT etc) to assess development needs and challenges and provide a basis for strategic objectives and resource allocation decisions – e.g. Sachsen-Anhalt (Germany), in the context of revising the cluster and innovation strategy, and in Latvia. In the case of Portugal, DG REGIO commissioned a study on innovation support in defining the post-2013 approach to using Structural Funds for improving business innovation and research, including knowledge transfer (see Box 5).

- the launch of ***consultation processes*** (e.g. Austria, Greece, Portugal, Śląskie, Wales). There is some evidence of increasing stakeholder participation in some countries. The consultation process for 'Portugal Innovation 2020' has been more significant than in the past, and there is also increased association of regional authorities in decision-making in the context of incentive schemes. In the Polish Śląskie region, broad public consultation with potential beneficiaries will be carried out to indicate appropriate interventions; potential beneficiaries can submit ideas for innovation-related programmes via the region's project pipeline (PARTNER 3). In Greece, the process used to identify funded sectors and thematic areas represents an important change compared to past periods. It involves the Sectoral Science Councils to assess potentials, financial data and sectoral agencies, as well as a public consultation.

Box 5: DG REGIO study to prepare for innovation support in Portugal post-2013

In 2011, DG REGIO commissioned a study in support of the Portuguese authorities, including a diagnosis of strengths and weakness / international benchmarking, case studies on a selected number of R&I projects and consultations with key R&I stakeholders.[42] It put forward five policy recommendations to inform Cohesion Policy priorities in the post-2013 period:

1) to improve and facilitate SME access to innovation;
2) to promote business innovation partnerships;
3) to create state and EU co-financed Innovation Investment Funds;
4) to translate knowledge into economic value through innovation; and
5) to stimulate insertion into international networks.

[41] See also Kah S (2012) Planning for the future while maintaining focus on spending: Review of Programme Implementation, Winter 2011 – Spring 2012, *IQ-Net Review Paper 30(1)*, European Policies Research Centre, University of Strathclyde, Glasgow.

[42] Schuman Associates (2011) *Inovacao e Invetigacao Empresarial incluindo Transferencia de Conhecimento em Portugal*, European Commission, Brussels.

The study argues that implementation of these proposals and instruments would be facilitated by:

- improving the formulation and monitoring of National and Regional Innovation Strategies, breaking the traditional barriers between Science and Innovation, while narrowing and focusing the present broad concept of innovation in public policies;
- enhancing the framework for public investment in a high-quality, knowledge-and skills-oriented education system;
- rationalising R&D in universities, research centres and support infrastructures in order to promote quality, scale, specialisation and critical mass;
- designing and implementing an efficient and effective mobility programme of qualified human resources between universities, R&D institutions, technological centres and companies; and
- increasing the role of innovation in response to key national societal challenges (unemployment, ageing, migration, climate change, etc.), including Cohesion Policy support – to social innovation, combining new mixed models and networks of relevant players (business, academia, public sector and NGOs).

As yet, there is no clear view on the **allocation of resources** in terms of R&D and innovation – beyond the guidance in the draft Common Strategic Framework. Examples of IQ-Net partner thinking are as follows.

- In the German *Land* of Nordrhein-Westfalen, it is likely that more funding will be allocated for innovation and energy efficiency than for SMEs. It is estimated that at least 30 percent will be allocated to innovation, and although this would constitute a significant reduction from the current period, many projects under the separate thematic priority of energy efficiency are also likely to involve a strong innovation element.

- In Niederösterreich (Austria), there are plans to allocate as much funding as possible to innovation (including through the low-carbon economy objective).

- Finnish authorities are planning to allocate 40 percent to R&D in line with the current period.

There are some indications regarding a **strategic (re)orientation of programmes**, aiming at a greater concentration of resources. In Nordrhein-Westfalen (Germany), there are plans to narrow down priorities and to reduce the number of clusters from 16 to eight thematic 'leading markets'. In the Austrian *Land* of Steiermark, clusters are expected to be further developed into 'knowledge-based production systems', which will be given greater prominence in the innovation system. Also in Wales, efforts have been made to select fewer, more strategic projects, and the Belgian region of Vlaanderen is expecting resources to become more targeted and concentrated. Similarly, the Keski-Suomi region of Finland is aiming at larger and more comprehensive sets of activities to counter fragmentation and lighten the administrative burden and the risk of inefficiency if parallel measures are implemented across organisations through various uncoordinated policy instruments.

