



Munich Personal RePEc Archive

**Developing Regional Innovation
Strategies: The European Commission as
Animateur**

Landabaso, Mikel and Reid, Alasdair

1999

Online at <https://mpra.ub.uni-muenchen.de/115017/>
MPRA Paper No. 115017, posted 02 Nov 2022 14:16 UTC

Developing Regional Innovation Strategies: The European Commission as Animateur

INTRODUCTION

During the last decade, European policy-makers have acknowledged increasingly the need to improve the interaction between the demand and supply sides of the innovation process at regional level. From an early emphasis on supply-push policies based on the creation of new technological resources, the policy focus has gradually shifted to technology dissemination mechanisms and finally to means of galvanising 'non-innovative' firms to recognise and respond to their needs. The former were developed mainly through policies of the science and technology type, which were more concerned with the strengthening of the science base and the provision of research inputs, while the latter have been formulated recently within the realm of regional and industrial policies, and has been more concerned with economics-related issues dealing with the innovative capacity of firms and the diffusion of technology through technology transfer networks.

In the case of regional policy, the Commission has emphasised the significant contribution to economic development made by research and technology development (RTD) initiatives. However, the Structural Funds do not intervene in favour of RTD for its own sake, but as one important means of promoting economic development, higher productivity and competitiveness and thereby narrowing existing disparities...funding for RTD related actions will have to demonstrate that the economic development impact in the regions is in keeping with the resources deployed. (European Commission 1993)

In addition, it has been recognised that the effectiveness of Structural Fund interventions aimed at technological innovation depends on the quality of the partnership between public authorities, the principal innovation support organisations and local firms. Indeed, technology cannot be expected to assist in resolving the problems of competitiveness unless it functions as part of a system that is institutionally and organisationally capable of adapting to changing demands on a continuous basis. (Landabaso, 1993)

It is precisely this issue of the development of an adequate level of 'social capital' in the less-favoured regions, to complement the massive investments in infrastructure by the Structural Funds, that the Regional Innovation Strategy (RIS) approach funded under Article 10 of the ERDF (European Regional Development Fund) is intended to tackle.

The ERDF allocation to all Article 10 actions is only some 400 million ECU during 1995–99, or less than 0.6 per cent of the total ERDF funding of 70 billion ECU placed at the disposal of the member states for the period 1994–99. In contrast to the standard ERDF interventions (via programmes in the Objective regions of the EU or through the Community initiatives), Article 10 supports actions 'aimed mainly at exploring new approaches to economic and social development that encourage greater co-operation and the exchange of experience between actors in local and regional developments'. The article's distinctiveness is reinforced by the fact that the innovative actions are implemented through ERDF project financing *selected by the European Commission* (with the help of external independent experts). They are also managed very differently from the mainstream Structural Funds actions, which are run through operational programmes, not projects, and normally negotiated with the central administrations of the member states, rather than directly with the regional actors benefiting from them and/or responsible for their implementation.

The pilot projects funded under Article 10 of the ERDF have three key features:

- They are based on public-private partnership (the private sector and the key regional players should be closely associated in the formulation and implementation of pilot projects).
- They should have a demonstration character (the policy actions tested in a region should be amenable to being duplicated in other parts of the Union).
- They should exploit the European dimension through inter-regional cooperation networks across Europe (in order to avoid reinventing the wheel and efficiently diffuse the lessons learnt).

Thus, Article 10 provides a laboratory for developing new and improved management methods and forms of actions which may, at a later stage, be adopted in the more traditional programmes. In terms of the innovation promotion pilot actions (Regional Innovation Strategy and Regional Technology Transfer (RTT) projects), two general objectives can be discerned:

- on the one hand, to redefine the policy framework and instruments for supporting innovation-led economic development in less-favoured regions through, in particular, a greater emphasis on an a priori assessment of the needs of firms;
- on the other, a more ‘implicit’ aim, to initiate a learning process with respect to policy formulation at the regional level through the building of a consensus among all relevant actors on the types of mechanisms and measures required.

Although the thinking underlying the development of RIS began as far back as 1991, the approach fostered by the European Commission has been given a political impulse and legitimacy by main policy documents since 1994. First, the RIS are an attempt to give a practical content to the White Paper on ‘Growth, Competitiveness and Employment’, namely: ...stimulating the development of ‘clusters’ of competitive activities that draw the regional diversity of the Community. The proliferation within the Community of ‘clusters’ that combine industrial, technological and geographical advantages may hold one of the keys to job creation. This requires the active involvement of all the actors concerned, something that can be greatly facilitated by structural measures taken at Community and national level. In this area, as in the preceding ones, the main emphasis should be on a horizontal, transectoral and multidisciplinary approach... (European Commission 1992, p. 79)

...Steps must be taken to allow better application of the results of the research carried out in the Community, i.e. the establishment of operational mechanisms at national and European level for the transfer of technologies from university laboratories to companies, from one company to another...

One key aspect must be substantially to step up measures to improve the business environment, in the form of scientific and technical information, financial services, aid to protect innovations, training in new technologies, etc. (European Commission 1992, p. 103)

Second, an RIS translates into practice the proposals made in the 1993 Commission ‘Communication on Cohesion and RTD Policy’ namely:

The Commission is therefore willing to provide technical assistance through the Structural Funds for developing regional research and technological development strategies in the context of the preparation of the next round of CSFs in partnership with the Member States...(European Commission 1993, p. 11)

Third, the RIS can be regarded as a response to the suggestions to the Commission made by the Regional Policy Committee of the European Parliament about ‘increasing awareness in SMEs [small and medium sized enterprises] from LFRs [less-favoured regions] about RTD [research and technological development] activities’ (European Parliament 1995).

