

Irish Regions Office

POLICY BRIEFING

**The Regional Dimension of European Research:
Opportunities for Ireland's Regions**



Irish Regions Office

*Rond-Point Schuman, 6
B-1040 Brussels
Ph. +32 (0)2 2828477
April 2004*

Introduction

The following document catalogues some of the recent developments in relation to the regional dimension of European research. It highlights the emerging importance of EU research policy in the context of the Lisbon agenda and the evolving role for the Europe's regions within this policy.

The paper refers to European Commission proposals to boost the participation of the regions in EU research and outlines some of the activities currently being undertaken in this area. It also presents some ideas on the possible role of regions in developing their research and innovation potential and identifies possible EU supports available to assist this.

Finally, it alludes to future prospects in this area, including the likely doubling of the EU Research budget for the period 2007-2013.

Background

The March 2000 *European Summit in Lisbon*, which set the strategic goal for Europe to become the most competitive and dynamic knowledge-based economy in the world by 2010, highlighted the importance of promoting innovation and singled out research as an essential element to promoting competitiveness and growth in Europe.

At the centre of Europe's strategy to boost research and innovation, which was launched at the Lisbon summit, is the development of the *European Research Area (ERA)*. This concept is designed to create a frontier-free area for research and aims to strengthen the coherence of research activities and policies conducted in Europe in order to increase the impact of research efforts.

The objectives of the ERA are being translated into many specific initiatives, one of which aims to improve the regional dimension of research (other initiatives include: improving the mobility of researchers; development and access to research infrastructures; stimulating private investment in research, etc..).

In its communication on "*The Regional Dimension of European Research*"¹, published in October 2001, the European Commission examines the role of Europe's regions in the development of the ERA. This strategy paper proposed a package of measures and initiatives, some of which became operational through the 6th Framework Programme for Research & Technological Development (FP6) (*see Annex 1*), which are designed to incite local and regional authorities, especially those from the least developed regions, to benefit from the new possibilities offered by the ERA.

In October 2002 the Commission followed up on this communication with a study entitled "*Involving regions in the European Research Area*". This study focused on the factors and processes that are important in helping European regions to get involved in building the ERA. Thus, it reviews both set-up and implementation processes related to research and innovation activities in leading or emerging European "motor regions".

In the 2003 Community budget the European Parliament, in support of the work of the Commission in this area, introduced the "*Regions of knowledge*" pilot action. This initiative was aimed at supporting experimental actions at regional level and in particular to pilot the development of 'regions of knowledge' in the areas of technological development, co-operation between universities, and research at a regional level. The main objective is to demonstrate the central role of knowledge in driving regional development and to identify models for further development activities.

It is believed that such actions will help to strengthen the regions' involvement and commitment towards the creation of the ERA, as well as supporting the achievement of the Lisbon goals, and the objectives outlined at the *Barcelona European Council* (to encourage a higher investment in RTD, with the target of 3% of the Union's GDP by 2010, with 2/3 coming from the private sector). Based on the success of the "Regions of Knowledge" call for proposals in 2003, the Commission is planning a second and bigger call in early 2005.

¹ COM (2001) 549 final, 03 October 2001

Looking beyond 2006, it is clear that research and innovation will become an even greater priority for the EU. Already, in publishing the *Financial Perspective for the 2006 to 2013 period*, the Commission has proposed a significant increase in the research budget, from the current €5 billion a year to over €10 billion a year. The Commission has also indicated that the future budget will provide greater and more tailored support for the regional dimension of European research. The template for this support is likely to be heavily influenced by the experiences of the “Regions of Knowledge” pilot actions.

This planned budgetary increase is not expected to meet opposition from MEPs, who recently adopted a motion calling for a significant increase in the EU’s research budget. The Council of Ministers has also been calling for greater activity in the areas of research and innovation and is likely to be supportive of a budget increase. However, unanimous agreement will have to be reached among all 25 Member States on the Financial Perspective.

EU Policy on the Regional Dimension of Research

While there is no doubt that EU cohesion policy is essential for regional development, it is now also widely recognised that research policy is essential for creating conditions to enable regions to succeed in their transition to the knowledge-based economy. Together with policies in the field of innovation, education and training the EU's research policy aims to give additional impetus to regional economies so that they can become or remain competitive.