In terms of the **changes to the thematic focus**, managing authorities in Convergence regions and Cohesion countries are discussing in how far the next period will involve a further move towards 'soft' interventions, notably where basic needs in terms of R&D

infrastructure have been addressed under the 2007-13 programmes (e.g. Czech Republic). Authorities in the Polish Śląskie region are currently examining recommendations of a 2011 evaluation of the regional OP, including enhancing innovation creation in companies in cooperation with the science sector, promoting commercialisation of innovation and extending support to traditional sector enterprises. They also consider increasing the maximum value of innovation-related projects.[43] The *Land* Nordrhein-Westfalen is planning to complement its focus on excellence by support for more 'everyday' innovation, since many SMEs do not do 'excellent' innovation or research but may be active in some form of development work or softer kind of innovation.

A further aspect of the thinking about innovation support in the next period concerns **management and implementation arrangements**, which are evolving in some cases. There are three notable aspects.

- ***More effective coordination*** is being discussed in several managing authorities. The Portuguese 2011 Strategic Programme for Entrepreneurship and Innovation strongly promotes high-level coordination of innovation policies, with an advisory body to be established at the level of the Prime Minister to ensure strategic direction, enhanced coherence and effective implementation. In order to promote coordination across Funds, the Welsh administrative set-up has been reorganised in a way to ensure that all EU programmes are delivered by one team. Authorities in Keski-Suomi (Finland) are also planning to strengthen the integration of ERDF and ESF programmes in order to improve the balance between investing in people and investing in infrastructure and structures. In the German *Land* of Sachsen-Anhalt, further consideration is being given to building closer links between different funding streams beyond the specific coordination mechanisms already in place for ERDF and ESF (i.e. including Horizon 2020). Efforts to enhance coordination between ERDF and ESF are also being made in Nordrhein-Westfalen (Germany), but there is scepticism regarding the practicality of ensuring stronger coordination with other EU Funds due to the differences in EU rules for different funding sources; thus, the *Land* authorities instead advocate a clearer division of responsibilities, goals and target groups at EU level. Managing authorities in Austria take the view that the need for increased coordination is greater between ERDF and Horizon 2020 than with ESF.

- A second aspect of implementation change concerns ***project development***. For example, the authorities of the Polish Śląskie region are investing in advisory services to support new types of projects and applicants. In addition, changes in selection criteria and the eligibility of costs are being considered to give preference to R&D activities and more innovative projects. In Nordrhein-Westfalen, the competitive call approach may be simplified following review. Both regions are considering giving greater importance to financial instruments: In Nordrhein-

[43] IPM (2011) *Ocena wsparcia działalności innowacyjnej w ramach Regionalnego Programu Operacyjnego Województwa Śląskiego na lata 2007 – 2013*, Final Report [URL:

http://rpo.slaskie.pl/zalaczniki/2012/01/03/1325587317.pdf].

Westfalen, the creation of a Business Innovation Loan Fund is being discussed. However, there are concerns that loan-based support may not be appropriate for R&D-based projects because they are inherently risky and returns are only generated over the long term. Authorities in Śląskie are considering whether grants should be exclusively reserved for highly innovative, high-risk projects.

- A third set of changes are associated with ***institutional reform or reorganisation***. In the United Kingdom, following the abolition of the English Regional Development Agencies, a new consensus is having to be built for the next generation of programmes. In Austria, the future role of the most important federal intermediate body (Austrian Research Promotion Agency, FFG) is uncertain due to audit problems in the current period. This may cause problems for *Länder* without their own implementing bodies (IB) for innovation (both Niederösterreich and Steiermark have their own IB). The economic crisis constitutes another source of uncertainty. In the Italian Emilia Romagna region, the continuation of a strategic innovation approach depends on how long the crisis persists, since the ability to implement a regional innovation policy will be affected by the availability of funding at the level of the regional authority.

