

# Policy Department Economic and Scientific Policy

Synergies between the EU 7th Research Framework Programme, the Competitiveness and Innovation Framework Programme and the Structural Funds

(IP/A/ITRE/FWC/2006-87/LOT3/C1)

This study was requested by the European Parliament's committee on Industry, Research and Energy (ITRE)

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Authors: Alasdair Reid

Michal Miedzinski Nelly Bruno

Gaëlle le Gars

**ETEPS AISBL** 

**Network for European Techno-Economic Policy Support** 

Administrator: Camilla Bursi

Policy Department Economy and Science

DG Internal Policies European Parliament

Rue Wiertz 60 - ATR 00L008

B-1047 Brussels

Tel: +32-2-2832233 Fax: +32-2-2846929

E-mail: <u>camilla.bursi@europarl.europa.eu</u>

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E-mail: poldep-esc@europarl.europa.eu.

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#### **PREAMBLE**

Technopolis Group (Belgium) has prepared this study at the request of the Directorate-General Internal Affairs, Directorate A (Economic and scientific policy) of the European Parliament. The authors of this report are Alasdair Reid, Michal Miedzinski, Nelly Bruno and Gaëlle le Gars. Comments on an early draft were gratefully received from Dr Paul Cunningham of the University of Manchester and from the services of the European Parliament. Any remaining errors are attributable to the authors alone.

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## **EXECUTIVE SUMMARY**

## Objective and scope of the study

The aim of the study was to provide background information and advice for the Members of the European Parliament Committee on Industry, Research and Energy (ITRE) on how to improve the coordination and synergy effects between three major EU instruments:

- The 7<sup>th</sup> Research Framework Programme (FP7),
- The Competitiveness and Innovation Programme (CIP); and
- The Structural Funds.

The three instruments are expected to contribute to competitiveness and the achievement of the goals of the renewed Lisbon Strategy for Growth and Jobs. The study authors were asked to formulate an independent view on possible synergies between the instruments and related aspects such as gaps, overlaps as well as possible supplementary actions to strengthen the combined impact of the three instruments. The investigation covered three main points:

- Review possible synergies and activity fields where synergies can develop between the three instruments;
- Analyse necessary conditions in order to achieve the best complementarities possible;
- Identify possible gaps and overlaps between the three instruments, including the degree to which they are successful in bridging the gap between inventions as the fruits of R&D activities and the marketing of new products; assess the impact of such gaps and overlaps, as well as of any rectifying options.

When analysing the potential for synergies or the risk of overlaps or gaps at a macro-level, it remains difficult to go beyond general statements of intent. Even if regulatory or operational texts require or foresee complementary actions between the operations of all three instruments, a number of factors impinge on, or may favour, the 'on the ground' possibilities to actually achieve the "synergies" expected. Such factors or dimensions may include e.g.: time lags and delays, eligibility or targeting of different types of beneficiaries, bottom-up versus top down strategies of stakeholders and beneficiaries, formal and actual geographical targeting of the programmes.

#### Complementarities and expected synergies on macro level

Designing the three programmes the Commission has focused on different phases and actors of the innovation process and expected synergies to emerge. In the Community Strategic Guidelines for 2007-2013, the Commission states that "synergy between cohesion policy, the FP7 and the CIP is vital so that research and cohesion policies reinforce each other at regional level by providing national and regional development strategies showing how this will be achieved".

Hence, according to the impact assessment of the CIP, the CIP shares indeed its objective of strengthening Europe's competitiveness and innovative capacities with the FP7, but focuses primarily on innovation as a business process, rather than being limited to technological research. FP7, in contrast, supports trans-national research cooperation, technological development, researcher mobility and research activities in particular between enterprises and public research organisations, as well as specific R&D schemes in favour of SMEs, and researcher's mobility between firms and academia. Support of trans-national cooperation between research-driven regional clusters will complement similar activities of the CIP focusing on regional innovation actions and policies. The CIP and FP7 are therefore formally designed to complement each other.

Considering the possible synergies between the FP7 and the Structural Funds, J. Potocnik, the Commissioner for Research, emphasised that even if it would not be possible to combine funding from two different Community sources for a project funded by the Structural Funds, it would be always possible to use the Structural Funds and the FP7 funds for different phases of a given research infrastructure project, provided it meets both specifications for funding. Accordingly, a way to achieve concrete synergies between the Framework Programme and the Structural Funds would be to establish R&D priorities at the level of the countries and regions that could be considered as complementary with those of the FP7.