The European Commission communication on the Regional Dimension of European Research outlines current EU policy in this area. This paper is specifically designed to incite local and regional authorities, especially those from the least developed regions, to benefit from the new possibilities offered by the ERA, and to provide new perspectives to the EU's research and regional policies alike.

The Communication analyses the important role that European regions can play in the global context of knowledge-based economic growth, and reflects on how this role might influence regional research strategies with the objective of producing results, stimulating innovation and supporting economic development. The Communication suggests that by promoting synergies between the EU's research policy and regional policy, regions could make better use of present and future instruments in the field of research.

The text proposes strategies at different levels, all aimed at more rapid integration of European regions into the ERA. It also presents a number of actions aimed at assisting local and regional authorities to take advantage of opportunities offered by the FP6 (2002-2006). Some of these include:

- Greater attention to be paid to the regional dimension of researchers mobility – for instance through re-integration grants, to be given to researchers bringing a project to their region of origin, in particular in candidate countries;
- The possibility of complementing the FP6 funding of a given action with funding from the structural funds in Objective 1 regions²;
- The networking and co-ordination of actions carried out in Members States to be extended to the regional level. This should help to promote synergies between advanced regions and those belonging to the Objective 1 category;
- A special initiative aimed at ultra-peripheral regions, promoting their contribution to the ERA objectives taking their specificities as departure points;

The communication also proposes a number of more long-term initiatives, such as studies, analyses, and the improvement of communication between experts and decision makers. The key message of the communication is that European regions should in future prepare themselves for playing a key role in the new European economy, by defining coherent objectives in the field of research and innovation.

² Decision No 1513/2002/EC of the Parliament and the Council of 27 June 2002

The “Territorialisation” of Research Policy: What Role for the Regions?

Regional research and innovation activities can have a significant impact on Europe’s research capacity, for example through the organisation and development of research infrastructure, equipment and facilities; linkages with industrial development zones; development and support of centres of excellence; establishment of science and technology parks; mobility of researchers; and partnerships between education and training institutes and local technology-based start ups.

Regions that developed such policies in the past have pursued two main objectives: firstly, the establishment of a local research and innovation strategy that mobilised all available resources and actors; and secondly, the development of interregional co-operation schemes, forming networks of various types. These activities have been supported by the Community's RTD Framework Programme (through the Innovation programme) or the Structural Funds.

Such policies have inspired the inception of a new development model for the organisation of European research and innovation systems, which is region-conscious. This involves a targeting of economic development through a systemic mobilisation of all resources available in the regions towards concrete goals, harnessing growth, competitiveness and employment, fostering research, technology and innovation at local or regional level.

This “territorialisation” of research policy increases regional awareness of national research and innovation policies and helps in tuning them towards the socio-economic needs of the regions. It also helps to direct these policies to build research and innovation capacity in the regions, enhancing their ability to act as drivers for technology based economic development.

The “territorialisation” of research policy can be achieved through:

- Establishing research and innovation strategies to develop material and human resources, such as supplying research infrastructure and equipment, local university and training facilities, support structures to foster creation and growth of innovative enterprises, efficient interfaces within the innovation system linking, for example, researchers, innovators and sources of finance, science and technology parks, research programmes, initiatives to attract researchers locally or promote staff exchanges.
- Fostering partnerships between the public and the private sector in order to contribute to the European knowledge-based economy and stimulate knowledge creation and diffusion.
- Fostering links and networks with actors in other regions with complementary technological assets.
- Promoting an environment conducive to research and innovation, through the introduction of accompanying legal, financial and fiscal conditions.
- Stimulating experience exchange with other successful regions in specific fields
- Contributing actively to an integrated strategy for sustainable development

Streamlining the efforts of regions to actively participate in the ERA should have two clear objectives, both with a distinct added value for European research and innovation policies. Firstly, to stimulate a better uptake of research results into the local socio-economic fabric (especially vis-à-vis small and medium size enterprises, SMEs) and help translate them faster into

economic growth; and secondly, to increase public and private investment in research and innovation in the regions, thereby stimulating economic and social development.