These developments need to be kept in perspective as the overall picture emerging from the IQ-Net research is one of continuity (at least at this stage) in management arrangements. The German *Land* of Sachsen-Anhalt, for example, will be pursuing its current innovation support instruments, encouraged by a positive evaluation of RTDI instruments (see Box 6). In Niederösterreich (Austria), the main focus is on increasing the clarity of innovation targets in the future OP and some progress has been made with formulating target indicators.

Box 6: Continuity in Sachsen-Anhalt, following positive evaluation of RTDI instrument

The R&D Programme, which is one of the main R&D/ innovation instruments that is co-financed by the ERDF OP in Sachsen-Anhalt, provides grants for (individual or collaborative) R&D and innovation projects to SMEs, large firms and non-university, business-oriented research centres. The programme was evaluated in 2011 and the evaluation found that it was effective, that it was implemented efficiently and that it fitted well and did not overlap with other (*Land* Sachsen-Anhalt, federal and EU financed) R&D/innovation instruments.[44] It was also found to be an important component of the *Land*'s development policy due to the structural weaknesses of the Sachsen-Anhalt economy (e.g. generally small firm size and low levels of R&D activity). The R&D Programme was seen to have a positive impact, although the evaluation noted that this could partly be due to self-selection i.e. that it is the more dynamic and growing firms which apply for funding.

The evaluation recommended, among other things, that the R&D Programme should:

- Provide small/micro firms with more professional support and advice during the application process, and that the Programme's administrative burden should be reduced,
- Target advice and publicity individually on different groups (e.g. small/large firms, those with and without experience of funding),

[44] K. Dautzenberg and G. Zinke (2011) *Themenspezifische Evaluation der Forschungs-, Entwicklungs- und Innovationsförderung*, Report to the Sachsen-Anhalt *Land* government, Hamburg: Rambøll Management.

- Be combined with other existing instruments – which in turn implies that staff in Sachsen-Anhalt's Investment Bank need more time to assess firms' needs and thus to spend less time on checks/controls,
- Focus more strongly on collaborative projects between firms and research centres, e.g. by linking R&D funding with support for education and training, and
- Be linked better with existing instruments that support business investment, with private sector funding for business, and with existing *Land* instruments that provide loans for market-near development/innovation.

The evaluation also argued that existing interactions between relevant actors in Sachsen-Anhalt should be strengthened, particularly through the creation of a strategic round table of policy-makers and representatives of business and research, and also of a forum for exchanging views on the coherence of *Land* and federal funding for particular target groups.

However, partners across the EU are facing different challenges in preparing for the 2013+ period, depending on how they are positioned in terms of innovation policies. Those countries which have no regional innovation strategy (Greece, Portugal) clearly need to undergo a steep learning curve in stimulating the necessary consensus and building required capacities. In the context of on-going economic crisis, co-financing is an issue for some IQ-Net partners, such as Sachsen-Anhalt (Germany). In Finland, Centres of Expertise and other innovation instruments have relied on local-level funding for co-financing, which is now facing considerable budget pressures. More generally, the need for flexibility and openness to adaption is underlined by partners. Portuguese authorities, for example, see a need for tailor-made funding mechanisms and simplified short-term targeted projects linked to the experimentation of new concepts and ideas. In the French region of Centre, it is thought important to provide both standardised and tailor-made offers, notably in order to make business advisory services more visible and accessible.

4.2 'Smart specialisation': what does it mean to managing authorities?

Given the diversity of regional development needs and institutional arrangements across the EU, the views of managing authorities on 'smart specialisation' diverge considerably. The IQ-Net research suggests that they range from very positive (especially in cases where current innovation policies are already in line with the concept), to scepticism as to its utility, as well as cases, where the smart specialisation agenda raises uncertainty and concern.