Finally, in 1995 the Green Paper on Innovation, in its twelfth action line to ‘encourage innovation in enterprises, specially SMEs, and strengthen the regional dimension of innovation’, clearly supported an action at Community level through developing support for regional innovation strategies and inter-regional technology transfer (joint action involving regional policies—Article 10 of the ERDF—and the innovation programme)...[recognising that] The local or regional level is in fact the best level for contacting enterprises and providing them with the necessary support for the external skills they need...

It is also the basic level at which there is natural solidarity and where relations are forged... (European Commission 1995, p. 57)

In short:

- An RIS seeks to promote a new participative approach to policymaking with a particular view to enhancing networks of formal and informal relations among the key stakeholders in a regional economy.
- It should develop policy instruments or mechanisms for promoting innovation suited to the needs of SMEs (hence not solely technological innovation) rather than the development of a regional RTD infrastructure.
- An RIS also recognises that in the framework of subsidiarity, the regional level is the most appropriate for developing and delivering services to enterprises with a view to increasing the level of competitiveness of the region in a global economy.

The rest of this chapter is in four sections:

- The first discusses briefly the theoretical underpinnings that to a greater or lesser extent have influenced the thinking behind the development of the regional innovation strategies action of the European Commission.
- The second provides a summary of the operational reasons, which have influenced the decision of the Commission to fund, and support pilot actions aimed at producing a more strategic and enterprise-oriented regional innovation policy.

- The third describes the development of the RIS type approach at European level since 1991 and describes the key methodological principles of the current pilot actions funded under Article 10 of the European Regional Development Fund (ERDF).
- In the fourth and final section, a series of building blocks towards a new regional policy better suited to the needs of the ‘knowledge economy’ are suggested.

FROM THEORY TO PRACTICE: WHY A REGIONAL INNOVATION STRATEGY?

Competitive advantage, innovative environments, industrial districts, clusters, innovation systems, networking—the last decade has seen these and other theoretical concepts appropriated by policy-makers when tackling the issue of how to promote economic development at regional level in an increasingly globalised economy, or what has been referred to as ‘the local in the global’.

However, it can be argued that all these theories, although based largely on empirical studies, pose as many questions as answers to the regional governments or economic development agencies entrusted with the task of defining appropriate instruments and selecting delivery mechanisms for aiding small and medium-sized enterprises to innovate and grow.

Most are based on the analysis of success stories, like the well-known cases of the Third Italy or Baden-Württemberg, and offer few hints on how to translate the factors (often intangible) underlying the success of specific regions to other less fortunate regions lagging in terms of economic development or undergoing a structural decline in their industrial structures. Often the recommendations made are of a tautological or nebulous nature, providing only broad guidelines on what not to do or what type of broad approach should be favoured. Suffice it to say that such recommendations rarely offer a blueprint to policy-makers and operators for the formulation of concrete measures or projects.

Lagendijk (1996)² offers an excellent review of the various theories alluded to above and attempts to identify both the main messages of each of the approaches and their policy recommendations. He concludes that while there are major differences in terms of the starting points of each of these approaches of conceptualising regional innovation potential, they seem to converge on the fact that economic action is somehow *embedded* in the local socio-cultural and institutional context; and that this embedding is crucial to understanding the role of agency in the creation of innovative capacity.

In a similar manner, Amin and Thrift (1994) note that research into the ‘growth regions’³ leads to the conclusion that success in generating self-reproducing growth cannot be reduced to a set of economic factors.

To a certain degree, the RIS approach aims to translate the ‘innovative milieu (Aydalot 1986) theory into an operational concept. That is, it should establish the foundations of a regional innovation system by improving the structural competitiveness⁴ of indigenous firms, SMEs in particular. If, as such theories suggest, the innovation capacity of a region is the result of an accumulative learning process, then actions such as an RIS are based on the premise that this process can be organised and facilitated through the promotion of networks and partnerships among the key regional actors in order to arrive at a ‘learning economy’. In this sense, the RIS approach acknowledges that ‘the lack of social capital helps to explain one of the EU’s key problems, namely its poor record of converting scientific and technological knowledge into commercially successful products and services’ (Morgan 1996a)—that is, the inability to transfer technology from laboratory to industry, from one company to another and from region to region (European Commission 1993). Hence, the underlying issues are not technological but are embedded in sociological and cultural parameters influencing the effectiveness of organisational patterns of networking among regional stakeholders.

In parallel, or even slightly preceding, the theoretical developments concerning the territorial networking dimensions of innovation, an equally significant change has occurred in the innovation process *per se*. Whether due to technology-push or market-pull factors, the introduction of new innovations into the economy was, to simplify, considered to be a linear process where innovation was arrived at via a series of sequential and largely independent steps: from the basic research laboratory to diffusion. Increasingly, however, the deficiencies of this model and, in particular, its lack of attention to feedback loops and the interactions between numerous actors in a wider process of innovation led to the adoption of a new interactive model of innovation. In short, ‘the accent has shifted from the single act philosophy of technological innovation to the social process underlying economically oriented technical novelty’ (OECD 1992, p. 24).

A second aspect of this change is a reduction in the perceived importance of science and a greater emphasis on the learning aspects of 'simpler' everyday acts in the innovation process. As Lundvall has argued, not all important inputs to the process of innovation emanate from science and R&D efforts...learning takes place in connection with routine activities in production, distribution and consumption, and produces important inputs to the process of innovation. (Lundvall 1992, p. 9)

In short, the innovative capacity of a nation or a region must be considered to be dependent not only on the RTD infrastructure available but also on the various internal and external networks of relationships which engender a collective process of learning. In terms of a regional approach, this view has been summed up by Cooke and Morgan (1994), who argue that innovation is first and foremost a collective social endeavour, a collaborative process in which the firm, especially the small firm, depends on the expertise of a wider social constituency than is often imagined (workforce, suppliers, customers, technical institutes, training bodies, etc.).