Based on the above, a key initial role for Ireland regions could be in identifying their research and innovation needs and aspirations (through carrying out innovation audits and through preparing regional innovation strategies, involving all relevant stakeholders – Enterprise Ireland, Third Level Institutions, the business community, etc..) and based on this, to lobby at national and EU level to secure the necessary resources to help realise their research and innovation objectives.

R&D and Regional Competitiveness

The seventh annual report on European competitiveness, published in February 2004 by the European Commission's Directorate-General for Enterprise, highlights the importance of research and innovation in promoting regional competitiveness. The report identifies five key factors which determine a region's competitiveness:

- a strong entrepreneurial culture which establishes a bridge between university research and innovative companies;
- the presence of high-tech 'clusters' (*see Annex 3*) in fields such as biotechnology;
- an active public authority establishing links between the academic and business worlds and promoting the region in the face of coming challenges, such as enlargement;
- the effects produced by the networking and shared vision of the regional representatives;
- good links between the principal modes of transport and, especially, good access to an international airport and a modern telecommunications network.

The report (available at:

http://europa.eu.int/comm/enterprise/enterprise_policy/competitiveness/index.htm) in particular refers to the important role of public authorities in establishing links between businesses and the universities and research centres.

Structural Funds Instruments to Support Regional R&D

The Structural Funds can provide support for research and innovation in the regions under Objectives 1 and 2. The "Innovative Actions" also contribute to the development at regional level of innovative projects that can serve as "idea laboratories" for the future.

Innovative Actions

The ERDF Innovative Actions programme aim to enhance innovation and RTD activities in less favoured regions and to promote the regional assimilation of new information and communication technologies. The Innovative Actions focus on three strategic themes:

- development of the regional economy based on knowledge and technological innovation
- e-Europe Regio: information society serving regional development
- regional identity and sustainable development

All NUTS II regions at least partly covered by Objective 1 or 2 programmes can submit programme proposals, focusing on one single strategic theme or on a combination of themes. EU contribution per regional programme ranges from €300,000 - €3 million. The funding rate varies from 50% in Objective 2 areas and areas that are not covered by the Structural Funds to 80% in Objective 1 regions.

Programmes can be submitted each year (until 2005) by 31st May. Key issues are the innovativeness of the proposal for the region and the transferability of the results to the mainstream programmes.

In addition to the regional programmes, three networks have been launched to foster co-operation between regions and to share experiences and good practices: The IANIS network (www.erisa.be) is coordinated by the Sachsen region and includes 28 regions with an interest in the theme of the information society; This ERIK network (www.eriknetwork.net) is animated by the Tuscany and Emilia-Romagna Regions and includes 13 regions interested in the theme of technological innovation; and the Sustainable Development network (www.sustainable-euroregions.net) is animated by Wales and includes 12 regions with an interest in the theme of sustainable development.

IRE Network

The Network of Innovating Regions in Europe (IRE) is the joint platform for collaboration and exchange of experiences in the development of regional innovation policies and schemes. The IRE Network is open to all European regions, including those in Central and Eastern Europe and Cyprus.

The network aims to enable regions to access new tools and schemes for innovation promotion and to create an inter-regional learning process. It also seeks to put innovation at the top of the regional policy agenda. It is open to all European regions that can demonstrate good practice in the promotion of innovation. Further information at: <http://www.innovating-regions.org/>

RINNO

RINNO is a joint initiative of the European Commission's DG Enterprise and DG Regional Policy DG, with support from DG Research . The RINNO website aims to provide a single and central resource for regions to learn more about each other's innovative practices. The site contains a comprehensive database of validated details on innovation activities. The purpose of RINNO is to share the innovation experiences and to use electronic media to allow regions to get practical help on improving their innovation practices. It is supported by DG Enterprise, DG Regional Policy and DG Research. Further information at: <http://www.rinno.com/>