Smart specialisation is ***strongly supported by several managing authorities in Regional Competitiveness & Employment regions***, such as Vlaanderen (Belgium) and Wales, as it fits with domestic innovation policies and regional strategies and facilitates more coherence and greater focus in resource allocation. In the German *Land* of Nordrhein-Westfalen, positive views are shared among government and socio-economic partners. The concept is interpreted as stronger focus on clusters and economic strengths, which is in line with strategic intentions to target support on a limited number of 'leading markets'. Specialisation is not expected to have much impact on project generation/ selection, since the shift to a strong use of competitive calls has led to very large numbers of applications. The Austrian *Länder* also see the approach, which is already applied in Steiermark (nominated as finalist for the 2012 RegioStars Awards and selected as European Entrepreneurial Region for 2013), as useful and necessary. Authorities in Niederösterreich

perceive it as positive in a context of lack of critical mass in public R&D, lack of urban agglomerations and a highly diversified economy dominated by smaller companies. The *Land* is aiming to create its unique selling proposition in collaboration with neighbouring regions and to facilitate innovation also in rural areas. Further examples of countries supporting this approach are in Finland, Spain (País Vasco region) and the United |Kingdom (East of England region). And although the requirement to establish smart specialisation strategies is perceived as complex in the Italian region of Emilia Romagna, the overarching objective to create regional 'technology clusters' is strongly in line with the concept.

Some managing authorities in Convergence regions and Cohesion countries also see smart specialisation as a positive development. There is broad-based support for this approach in the German *Land* of Sachsen-Anhalt and in Portugal, as it is considered to improve the allocation and concentration of public investment and is consistent with cluster policies. In the Polish Śląskie region, it is also viewed positively as a means of strengthening the focus of innovation support. In line with this, there are plans to develop a stronger thematic or sectoral focus, which is likely to be informed by EU2020 and 'smart specialisation' (4-5 themes/ sectors to be selected to encourage greater specialisation). Demand for funding is guaranteed based on needs assessment, and sufficient match-funding is available despite the crisis. Portuguese authorities see it as a useful tool based on a sound rationale, which could encourage result-orientation. Slovene authorities also consider that smart specialisation will facilitate policy-making by increasing the focus on the selection of good quality projects.

However, there is also some ***uncertainty as to the interpretation of smart specialisation***. In Denmark, the view at the national level is that the concept is closely linked to ring-fencing, which might involve a larger focus on sectors and thus less flexibility, which has been crucial in the current crisis. At the regional level (Nordjylland), it is understood as a form of specialised and more binding cooperation between stakeholders, which has many similarities with the current approach. However, a shift to a more sectoral approach would imply 'picking winners' as opposed to an approach focussing on framework conditions. In Scotland, a rather cautious approach is being taken to the development of a smart specialisation strategy. The first step is to assess what Scotland already does and what the potential benefits of producing such a strategy would be before committing to the exercise. It would only be attractive if it went beyond a 'tick-box exercise' and involved genuine learning. The Czech authorities are also somewhat sceptical, and while smart specialisation may help promote theoretical approaches among politicians it is not clear whether they will be able to capture the concept. In the region of Jihomoravský kraj the view is that the concept is not new and it is not clear what its real strengths are. Authorities in Latvia questioned what the approach means for small countries without regions (according to the classification for European Regional policy) or regional innovation strategies. It is also regarded as challenging to achieve consensus on concentrating funding on a limited number of targeted fields. Greece is also facing considerable challenges if there is an obligation to develop smart specialisation strategies *ex nihilo* (see Box 7).

Box 7: Management and implementation challenges of smart specialisation in Greece

In Greece, the incorporation of the smart specialisation approach as a general framework for the application of innovation-related measures is expected to be a difficult and painful process both in terms of strategy/planning and at the implementation level. The incorporation of innovation as a key component of regional development is completely new to regional authorities. To date there have only been fragmented efforts and there is so far no institutionalised strategy to promote innovation at the regional level.

Specific management/ implementation challenges are foreseen, namely:

- The lack of an institutional framework for the development and institutionalisation of RIS. So far, innovation policy has been designed centrally with horizontal application throughout the country.
- The absence of a valid and updated record of RTDI resources at regional level (existence of universities, research centres and enterprises implementing or having the ability to produce/ integrate/ adopt technological or non-technological innovations).
- The absence of a platform for debate and communication among the relevant stakeholders at regional level.
- The lack of expertise of human resources at regional level, which could assist enterprises and bodies in their effort to learn and adopt international best practices.