Alongside the development of this theoretical framework, a gradual realisation has occurred that assessing the innovative potential of a region must be extended beyond the traditional type of 'input-output' indicators.⁵ These are largely concerned with measuring and describing RTD capacity (focusing on university laboratories, research centres and R&D units of larger firms) and need to be complemented by 'process indicators' measuring the broader linkages between the different actors involved in the innovation process in a particular region, which can be just as significant a factor in determining the capacity of the regional economic fabric to regenerate and adapt to technological and organisational change.⁶

To sum up, recent theoretical and empirical developments suggest a number of reasons that justify the development of a regional innovation strategy based on a process of analysis and discussion among the principal regional stakeholders; these include the following:

- When the innovative potential of a region is considered to be dependent not only on the R&D resources or competitive pressures to adapt, but also on the density and quality of networks of cooperation between regional actors (and indeed extra-regional linkages with stimuli or sources of innovation), then unless we accept a fatalistic historically determinist view of the world, these collective learning and diffusion mechanisms based on social-cultural factors can be developed.
- When innovation is considered as a learning process dependent not only on technological competence but also on what Dankbaar *et al.* (1994) have termed entrepreneurial and learning competence, a better balance needs to be developed between policies supporting industrial competitiveness on the supply side (supporting R&D) and those doing so on the demand side (supporting innovation and diffusion). A new balance is also needed between measures supporting infrastructure and measures supporting absorptive capacity, i.e. the resources available inside the enterprise.

Such an approach demands a constant sounding of the needs of firms, especially the 'technologically dependent' smaller firms whose demands remain largely latent and often untouched by the standard programme of activities of regional technology transfer or diffusion agencies.

However, the shifts in policy objectives over the last five to ten years, while influenced strongly by such applied theoretical thinking, are also in large part due to a learning process engendered by the success and failures of regional and innovation policies at all levels of the 'subsidiarity chain' of European governance.

STRUCTURAL FUNDS AND INNOVATION: THE POLICY CONTEXT

RIS and its predecessors drew heavily on the experience and lessons from past policy experiences in the field of RTD promotion.⁷ In particular, a number of 'first-generation' responses to the increasing 'technology gap' between core regions (the so-called 'islands of innovation') and the less-favoured regions, notably the Objective regions,⁸ were undertaken in the period up to 1994.

These policy responses were essentially of two types:

- a specific Community Initiative (STRIDE—Science and Technology for Regional Development in Europe) aimed at upgrading the RTD potential of the regions supported by the Structural Funds under Objectives 1 and 2;
- an increasing pressure on national and regional authorities to include RTD subprogrammes in the Community Support Frameworks.

STRIDE was a Community Initiative for the promotion of innovation and RTD efforts in the less-favoured regions of the European Union. It had a budget of 400 million ECU (grant aid up to three-quarters of eligible costs in Objective 1 regions) and it ran for four years starting in 1990. However, if the pattern of expenditure under STRIDE, and under other RTD-related programmes financed under the Structural Funds, is compared

with the 'technological profile' of the less developed regions there is a clear contradiction between the policy response and the factors which lead to low levels of innovative activity in these regions.

On the one hand, the less-favoured regions are characterised by:

- an imbalance in the science and technology system in favour of the public sector, and the academic part in particular, with very low levels of innovation in the private sector;
- Low levels of technology transfer between public R&D centres, universities and the private sector (little cooperation and lack of 'intermediaries') and among those firms themselves (lack of coherence and integration of the scientific subsystem into the productive context);
- Mismatch of the regional supply of innovation with demand;
- lack of links between the various stages of the process of innovation in the region);
- weak or non-existent links between firms and regional innovation centres and international networks offering access to the new sources and technological partners required to provide the fresh contacts and knowledge which will facilitate incorporation of technologies into the productive structure of the region.

On the other hand, the standard response of the authorities in these regions to the opportunity to invest in the promotion of innovation through a flexible grant-based programme like STRIDE was to adopt an implicit approach (in most cases no clear strategy is set out within the operational programmes) based on the following:

- Low participation by the private sector and little attention to technology transfer projects;
- Infrastructure measures designed to boost public centres, usually academic ones, not closely involved with the structure of production in the region;
- Little participation in measures intended to foster links between innovation centres and firms within international programmes and cooperation networks;
- Little attention to training of the workforce and retraining for human resources (which constitute a strategic resource and one of the main hindrances to a permanent adjustment of the regional economic structure to technological change).