The ERRIN Network

The European Regions Research & Innovation Network (ERRIN) is a Brussels based network of regions with a specific interest in research and innovation. The network was established by a number of Brussels based regional representations in May 2001. At the end of 2003 ERRIN was successful in accessing funding under the "Regions of Knowledge" pilot initiative. With this funding in place, ERRIN is to be relaunched in May 2004 with a new secretariat. The network will also launch an ambitious new work programme aimed at assist regions to fully participate in the knowledge economy. ERRIN's main objectives are:

- 1) Knowledge sharing at a European Level
- 2) Inter-Regional Exchange
- 3) Practitioner Development
- 4) Policy and Thematic Development
- 5) Working with other networks and organisations

Through its Brussels presence, ERRIN allows Regional Representations to join forces and create synergies to improve the coordination and integration of trans-national cooperation of Regions across Europe.

ERRIN is open to new members and, thanks to funding from the EU, there is currently no membership fee. Following its relaunch in May 2004, ERRIN is planning a number of other events in 2004, including a seminar in July. Contact: tanja.schubert@westmidlandsineurope.org

FP6 Instruments to Support Regional R&D

A number of programmes under the 6th Framework Programme for Research & Technological Development also facilitate direct participation of regions. Some of these are outlined below:

FP6 Action for Research and Innovation

This Action is aimed at improving Europe's innovation performance by stimulating a better integration between research and innovation to enhance the propensity to turn research into useful and commercially valuable innovations. Activities eligible for support under this action include:

- Networking of actors and encouraging interaction
- Encouraging transregional cooperation, including promoting the exchange of information, facilitating the transfer of good practice and the putting in place of regional innovation strategies
- Putting services in place and consolidating them, including Innovation Relay Centres
- Stepping up economic and technological intelligence. This includes promoting innovation in SMEs and the identification and dissemination of best practice

The indicative budget allocated to this Action for the duration of FP6 is EUR 290 million. Further information at: <http://www.cordis.lu/fp6/innovation.htm>

FP6 Action for Development of Research/Innovation Policies

This Action aims to encourage coherent development of research and innovation policies in Europe by early identification of challenges and areas of common interest and by providing policy makers with knowledge and decision-aiding tools. Eligible activities include:

- Analysis and studies relating to foresight, statistics and science and technology indicators
- Benchmarking of research and innovation policies at national, regional and European level
- Mapping scientific and technological excellence in Europe
- Improving the regulatory and administrative environment for research and innovation

The indicative budget allocated to this Action for the duration of FP6 is EUR 50 million. Further information at:

<http://www.cordis.lu/fp6/policies.htm>

Mobility and Training

Training, mobility and career development opportunities covered under the EU's FP6 for R&D are open to researchers of all ages and levels of experience regardless of nationality, and are one of the most visible means of developing and enhancing human resources in the European Research Area (ERA). Further information at:

http://europa.eu.int/comm/research/fp6/mariecurie-actions/indexhtm_en.html

Networks of Excellence

Networks of Excellence are instruments designed to strengthen scientific and technological excellence on a particular research topic. They aim to overcome the fragmentation of European research by networking together the critical mass of resources and networking the expertise needed to provide European leadership. Networks of Excellence also have a mandate to spread excellence beyond the boundaries of its partnership. Further information at:

http://www.cordis.lu/fp6/instr_noe.htm

Participation of SME's

FP6 attaches great importance to the participation of SMEs as they play a crucial role in European competitiveness and job creation. Experience shows that SMEs are a source of dynamism and change in new markets, particularly those at the leading edge of technology. At least 15% of the budget of the seven Priority Thematic Areas (approximately €1,700 million) is dedicated to SMEs, and a further €430 million has been allocated to Horizontal Research Activities involving SMEs. The main route for SME involvement in the seven Priority Thematic Areas is through the Networks of Excellence, Integrated Projects and Specific Targeted Research Projects.