It is therefore not possible to integrate the approach into existing frameworks, and the following steps would need to be taken to implement it:

- A reform in the way innovation support actions are implemented - The General Secretariat for Research and Technology (GSRT) is planning a series of preparatory activities, such as developing an archive and keeping data relating to entrepreneurship and the use of innovation at the level of the regions.
- The evaluation of co-funded actions of previous programme periods at regional level.
- The preparation of a central strategic action plan to promote entrepreneurship and innovation in the regions.
- The selection of sectors and regions for which studies will be prepared, evaluating their performance and predicting their perspectives for innovation and entrepreneurship.

However, the major difficulty for the design and implementation of smart specialisation is the current business and macro-economic environment and not the availability of EU funding.

Questions about the practical implications of smart specialisation have also been raised. In France, there is need for clarification, for example whether a RIS should be steering all the funds allocated at the regional level. And although the drafting of RIS in France from 2008 is generally seen as a positive experience, their development was perceived as too top-down by some regions, particularly those that were already active in innovation policy or feared that the exercise could have a negative impact on decisions already made.[45] There are also concerns over funding RIS in the near future, not only due to the economic crisis but also in a context of important co-financing requirements under recently launched domestic initiatives. And whereas partners in Sachsen-Anhalt (Germany) consider it useful to use a broad definition for innovation, it is unclear how narrowly specialisation will be defined and whether this will preclude funding outside selected themes; it should therefore be ensured that broad-based public funding can continue to be used to support SME across all sectors. Others see risks in too much specialisation, since this should not lead to reinforcing old leading industries, but rather an appropriate balance has

[45] ADE and LL&A (2010) *op.cit.*, p.22.

to be found between specialisation and diversification (Finland, País Vasco, Portugal). In addition, too narrow a focus can lead to insufficient new proposals (East of England). In Spain, there are concerns about the organisation and timing of the process: If new regional innovation strategies are required, which would involve a lengthy development process, especially if it is necessary to coordinate the process across all regions and with the national strategy, this could lead to considerable challenges.

Finally, many partners have stressed the ***importance of keeping the strategies flexible***. French authorities perceive the RIS as 'living' and evolving documents with scope for improvement (e.g. in case it is realised that not the right priorities have been identified). The current crisis context means that RIS should not preclude support being provided to potential innovation sources, which may involve *ad hoc* reorientations of the strategies. In Portugal, partners see the need to improve monitoring and evaluation systems in order to strengthen the evidence base on what works and what does not, i.e. strategies have to stay 'smart' also during implementation. Similar concerns were expressed in Slovenia, and the French Centre region carries out triennial evaluations of the regional innovation system in the context of an iterative process of RIS revision. More specifically, there should be greater scrutiny regarding cluster activities with stronger checks (e.g. in terms of *ex ante* business plans and *ex post* checks or assessments on what they do), as argued in Sachsen-Anhalt (Germany). Similarly, clusters in Portugal will be assessed in terms of their achievements and future potential. Regional programme managers in Denmark also think that stricter evaluation criteria regarding the growth potential of different business sectors would need to be introduced if smart specialisation is to make a difference to business development activities on the ground. More generally, this implies a greater focus on evaluation to compare the effectiveness of different policy measures.[46]

4.3 'Smart specialisation': alternative options

Despite having a largely positive connotation among policy-makers, smart specialisation is not necessarily a straightforward concept to apply. Even one of the founders of the concept admits that although it has political salience, its theoretical framework remains modest, leading to risks of misunderstanding and abuse.[47] One of the crucial stages of the strategy development process relates to the sound evaluation of regional innovative potential. However, this is also one of the fields in which capacity and expert knowledge are lacking in many regions.

At the heart of a smart specialisation strategy is the question of identifying regional strengths for innovation support. For successful regions with strong clusters this is not a difficult task, but for many other regions the decision is not clear. Yet without the identification of a focus and priorities a smart specialisation strategy will not be acceptable to the Commission. What guidance can be given to regional partnerships in trying to identify a focus?

[46] See also Applica and Ismeri Europa (2010) *op.cit.*, p.50.

[47] Foray D (2012) *Types of Strategies for Smart Specialisation*, Presentation at the 2nd TIP Workshop on Smart Specialisation Strategies for Innovation-driven Growth, OECD, 10-11 May 2012, Paris.