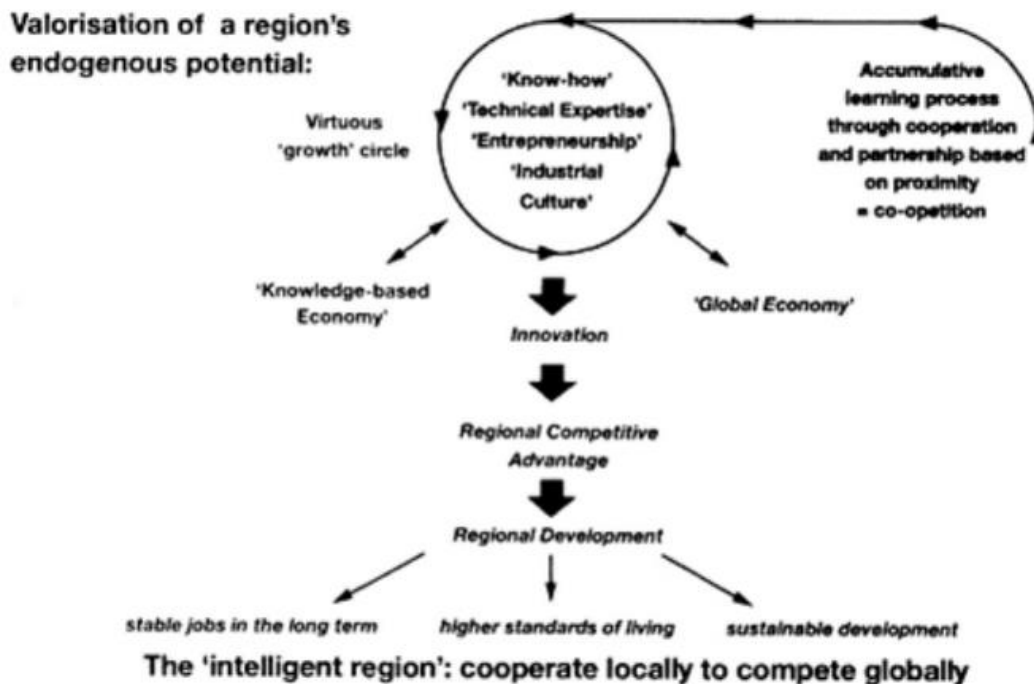


Figure: Promote regional innovation systems to increase regional competitiveness

In our view, the basic reasons for this contradiction are two-fold. First, in the absence of an analysis of the specific features of supply of and demand for innovation in the region, those responsible for regional planning tend to use the 'linear' model of the process of regional innovation as a point of reference for preparing RTD operational programmes. That is, they assume that investment in the 'upper layers' (or the injection of science into the regional innovation system) will automatically mean that the new R&D effort will have an economic effect on the market.

The limitations of the linear model have been clearly exposed in the work of Soete and Arundel (1992) by comparing it with their own 'systemic' model of the innovation process. These limitations are shown in the lack of inter-relation between the different stages and the retroactive nature of the innovation process within the linear model, which is fundamentally based on science-and-technology push. It is only by focusing on the demand of firms and the economic nature of the innovation process that policy approaches can deal successfully with the promotion of innovation. Recognising the importance of the economic-pull factors (demand by firms) in the innovation process is critically important in the design of policy.

Second, some regional planning administrations have little experience of the key strategic approaches in this field (which inevitably require a multidisciplinary approach that links the public sector to the RTD community and the private sector). In general, these administrations tend to favour large (infrastructure) RTD-related projects which are easier to manage than innovation promotion projects, normally less easy to pin down and more indirect in nature and which must be adapted to differing socio-economic situations and count on a large number of those involved in the economy. That is, these projects require among other things a high degree of decentralisation in their design, management, implementation and monitoring as well as a certain degree of consensus and cooperation with key regional players.

This suggests that an increase in the innovative capacity of the regional structure inevitably requires new forms of organisation and institutional cooperation to help improve the 'structural competitiveness' of firms in the less-favoured regions, which is precisely one of the main objectives of RIS.

The problem of absorption of RTD and innovation-related Structural Fund measures in the Objective 1 regions brings to the fore a number of structural problems and institutional deficiencies in the context of the less-developed regions. Before 1988, less than 200 million ECU were devoted to RTD-related activities through the Structural Funds (less than 1 per cent of the total for Objective 1 regions). After the 1989 reform of the Structural Funds, for the period running from 1989 to 1993, the total intervention of the Structural Funds as regards RTD and innovation, including telecommunications, amounted to over 3.5 billion ECU (1989 prices) of a total sum of approximately 60 billion ECU. Within Objective 1 regions there were large differences in the allocation to RTD programmes, ranging from approximately 1.5 per cent of the total in Greece to nearly 5 per cent in Ireland and Italy. The Commission has also promoted the Business and Innovation Centres initiative, which has raised a lot of interest on the part of regional and local authorities in LFRs.

This intervention included programmes such as CIENCIA in Portugal, the Science and Technology Plan for Greece, the Scientific Infrastructure Programme for Spain, the Science and Technology subprogramme within the Irish Industrial Development Programme and the RTD National Programme for Italy called RICERCA, etc.

For the current planning period 1994–99, the resources dedicated to RTD related actions in Objective 1 regions have increased considerably to over 4.5 per cent of a much larger budgetary envelope than in the previous period. It is important to point out that recent studies show that the Structural Fund contribution to gross expenditure on R&D is now around a fifth in the case of Ireland and a third in the case of Portugal, with Greece in between the two. This gives an idea of the extent to which the national science and technology systems in these countries are supported by Community Assistance.

On average, Objective 2 regions have used structural assistance for RTD about three times as much as Objective 1 regions, largely because of their more developed industrial structure and the greater availability of RTD facilities. In these regions, an explicit aim of Structural Fund interventions has been to use innovation as a means of reconverting and replacing declining industries. As a number of previous studies have shown,⁹ the technology gap of these regions is due more to the limited capabilities of private firms to undertake and invest in innovative activities than it is to insufficient innovation support infrastructure (university/public research laboratories, transfer organisations, etc.).

Despite such a change of emphasis in policy guidelines, many regions continue to find it difficult to mobilise resources or identify mechanisms that can serve to further the innovation potential of local firms, particularly SMEs. This leads to a continued emphasis on the supply side of the regional innovation system in terms of the measures adopted within the operational programmes of the Structural Funds.