In addition, FP6 contains two specific schemes for SMEs: Co-operative Research (CRAFT) and Collective Research. These primarily target the large community of SMEs with the capacity to innovate but with limited research capability. Any scientific or technological research topic or field covered by Article 163 of the Treaty, in which the SMEs concerned have specific identifiable needs can be supported by these schemes. Further information at:

http://sme.cordis.lu/research/fp6_support.cfm

The ERA-Net Scheme

The objective of the ERA-NET scheme is to step up the cooperation and coordination of research activities carried out at national or regional level in the Member States and Associated States through: the networking of research activities conducted at national or regional level, and the mutual opening of national and regional research programmes. Further information at:

<http://www.cordis.lu/coordination/era-net.htm>

The Performance of Regions

Research is now a condition for regional development and, at the same time, regions are “motors” for research and economic growth. Networks of innovative businesses, university-business links and other such actions are all organised at the local level. Currently, almost €4 billion is invested annually by regional and local authorities in research and innovation.

However, local and regional engagement with the roll out of the Lisbon agenda has been varied and piecemeal. Differing sectors have had more success than others in understanding the challenges of working at a European level and linkages between universities, businesses and local authorities are still fragmented and incomplete.

The performance of European regions in research activities and realising the economic benefits of the knowledge-based economy varies enormously. For instance, the regions of Baden Württemberg (Germany), Ile de France (France), Uusimaa (Finland), Vaest Sverige (Sweden) and Eastern England (United Kingdom) all spend well over 3% of their GDP on research and development, while in many regions this figure is less than 0.5%.

Leading EU innovative regions

The following table shows the leading EU regions for a number of indicators of innovative performance used in the European Innovation Scoreboard 2002.

| <i>Indicator of innovation</i> | <i>Top 5 EU regions</i> | | | | |
|--|--------------------------------|--------------------------|--------------------------|-------------------------|-----------------------------------|
| Tertiary Education | South West (UK) | Oestra Mellansverige (S) | Vaeli-Suomi (FIN) | Ile-de-France (F) | Berlin (D) |
| Life long learning | South West (UK) | Sydsverige (S) | Vaeli-Suomi (FIN) | West Midlands (UK) | North West (Inc. Merseyside) (UK) |
| Medium/high tech employment in manufacturing | Comunidad Foral de Navarra (E) | Baden - Württemberg (D) | Franche - Comte (F) | Piemonte (I) | Alsace (F) |
| High tech employment in services | Comunidad de Madrid (E) | Stockholm (S) | Uusimaa (Suuralue) (FIN) | Ile-de-France (F) | Lazio (I) |
| Public R&D expenditure | Midi-Pyrenees (F) | Flevoland (NL) | Berlin (D) | Lazio (I) | Languedoc - Roussillon (F) |
| Business R&D | Vaestsverige (S) | Eastern (UK) | Stockholm (S) | Baden - Württemberg (I) | Piemonte (I) |

| | | | | | |
|-------------------|----------------------|--------------------------|---------------|------------|-----------------------|
| expenditure | | | | (D) | |
| High tech patents | Noord - Brabant (NL) | Uusimaa (Suuralue) (FIN) | Stockholm (S) | Bayern (D) | Pohjois - Suomi (FIN) |

The performance of Member States

A recently published study by Eurostat (February 2004) shows the EU's overall research and development (R&D) spending went up from 1.95% of GDP in 2000 to 1.99% in 2002, still a long way short of the 3.0% target. During the same period R&D spending in the United States R&D rose from 2.72% of GDP to 2.80%.

Trade in high tech products that involve high R&D spending (such as aerospace or computers) reveal wide differences with the US, which remains the world's single biggest importer and exporter of high tech products. The EU nonetheless accounts for the highest deficit in those products, revealing a high level of interest in technology.

As might be expected, the most populated EU countries (France, Germany and the UK) account for the bulk of overall spending on R&D in the EU (€115 billion between the three, out of a total of €175 billion for the EU of 15). However, the Member States with the highest R&D intensity are Sweden (4.27% of GDP devoted to R&D expenditure in 2001) and Finland (3.49% in 2002).

The other Member States with R&D intensity rates above the EU average are Germany (2.49% in 2001), Denmark (2.40% in 2001), France (2.20% in 2002) and Belgium (2.17% in 2001). The lowest intensities are found in Greece (0.67% in 2000), Portugal (0.84% in 2001) and Spain (0.96% in 2001), preceded by Italy (1.07% in 2000) and Ireland (1.17% in 2001).