First, it must be clear that the focus of a smart specialisation strategy need not be high technology sectors. Sectors or clusters need to be selected which have growth opportunities and where support for innovation may be targeted. This could imply the application of process technologies or ICT to traditional industries or low R&D industries, so long as there is an opportunity for growth. These may be service industries such as tourism or creative industries, or could be primary industries such as agriculture or mining. The key question is whether it makes sense for the region to invest in innovation strategies for these industries in terms of opportunities for growth that are more likely than investment in other sectors.

Second, the selection of priorities needs to be made on the basis of some existing strength or expertise rather than aspiration. In most cases this means a strong production base, although it could also mean a resource base which is inadequately exploited and for which there is demand. Some regions in the past have identified sectors based purely on a modest research base, in the form of a small cluster of researchers in the university sector, though this would rarely provide a significant basis for a regional strategy. Most regions had universities with biotechnology researchers for example, but this did not mean that all of the regions which sought to develop biotechnology clusters on that basis were going to be successful. Strengths need to be significant when compared with other regions and the process of identification should involve some form of competitive benchmarking with other regions.

Third, regions should look to diversify their activities based on existing strengths and areas of expertise by moving into areas of related expertise. So having identified a strength, a region could look to expand out from that base using the core knowledge base of the existing industry, or targeting industries within that value chain. Examples of this might be the diversification from shipbuilding into offshore and subsea technology based on an engineering expertise, or developing a food and wine based tourism industry related to a cluster of high quality vineyards. The application of ICT in a particular industry to raise productivity may be achieved by buying in existing technology from elsewhere, but could also lead to new solutions being developed locally with the combination of domain expertise and standard ICT knowledge, and might then be exported to other regions. The main emphasis here is the identification of new niches based on the region's strengths which can open up opportunities in related industries.

Fourth, regions need to be aware of the systemic nature of innovation and focus effort on enhancing existing or emergent systems rather than focusing on one-off firms. Consultation with entrepreneurs may sometimes lead to demands to invest in areas where there may be just one or two high profile and successful firms that are not part of a regional system. Whilst it is reasonable to provide generic support to such firms, they may not be an appropriate focus for a smart specialisation strategy. Most regions have a few outstanding innovative firms that may not fit into a regional strength. It is sensible to provide them with support, but not to see them as a sectoral opportunity unless they connect with a wider regional expertise and offer growth opportunities involving a wider cluster of firms.

Finally, although the focus of a smart specialisation strategy is on the region, the firms involved will operate in global networks and will draw upon expertise and knowledge from elsewhere – from competing clusters and from regions with complementary expertise. The

smart specialisation strategy should be open to networking and exchange with other regions. Equally though regions should remember that such exchanges are not just between regions, but are really between firms, organisations and people. Firms will seek knowledge from wherever they can obtain it and will be more driven by their specific needs, the kinds of knowledge they need, and their own personal contact networks than by formal regional agreements. So regions should look to develop partnerships where appropriate but also help firms in wider networking to obtain the support which is right for them and maximises their opportunities for growth.

Given the variety of regional starting points in terms of innovation policy and strategy development, it is obvious that different capacities need to be strengthened in different contexts. Also, and as discussed in Section 3.1.3, Structural Funds will play a different role in capacity-building depending on funding amounts and the institutional set-up. For regions facing difficulties with assessing regional strengths in order to target funding effectively, it may be advisable to focus on investing in the development of human capital more generally in order to create the initial conditions for strategic innovation support. Where innovation policies are relatively well developed and Structural Funds are less relevant, added value can be achieved by addressing gaps in existing support mechanisms, such as in the field of knowledge transfer or the creation of an innovation-friendly environment. In other cases, Structural Funds may enable regions to launch new policy measures without duplicating existing initiatives.[48]

[48] The 2010 Annual Report of the Regional Innovation Monitor identifies three types of approaches to capacity building using Structural Funds: capacity building, integration and experimentation. See Technopolis Group, Frauenhofer ISI and Maastricht University UNU-MERIT (2011) *op.cit.*, p.59-65.