According to a recent synthesis analysis of Objective 2 programmes (Bachtler *et al.* 1995) for the period 1994–96, research, innovation and development measures account for some 13.4 per cent (784 million ECU) of the Structural Funds allocation,¹⁰ if relevant training measures, business development measures and actions promoting environmental technology are included in the total.

However, the same study found that ‘unfortunately, there is relatively little precision in the development of research and development measures in most Objective 2 programmes—in what they are to achieve and why, who they are required by, etc.’ (Bachtler *et al.* 1995).

Hence, there remains a clear need for greater attention to be paid to the impact of innovation-related measures on the business environment, particularly its pertinence to the needs of SMEs. The choice faced by regional planners is to give a balanced weight to the supply-side and demand-side measures of operational programmes aimed at improving the adaptation of the local economy to technological change. The real challenge is to ensure a *broader view of the innovation process* in considering the types of measures appropriate for each particular regional industrial fabric. In this context, innovation goes beyond research and technological development (RTD) activities and spans a diverse series of activities covering, among others, technology transfer, design, quality assurance or testing, organisational management, training, finance and business services. Hence, innovation promotion in the Structural Funds often concerns measures and subprogrammes other than those specifically labelled as having RTD- or innovation-related objectives.

For instance, given the key role of human resources in this broad view of innovation, the Structural Fund interventions need increasingly to find synergies between ERDF and European Social Fund measures in order to maximise the benefits for the technological adaptation of local firms. In addition, in certain regions the organisational aspects of innovation mentioned above may require the identification or definition of new forms of delivery mechanisms combining the skills and know-how of private and public actors.

To summarise, we believe that in the absence of a regional strategy to promote innovation which is based on the identified needs of firms and help to a stronger and better integrated regional innovation system, an injection of public funding into the system will be inefficient in terms of the return for regional economic development.

THE GENESIS OF REGIONAL INNOVATION STRATEGY IN THE EUROPEAN COMMISSION

A reflection along these lines had begun as early as 1991 at European level as it became clear that the initial reorientation of Structural Fund expenditure was likely to be hindered by both the continued use of the outdated linear model as a theoretical reference for policy-making and the weak strategic policy making know-how in most less-favoured regions. On 28 June 1991, the Directorate General for Regional Policies (DG XVI) organised a workshop in Brussels to discuss a concept entitled ‘Regional Technology Strategies’ (RETAS) with a number of international experts and other Commission services in order to test and develop further the initial idea of a pilot action in the field of innovation promotion at regional level.¹¹

The experts and the services’ representatives were invited to comment on the proposed objectives and basic features of the pilot action explained below. The initial objectives of a Regional Technology Strategy were:

- to improve the regional capabilities for RTD and economic development planning;
- to enhance the endogenous RTD resource utilisation;
- to promote awareness of the need for innovation by local firms;
- to augment the capability of SMEs to absorb and apply technology;
- improve cooperation and networking of local actors in the area of RTD and creating international linkages;
- to widen training opportunities in RTD;
- to provide a framework for cost-efficient choices in policy planning and implementation, and developing alternatives in the area of RTD.

At the outset, it was proposed that the pilot action should be:

- **Strategic:** the projects should adopt a strategic planning concept to regional development in the particular context of technological development and innovation. The plan should incorporate short-term and medium-term actions within a long-term framework.
- **Bottom-up:** the priorities for action and the areas and sectors for intervention should be chosen based on the expressed needs of the main participants in the process of innovation: firms and the RTD community in the region. Such a process provides a framework for these regional actors to produce a more informed opinion about possible ways for action.
- **Endogenous:** the reference point should be the actual economic circumstances and RTD capabilities of the region.
- **Regional:** it should take account of the specific territorial dimension, within a national and an international context. Regional administrations should play the leading role in the design, implementation, monitoring and follow-up of the exercise.

- Integrated: an effort should be made to link efforts and actions from the public sector (EU, national, regional, local) and the private sector towards a common goal. It should also integrate all financial resources available in the form of aid programmes into different parts of the strategy, thus alleviating the need for regional authorities to react on an individual basis to different EU initiatives in the RTD area. It should try to maximise the economic impact of EU RTD actions.
- Applied: it works from and for the market with a strong developmental approach in terms of its impact on productivity, employment, rate of technological upgrading, etc.
- International and cooperative: an international perspective should be adopted in terms of the analysis of global economic and technological trends as well as on the need to cooperate internationally for being effective in the area of R&D, technology transfer and innovation.
- Incremental and cyclical: the exercise is dynamic in the form of a plan for action that has to be reviewed in the light of previous experience and an ongoing evaluation.
- Innovative: the exercise should bring together two previously distinct communities within the framework of an open debate: economic development experts and technology and R&D personnel.

The general reaction to the above principles was highly positive from all participants in the workshop and many interesting suggestions were made which substantially enriched the initial idea, not only with respect to methodology, objectives and content but also regarding its proposed target recipients, implementation and management. Moreover, there was a high degree of consensus on the necessity to place innovation promotion at the top of the regional policy agenda. Following this workshop, the Commission continued to work on the administrative and budgetary procedures for the launching of the action as well as in further developing its content and methodology (Landabaso 1992).

In March 1992, the Regional Policies Commissioner met with the head of the Welsh Development Agency who explained that they had been working on the idea of producing a framework for regional technology, which seemed to fit in well with DG XVI's RETAS ideas. One month later the Commission received a proposal from two Welsh academics, Philip Cooke and Kevin Morgan, *A Regional Innovation Strategy for Wales* (Cooke and Morgan 1994b).