Among the new Member States, the most R&D intensive economies are Slovenia and the Czech Republic (1.52 and 1.33 per cent of GDP respectively in 2001). The bulk of spending was carried out in Poland (1.3 bn euro), the Czech Republic (0.8 bn euro) and Hungary (0.5 bn euro).

The figures were published a week after the Commission proposed bold new plans to increase the EU's research spending in support of Member States' efforts to reach the Lisbon objectives.

Further details at: <http://europa.eu.int/comm/eurostat/Public/datashop/print-product/EN?catalogue=Eurostat&product=9-25022004-EN-AP-EN&mode=download>

- Annex 1 -

The Sixth Framework Programme for Research and Technological Development (2002 – 2006).

The Sixth Framework Programme for Research and Technological Development (FP6) is the Union's main instrument for funding research in Europe. Proposed by the European Commission and adopted on 3 June 2002 by the Council of Ministers and European Parliament, it is open to public and private entities, large or small, for four years from the end of 2002 through to 2006. FP6 is seen as a decisive step towards marshalling Europe's research and scientific networks and the European Union (EU) into the most dynamic and competitive knowledge-based economy in the world.

The overall budget for FP6 is €17.5 billion, which is 17% more than the Fifth Framework Programme and represents 3.4% of the EU's total budget in 2002. Within this total, €12 billion has been set aside for the seven key areas or 'thematic priorities' earmarked to achieve FP6 objectives: life sciences, genomics and biotechnology for health; information society technologies; nanotechnologies and nanosciences, knowledge-based multifunctional materials and new production processes and devices; aeronautics and space; food quality and safety; sustainable development, global change and ecosystems; and citizens and governance in a knowledge-based society.

Traditional activities under previous Framework Programmes are continued (such as the special actions for SMEs). However, with the introduction of several 'new instruments', such as the networks of excellence and integrated projects, FP6 also attempts to break new ground. With the European Research Area (ERA) as the central focus, FP6 acts as a conduit for securing the future of research in Europe underpinned by scientific excellence, improved competitiveness and innovation. This is achieved by encouraging greater co-operation and coordination – leading to synergies – among all interested parties, whether they are regional, national or transnational. Simplified management and procedures promote greater efficiency and a lasting impact on the European scientific and technological landscape.

Fewer thematic priorities (replacing 'key actions') are also helping to improve the move towards a more streamlined integration of activities. The new support instruments (networks of excellence and integrated projects) in FP6 give the Union's research activities greater impetus – leading to 'critical mass' and a strengthening of the ERA. They also encourage improved researcher mobility and research infrastructures, while emphasising partnering and collaboration as well as science and society issues.

- Annex 2 -

Research and Innovation in the Schleswig Regions

E-Region Schleswig-Holstein

“e-Region Schleswig-Holstein” is a new regional programme managed by the Schleswig-Holstein Region and the Schleswig-Holstein Technology Foundation (TSH). The programme supports 14 modern training and Information and Communications Technology (ICT) applications projects aimed at further advancing the information society in Schleswig-Holstein. These projects range from an initiative concerning start-ups from universities, to a web-based training programme in the field of health-care management, and to the development of a quality seal for ICT products. Some of the projects are listed below:

IT-Network Office

The IT-Network-Office is a central information and consulting office. It supports IT projects and improve dialogue between different information technology activities in Schleswig-Holstein. By facilitating networking between business, government authorities and science and research in Schleswig-Holstein the office aims to bring about more and better IT-related information and services.

Transfer Semester

Support for scientists working in the field of higher education to enable a six-months stay in a SME to confront their research work with daily business practices and issues, but also to let the acquired knowledge flow back in the scientists research and lectures.

Start-ups from Universities

Financing university graduates and university teachers for a six-month period during which they can write a business plan and start up their company.

Self-Organised Learning

Development of modern methods and techniques for self-organized learning via web-based training (WBT).

Universities as incubators for company start-ups

The FH Wedel University of Applied Science wants to support company start-ups by its graduates. Therefore the University wants to serve as an incubator for new entrepreneurs by creating an appropriate infrastructure at the university. Human resources as well as neuter resources will be offered to facilitate company start-ups. This project is based on an example of a company developing e-learning software called "javanti". On a basis of a adequate business model and a property product a new company will be founded after two years.