5. CONCLUSIONS

The smart specialisation approach is an interesting development based on the regional innovation strategy approach, and in many ways can be seen as an enhancement of that approach rather than a new direction. It offers opportunities for all regions by challenging assumptions that regional innovation should be somehow connected with high technology and R&D. However, there remains considerable uncertainty about how it will be implemented, and current guidance remains somewhat abstract with the exception of some high technology examples.

The Commission is insisting on having a particular form of smart specialisation strategy document as a condition of innovation funding in the ERDF. This raises questions for various regions:

- Some regions have all the necessary elements for such a strategy, but have not felt the need to encompass this within a formal written strategy document. For these regions (e.g. Nordrhein-Westfalen, Scotland) producing such a strategy may be an administrative requirement which adds little value.

- At the other end of the spectrum, some regions lack fundamental capacities to develop an innovation strategy and lack the tools to prioritise regionally-based innovation actions. For these regions the development of a smart specialisation strategy seems very unrealistic. They may develop a document at great effort but it may not be deliverable.

- Other regions may have the tools to produce strategies but without the leadership to ensure they are delivered.

- Perhaps the regions where smart specialisation makes most sense is in those, which have ambitions and possibilities to enhance regional innovation capacities, but have so far not had the opportunity to do so (e.g. France).

Whilst in theory smart specialisation should be a strategy for all regions, the practical implications pose challenges for a number of regions and countries as to whether they can gain the benefits from the effort involved.

Capacity-building is central to the success of this initiative, especially for those regions with little experience of previous innovation strategy-building, or with weak innovation support infrastructures.

- Capacity-building is crucial for linking strategy design with implementation and this has been identified as crucial to success in previous rounds of innovation strategies in terms of the assembly of partnerships, design of implementation teams, the drawing in of expertise from the private sector and the development of staff continuity and the creation of expertise in this field.

- Countries with a heavy concentration of both innovation and Cohesion policy efforts in national capital regions (such as Greece and Latvia) lack capacity in regions

outside that main centre. This means that there is no viable basis one which to build innovation strategies. Without capacity building processes as a first step, smart specialisation strategies cannot be developed.

Finally there are some challenges for the Commission in ensuring the effective implementation of this strategy. At present there is a risk that much of the guidance being provided is too complex and too dirigiste, to a point where the whole concept risks becoming dysfunctional. More consideration perhaps need to be placed on the development of smart specialisation strategies in weaker regions, so the difficulties can be more clearly identified and addressed in the guidance. At the moment, there is perhaps too much guidance, exchange of experience, and peer review but much of this is derived from the usual suspects and presents easy cases rather than regions with a longer journey to travel. There is a need to recognise that the smart specialisation journey is likely to be a difficult one for many regions and with many false starts and missed turnings. This will require patience and much support but the focus so far is on the theory rather than the practice.

Improving the Quality of Structural Funds Programme Management through Exchange of Experience

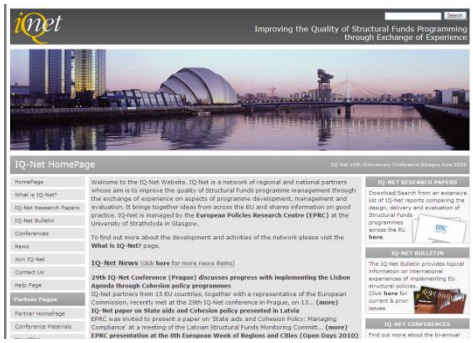
IQ-Net is a network of Convergence and Regional Competitiveness programmes actively exchanging experience on practical programming issues. It involves a programme of research and debate on topical themes relating to Structural Funds programme design, management and delivery, culminating in twice-yearly meetings of members. IQ-Net was established in 1996 and has successfully completed four periods of operation: 1996-99, 1999-2002, 2002-07 and 2007-10. The fifth phase was launched on 1 January 2011 (Phase V, 2011-13).

IQ-Net Meetings

31 partners' meetings and a special 10th anniversary conference have been held in 13 European countries during 16 years of operation of the network. Meetings are held at approximately six-month intervals and are open to IQ-Net partners and to observers interested in joining the network. The meetings are designed to facilitate direct exchange of experience on selected issues, through the presentation of briefing papers, plenary discussions, workshop sessions and study visits in the hosting regions.