In view of the increasing interest in the RETAS concept, the policy orientations being discussed in the Commission and the recommendations of the European Parliament, Bruce Millan, Commissioner for Regional Policies, at the suggestion of Eneko Landaburu,¹² Director General of DG XVI, decided to invite four member states with mainly Objective 2 regions (regions in industrial decline) to propose the name of a region undergoing industrial restructuring to test the RETAS concept through a pre-pilot action. Accordingly, by the end of 1993, Wales, Lorraine, Limburg and Saxony had launched what was renamed by then as a Regional Technology Plan (RTP). In 1994 it was decided to test the same concept in four pre-pilot Objective 1 regions in order to widen the trial to less-developed peripheral regions. Four RTPs were started in Norte, Castilla y León, Central Macedonia and Abruzzo by the end of that year.

By the spring of 1997, six out of eight projects had completed the process of establishing an RTP to varying degrees of success. Norte and Abruzzo are starting the exercise again with different management teams and newly appointed steering committees. Neither project had proceeded under the RTP phase due mainly to budgetary and institutional problems in the regions concerned.

The RTP pilot projects created a great deal of interest from other regions and this led the European Commission to publish an open call for proposals, in September 1995, to initiate pilot schemes for the implementation of Regional Innovation Strategies (RIS) under Article 10 of the ERDF. In parallel with this action, DG XIII launched a Regional Innovation and Technology Transfer Strategies and Infrastructures (RITTS) exercise which follows the same objectives and has a very similar methodology.¹³

Regional Innovation Strategies are designed to respond to the question of how to improve the innovative capacity of regional firms through the strengthening of the regional innovation system [and] aimed at promoting public/private co-operation and creating the institutional conditions for a more efficient use of public and private resources for the promotion of innovation, especially in the less favoured regions. (European Commission 1994a)

The new (and definitive) acronym RIS was adopted with a view to encouraging the regional managers of these pilot actions to adopt a broad definition of innovation embracing managerial, commercial, technical and financial factors which enable a new, or an improved product or process to be introduced into the market place; or which enable a public or private organisation to introduce or improve service delivery to regional firms.

Following an independent evaluation of the 43 proposals received following the call for proposals, 19 projects were selected. To these, two more were added (Norte and Abruzzo), which restarted the exercise. In addition, Saxony-Anhalt has decided to continue the process based on their own funds. In all, today over 1,000 key regional actors are involved in the strategic planning of innovation promotion at regional level (representatives from the planning, industrial and RTD departments of regional governments, presidents and managers of RTD centres, universities and technology parks, leading businessmen, union representatives, etc.) through partnerships in the steering committees of RIS in nearly 72 regions.¹⁴

What can be said at this stage in terms of the success of the RTP/RIS initiative? Within the Commission services, the projects deemed to have produced a valid RTP based on a reasonably broad regional consensus included two of the four Objective 1 regions. In terms of the concept of social capital, it is possible to state that in all RTP regions a changing perception of the role of innovation in economic development has occurred among the actors involved in the exercise. Indeed, this process has been likened to an ongoing cultural revolution based on a new vision of the innovation process, less technically oriented, taking into better account the global support to SMEs in their innovative activities and based on co-operation rather than isolation. Nauwelaers *et al.* 1996)

Moreover, it should be stressed that the relative success in designing an RIS in, say, an LFR cannot be assessed *only* against a benchmark of what is considered to be best practice in Europe in designing and developing regional innovation action plans. This would be to ignore the question of what is good project management in a specific institutional environment and the applicability of certain methodologies given the state of knowledge/and/or know-how and existing partnerships at the beginning of the project.

Equally, important lessons have been learned by the Commission side in terms of its role in assisting and providing a methodological framework within which the RIS projects in regions with extremely diverse economic and institutional structure can operate. On a purely administrative level, the running of Article 10 raises the challenge of applying and adapting rules designed for the traditional programme approach of the mainstream Structural Fund programmes. This requires a process of constant consultation with colleagues in other Commission services and is a stimulus to the development of new rules better suited to the realities faced by project leaders while respecting the requirements of the European institutions to manage efficiently and effectively the disbursement of the limited funds available.

In addition, the experience of the first eight exercises has underlined the need for the Commission services to strike a delicate balance between an over-directive approach and the inevitable need to guide certain regions where levels of understanding of the concepts involved are lower among the key stakeholders at the outset of an RIS.

CONCLUSIONS: TOWARDS A NEW REGIONAL POLICY FOR THE PROMOTION OF INNOVATION

With the recent launch of Agenda 2000, the European Union has begun a process of reflection on new policy orientations. In the field of regional policy, the principal objective remains to create the conditions throughout the Union for balanced and sustainable economic growth. Given the limited budgetary resources available in a 'Europe of twenty-one', the Commission, the member states and the regions must ensure an increased effectiveness of regional policy as an instrument of economic development in the less-developed regions. Many of the current Objective 1 regions have undertaken a massive upgrading of infrastructure, while the level of infrastructure development in the five main candidates for early accession is probably better than that of Greece, Spain or Portugal at the time of their accession. Hence, the key challenge for both the current less-favoured regions and the new entrants to the EU will be to improve their social capital through developing new innovative policy measures in partnership with the business sector. Instead of building comparative advantage based on low-cost-low-salary production, European regions should be helped to develop competitive advantage based on innovation. That is to help firms, SMEs in particular, in less-favoured regions to produce better and/or different products and services through regional policy.