Open IT Labs in rural areas

The Open IT-Labs offer free, convenient, basic ICT-training in a familiar local environment. After school hours, the IT-laboratories at the Centre for Technical Education and Vocational Training in Meldorf and at the Werner-Heisenberg-Secondary School in Heide are open to the general public. Senior pupils belonging to the private "Information Society for Everyone" cooperative offer basic training in IT, leading to the European Computer Driving Licence (ECDL) certificate. In addition, members of the Dithmarschen Regional Associations for Continuing Education use both IT-labs for continuing education courses.

Digital Building File

The initial idea to create a new geo-information system with a wide range of uses first arose while transferring the processing and granting of building permits from a paper based system to an electronic one. The Administration vol.net project aims to create a supraregional, trans-administrative, web integrated spatial information system at the county level that will inform decision making by public authorities and businesses. Government departments, SMEs, non-governmental institutions and individual citizens will be able to access, download and work online with many different kinds of geo-information produced by many different sources. Further information at: <http://www.e-region-sh.de/new/>

- Annex 3 -

Clusters

In the past, interventions to support regional development were mainly based on the provision of capital and support for physical infrastructure. Recent economic research however suggests that upgrading "knowledge" and increasing technology diffusion at regional level may prove one of the most efficient routes for economic growth. Regional Innovation systems may arise when a number of factors are in "proximity", perceived mainly in geographical terms, although this is now beginning to change thanks to advances in information and communication technologies. Nevertheless, geographical proximity remains one of the most powerful factors in favour of intellectual, commercial and financial exchanges, heavily influencing the innovation process.

In this sense regions are important because they form the spatial basis of groupings of research and innovation operators which have come to be known as "clusters", often considered as the main drivers of regional development.

Clusters are formed by groups of innovative enterprises, academic and research institutions, local development agencies and/or other supporting organisations. Their structures embody a developing knowledge base, enabling infrastructure as well as a cultural dimension. Clustering is networking at large, with constituent parts developing strong, interdependent links. Interaction flow patterns vary, representing knowledge transfer, financial transactions or simply, increased personal contacts. In such a case, knowledge "spillovers" become ultimately the most important cluster "by-products". Research and technological development lie at the heart of such knowledge spillovers and form part of the key components of successful regional clusters.

Efficient clustering involves multi-sectoral linkages and organisations with different profiles. In its most successful expression, clustering combines industry, government and non governmental organisations, together with a number of knowledge-specific players (universities, research centres, science and technology parks and technopoles, innovation agencies acting like service, competence and diffusion centres).

Of particular importance in the dissemination of results and the process of commercialisation is the interplay with scientific activities and "openness" in terms of exposure to changing markets. University-industry links play an especially important role here. Co-operation between academic spin-offs and their "parent" organisations is often a model of effective regional co-operation. University-industry relations can strengthen the fabric of weaker regions where more traditional industries can turn to universities to investigate and meet their requirements.

Sources of Information

EU information

CORDIS is the European Commission's information service on European Research and Innovation activities. Specific sections of the CORDIS website are devoted to:

The regional dimension of the European Research Area (ERA)

<http://www.cordis.lu/era/regions.htm>

The Irish Presidency section of the CORDIS website:

<http://www.cordis.lu/ireland/irc.htm>

Information specific to Ireland

Enterprise Ireland is the lead agency in Ireland in terms of promoting and developing regional innovation. Mr Michael White is currently Manager of Regional Technology and Innovation within Enterprise Ireland.

Contact: Michael White, Tel: +353 (0)61 311107, E-mail: Michael.White@enterprise-ireland.com

Ireland has also established a dedicated National Information & Support Service to provide practical information and support to potential FP6 participants. More information on this and on the national delegates and contact points in Ireland is available at:

<http://www.fp6-ireland.com/>

Further information on Irish participation in the Framework programmes is available from the Department of Enterprise, Trade and Employment, at: <http://www.entemp.ie/epst/osteur.htm>