IQ-Net Website

The IQ-Net Website is the network's main vehicle of communication for partners and the public. The launch of Phase V has been accompanied by an extensive redesign of the site which comprises two sections:



Partner Intranet Pages available exclusively to IQ-Net members.

Public Pages which provide information on the Network's activities and meetings, allow the download of IQ-Net Reports and Bulletins, and provide a news section on issues relevant to the Network.

The Partners' section of the website provides exclusive services to members of the network, including access to all materials prepared for the IQ-Net meetings, a list of EU27 links (programmes, institutions etc.), partners' contact details, a partners' blog and other items of interest.

IQ-Net Reports

The IQ-Net Reports form the basis for the discussions at each IQ-Net meeting. They present applied and practical information in a style accessible to policy-makers, programme executives and administrators. The reports can be downloaded, at no charge, from the IQ-

Net website. To date, 30 thematic papers have been produced on both 'functional issues' (e.g. management arrangements, partnership, information and communication, monitoring systems) and 'thematic issues' (e.g. innovation, enterprise development, tourism). A similar number of papers have also been produced to review developments in the implementation of the Network's partner programmes.

IQ-Net Thematic Papers

- 'Smart specialisation' and Cohesion policy – A strategy for all regions?
- New financial instruments in Cohesion policy
- Taking stock of programme progress: implementation of the Lisbon Agenda and lessons for Europe 2020
- The Reform of Cohesion Policy after 2013: More Concentration, Greater Performance and Better Governance?
- New Partnership Dynamics in a Changing Cohesion Policy Context
- Pandora's Box and the Delphic Oracle: EU Cohesion Policy and State Aid Compliance
- The Financial Management, Control and Audit of EU Cohesion Policy: Contrasting Views on Challenges, Idiosyncrasies and the Way Ahead
- From Environmental Sustainability to Sustainable Development? Making Concepts Tangible in Structural Funds Programmes
- Making sense of European Cohesion Policy: 2007-13 on-going evaluation and monitoring
- Turning ideas into action: the implementation of 2007-13 programmes
- The New Generation of Operational Programmes, 2007-13
- National Strategic Reference Frameworks and OPs, 2007-13
- Preparations for the Programme Period 2007-13
- Territorial Cohesion and Structural Funds
- Cohesion Policy Funding for Innovation and the Knowledge Economy
- The Added Value of Structural Funds
- Information, Publicity and Communication
- Mid-term Evaluation of the 2000-06 Programmes
- Mainstreaming Horizontal Themes into Structural Fund Programming
- The Structural Funds: Facilitating the Information Society
- Information into Intelligence: Monitoring for Effective Structural Fund Programming
- At the Starting Block: Review of the New Programmes
- Tourism and Structural Funds
- Preparations for the New Programmes
- The New Regulations and Programming
- Strategic Approaches to Regional Innovation
- Effective Responses to Job Creation
- The Evolution of Programmes and Future Prospects
- Equal Opportunities in Structural Fund Programmes
- The Contribution of Meso-Partnerships to Structural Fund Implementation
- Regional Environmental Integration: Changing Perceptions and Practice
- Structural Fund Synergies: ERDF and ESF
- The Interim Evaluation of Programmes
- Monitoring and Evaluation: Principles and Practice
- Generating Good Projects
- RTD and Innovation in Programmes
- Managing the Structural Funds – Institutionalising Good Practice
- Synthesis of Strategies 1994-96

IQ-Net Bulletin

The IQ-Net Bulletin promotes the dissemination of the Network's activities and results. Fifteen issues have been published to date, over the period from 1996 to 2011. Bulletins are published using a standard format, with each providing summaries of the research undertaken and reports on the discussions which take place at IQ-Net meetings. The Bulletins can be downloaded from the IQ-Net website.

Admission to the IQ-Net Network is open to national and regional Structural Funds Managing Authorities and programme secretariats. For further information or to express an interest, contact Professor John Bachtler (john.bachtler@strath.ac.uk) or Dr Laura Polverari (laura.polverari@strath.ac.uk).