As Porter (1990) has observed, 'Competitive advantage based on factor costs... is rapidly undone... A low-wage country today is quickly replaced by another tomorrow.' Hence, the only viable strategy for LFRs in the medium and long term is to try to modernise and diversify their regional economies towards higher-value added economic activities. In short, they need a regional policy for the promotion of innovation whose main aim is to raise regional competitiveness through the modernisation and diversification of the productive structure of the

region by making permanent adjustments to take account of accelerated technical change in an increasingly globalised economy. This, in turn, requires the design of new ways of introducing the promotion of innovation in the regional economic development agenda of the less-favoured regions. We would argue that such a redefinition of regional policy will need to take account of the following features.

From RTD to Innovation Promotion

Innovation promotion policies at the regional level are much more closely related to economic development policies than to science, technology or R&D. Although regional innovation policies should consider science and technology aspects, they should focus on the economic aspects of the innovation process.

This has two main implications. On the one hand, it means that such a policy should support all steps—not only in technology and research—but also managerial, organisational, financial, training, etc.—necessary for regional firms to remain competitive in international markets. On the other hand, it should change the emphasis from a technology push approach into one of demand-pull, which aims primarily at the identification and understanding of the demand for innovation, expressed or latent, in firms within the less-favoured regions.

From Physical Infrastructure Development to Institutional Support for the Creation of Innovative Environments

Such a policy would progressively evolve from supporting RTD physical infrastructure and equipment (in public RTD centres and university laboratories) towards strengthening the organisational base of the regional productive tissue by encouraging cooperation among local actors in the field of innovation. That means strengthening the various internal and external networks of relationships that engender a collective process of learning which fosters innovation at regional level.

Indigenous Research versus Technology Transfer: Access to Technology Resources in the Periphery

A policy of this kind would not only focus on the generation and development of the weaker region's indigenous RTD activities but also facilitate the identification, adaptation and adoption of technological developments elsewhere in a specific regional setting. That is, it would facilitate technology transfer and the flow of knowledge, be it tacit or codified, across regions, it would exploit and maximise the benefit of the European dimension by facilitating access from LFRs to international networks of 'excellence' in the field of RTD, technology sources and RTD partners. Such a policy would also be aimed at facilitating the diffusion of the fruits of RTD developments in a balanced way throughout the European territory to those areas and enterprises that may be in a position to exploit them in the market.

A Leading Role for Regions in the Promotion of Innovation in Line with Subsidiarity and for Reasons of Economic Efficiency

A policy of this kind would be adapted to the particular features of the innovation process in each region and concentrate on the creation of the appropriate conditions, in particular those of an institutional and organisational kind, which enable these regions to develop their own more efficient policies for the promotion of innovation. Thus the regions themselves (and their regional governments in partnership with other key socio-economic actors), based on the subsidiarity principle, would play the key role in the definition of priorities and instruments.

A Coordinated and Multi-disciplinary Approach

Such a policy would be able to link up with and integrate into the other industrial, technological and regional measures and policies within a medium- to long-term planning horizon. This also means that such a policy should avoid being exclusively sectoral and 'top-down' in order to adopt a multidisciplinary and 'bottom-up' approach.

'Co-opetition' as a Response

Cooperation and competition are increasingly becoming two sides of the same coin ('co-opetition') in the field of innovation in a progressively global economy, in particular with regard to SMEs, as recent theoretical research and empirical evidence is showing. This implies, in turn, that there is room for new innovative public policies to support and help organise the right institutional framework and cooperation networks within which these co-opetition links take place, in order to increase the competitiveness of a regional economy.

In this sense some of the recent theoretical work on cooperation and competition among SMEs tends to confirm this view. Oughton and Whittman (1997) examine inter-firm cooperation (between SMEs) and external economies through the concept of collective economies of scale and 'show that the successful realisation of collective external economies lowers entry barriers and increases the survival prospects of participating firms, thus resulting in market structures characterised by larger numbers of small firms...', which leads them to 'point to the importance of institutional factors in determining firm behaviour and economic performance...'

A recent study by COTEC (1997)¹⁵ concluded that the key success factors in innovative activity in SMEs are a pro-active strategy, a management team committed to innovation and willing to take risks, a high qualification of the workforce, the interaction of firms in technology networks and the existence of a dynamic firm environment.

Arnold and Thuriaux (1997) in another recent review of technological capabilities conclude that industrial procurement orthodoxy has been shifting from adversarial to 'partnership' models over the last twenty years or so, especially in industries where co-development is desirable [and they indicate that] if contemporary writers are correct that networking is central to the innovation process, then the ability to network must itself be a crucial capability. This means, then, making use of external knowledge, using partners to access complementary assets and managing the producer/user relations that have consistently been identified in the innovation literature as key to innovative success.

Other recent empirical evidence also points in the same direction. Based on a recent firm survey, Spielkamp (1997) concludes that in the cases of successful implementation of research results, the social interweaving of the academic and business communities is a crucial factor. When direct contacts and informal networks form the primary channels for transmitting scientific findings and technical knowledge from the academic to the business community, a flexible, decentralised and deregulated practice of technology transfer promotion can most effectively contribute to establishing and stabilising these informal networks...

From an analysis of seven industrial sectors in the USA's Appalachian region, Rosenfeld *et al.* (1997) argue that successful clusters arise from dynamic activities and resources, such as access to specialised information and assistance, means and tendencies to associate and learn from one another, reliance on local suppliers, availability of skilled and experienced labor, tough competition, entrepreneurial energy, and shared vision...[and he concludes that] trust is a major factor in the strength of a cluster, increasing the opportunities for firms to take advantage of their collective capabilities and knowledge... which is derived to a large extent from the availability of a regions social infrastructure (the associations and organisations that bring business people together where they can get to know and trust each other).

Rosenfeld goes on to recommend a policy which encourages networking, recognising that while many of these firms do compete with each other in regional markets to supply larger customers, a large number have differentiated themselves with their special capabilities over the past few years, thus increasing the likelihood of cooperating on mutually beneficial issues. Thus, they may find there is now less direct competition and more opportunities for cooperation.

In short, such evidence underpins the view that one of the main objectives of future European regional policy should be to support the efforts of institutional actors in less-favoured regions to cooperate regionally in order to compete globally.

The current phase of RIS projects may provide further support for a significant realignment of the objectives of EU Structural Fund assistance to less-favoured regions. However, to do so they will need to prove that the strategies and pilot projects developed can produce tangible results in terms of improving employment and growth prospects. While theoretically one may argue that social capital is a necessary condition of economic development, in practice the success of policy measures must be judged against concrete and verifiable outputs.

NOTES

1. Social capital has been defined as ‘...features of social organisation, such as networks, norms and trust, that facilitate coordination and cooperation for mutual benefit’ (Putnam 1993). For an interesting reflection on the regional economic relevance of this concept see Morgan (1997).
2. He examines five main theoretical approaches: new industrial spaces; industrial districts; innovative milieu; ‘Porter’s diamond (competitive advantage and clustering); and national systems of innovation. His analysis both provides an objective critique of the various theories and highlights the deficiencies of each when drawing policy conclusions. For instance, he notes that: In the ‘industrial district’ approach, ‘the prime factor behind regional economic success is the institutional capability to create the competencies and “weak ties”... [hence]...regional agencies need to play a continuous and creative “positioning” game in which the unique nexus between the regions and the wider global economy is constantly reshaped.’ This leads to the perturbing conclusion when shaping policy that the approach is founded on a concept of lock-in ‘residing in some fortuitous combination of social and cultural factors... [so that] although the theory suggests active regional policy can improve the competitiveness of local economies, it also stresses that policies will only be effective if the right socio-cultural background exists.’ Similarly, the ‘innovative environment’ approach argues that such milieu ‘derive their success from the capacity to engage in processes of collective learning...born out of a common cultural background which binds local agents and institutions in synergetic networks’. However, this leads essentially to a circular form of reasoning: ‘innovation occurs because of a milieu, and a milieu is what exists in regions where there is innovation’.
3. For instance, the research on innovative milieu of the GREMI group (Camagni 1991) or that of Cooke and Morgan (1994) on the ‘intelligent region’.
4. ‘The competitiveness of a firm certainly depends on its own forces, but to no less an extent on the quality of its environment, sometimes referred to as “structural competitiveness”’ (Chabbal 1992).
5. For instance, gross or business expenditure on R&D as a proportion of GDP. As Lundvall (1992) notes, there are two obvious problems with such an indicator: ‘First, it reflects only an input effort and does not say anything about what comes out of the effort. Second, R&D expenditure is only one kind of relevant input to the process of innovation—learning in connection with routine activities may be more important than R&D.’
6. For a fuller discussion of these issues see Nauwelaers and Reid (1995a and 1995b). 7. A more detailed explanation of this section can be found in Landabaso (1997).
8. This ‘technology gap’, which in keeping with the arguments of this chapter should be undoubtedly rebaptised ‘innovation gap’, is by now well documented, at least in terms of the more traditional RTD ‘input-output’ indicators such as Business Expenditure on R&D (BERD). See for instance European Commission (1992), European Commission (1994a, pp. 95–104), European Commission (1994b).
9. Not only access to material, financial and human resources but the management of innovation within firms or groups of firms.
10. Actions supported under the heading of general R&D measures include the promotion of increased cooperation between business and existing R&D facilities and the reorientation of existing facilities to serve better the innovation requirements of business. This reflects the fact that R&D infrastructure is usually already in place in higher and further educational institutes in Objective 2 regions or in leading firms.
11. Seven international experts from six different countries were invited, including the directors of a Greek technology park, a Spanish technology institute and five international consultants from Germany, France, Ireland, Italy and Spain. On the Commission side, representatives from the Directorate-General for Science, Research and Development (DG-XII), including a director from the joint research centre, and the Directorate-General for Telecommunications, Internal market and the valorisation of research (DG-XIII), including a manager from the ESPRIT Programme and the person responsible for the SPRINT programme, together with representatives from the Directorate-General for Regional Policy (DG-XVI) participated in the workshop. Previous to this workshop, several informal discussions on RETAS had taken place inside DG-XVI services and with a number of international experts, notably Richard Binfield from SRI (Stanford Research International), Roy Rothwell from SPRU (Science Policy Research Unit) and Christopher Hull from the European network TII (Technology, Innovation, Information).
12. Landaburu’s speech to the Conference, ‘L’Innovation, instrument de développement économique régional: considérations dans l’optique de la politique régionale’, Brussels, Palais des Congrès, 22 June 1992, set the policy framework for the launching of RTPs and the promotion of RTD-related actions under the mainstream Structural Funds programmes.
13. For a full outline of the current methodological approach see European Commission (1997), *Guide to Regional Innovation Strategies*. In order to maximise synergies and ensure a multidisciplinary approach, which is inbuilt in the innovation notion of RIS, Directorate-General XVI (Regional Policy and Cohesion) and DG XIII (Innovation Programme) have joined forces to carry out the joint management and follow-up of all RIS and RITTS projects. In so doing, the services of the Commission are seeking to combine an economic development logic with a technology-oriented perspective, both of which are of paramount importance when working in the field of innovation promotion.
14. Approximately 43 new RIS/RITTS projects are underway following a first generation of 22 RITTS and 8 RTPs.
15. COTEC is a private foundation, chaired by the King of Spain, whose objective is to contribute to Spain’s economic development through the promotion of technological innovation in the firm and in society.