Within the CIP, the regions eligible for the Convergence Objective of the SFs are expected to take part in exchanges and networking activities, so that their specific situations are taken into account in the identification of good practices adapted to their needs. According to the Commission, the CIP should identify and promote best practice and excellence in specific fields; whereas the SFs should be used by national and regional authorities as the main instrument to boost regional competitiveness and innovation.

Based on analysis of the official documents the study has identified the following **key** complementarities and expected synergies on the macro level:

- The three programmes share the broad Lisbon and Gothenburg objectives but differ in their primary focus on different actors and different phases of the innovation process;
- Structural Funds should ideally be used by regions to build up research and innovation capacity, enabling them to take part in European level research and innovation activities;
- The CIP should focus on the innovation and replication phase whereas the FP7 focuses on the research and development phase. This should avoid financing gaps between research, development and application;
- Regions eligible under the Structural Funds should take part to the networking activities and exchanges of good practices promoted by the CIP, so that their specific situations are taken into account in the identification of good practices adapted to their needs;
- The CIP should provide support to networks of intermediaries and national schemes for actions to encourage and notably facilitate the participation of SMEs in the FP7;
- Close co-operation between the European Commission and the European Investment Bank (EIB) and the European Investment Fund (EIF) should ensure an enhanced support for start-ups and micro-enterprises, through technical assistance, grants, loans, equity, venture capital and guarantees.

#### Synergies, overlaps and gaps at operational level

The analysis supports a conclusion that the **most important potential synergies** may appear between SF and FP7 and SF and CIP, and to a lesser extent between CIP and FP7. At this point it is impossible to assess the potential of operational synergies between the latter as two out of three CIP work-programmes have not been published yet. The appearance of synergies on the operational level -"on the ground"- will depend on the type, needs and capacities of the potential beneficiary as well as on the regional and local context (for examples see the cases in main text of the report).

In sum, it may be underlined that the **main opportunities for synergies** are based on the strong thematic complementarities between the programmes with a stronger 'technology' or 'sectoral' focus. The potential for linking up lead-market initiatives of CIP with technology platforms under FP7 and regional technology road mapping and related RTDI initiatives under the Structural Funds is one example.

The **major overlap** appears to concern the support for research infrastructure under both Structural Funds and FP7. In this context, the challenges for the two instruments concern a more effective co-ordination and assuming a reasoned approach to R&D infrastructure investments, support to regional innovation strategies, etc. that balance the cohesion versus excellence issues should they aim at the adoption of a more sophisticated policy mix for research and innovation.

Furthermore, the study identified **a risk of overlapping** of actions in favour of inter-regional networking funded under all three programmes in the broad field of research and innovation policies and notably clusters. All of which tend to target both the same type of target group and the themes leading to a significant risk of duplication of effort. In this respect, the risk of 'overlap' with CIP initiatives such as Europe Innova and FP7 funding for ERANET and Regions for Knowledge initiatives needs to be considered.

The **main gaps** appear as regards issues related to support measures for those SMEs, which while not being the 'top technology pioneers' could benefit from greater integration in transregional co-operation on technology development. Neither FP7, which focuses on the technology pioneers, nor CIP -giving greater emphasis to supporting networks of practitioners supporting SMEs- directly addresses this issue. While in principle the Structural Funds could support such actions, subsidy instruments tend to be rather inward looking and monoregional.

The analysis of gaps versus overlaps for **financing measures of innovation SMEs** suggests that on one level, the Structural Fund programmes could technically provide support for all types of firms financing needs. The main issue arising appears to be the involvement of leading technology users and technology adopting SMEs in European level actions. One obvious type of action that has begun to be funded under the Structural Funds is the development of regional technology platforms enabling these types of regional firms to be informed of and eventually integrate actions of the European Technology Platforms (ETPs).

Identifying policy 'gaps' in the field of **regional competitiveness** proved to be not a simple task because the Structural Funds guidelines provide a rather large leeway for regional and national policy makers to implement a wide-ranging set of initiatives.

#### Challenge of policy coherence

Coordination of major EU instruments such as FP7, SF and CIP is not only a question of political intentions, but also a challenge of policy coherence. Policy coherence was defined by OECD as a process of "ensuring the systematic promotion of mutually reinforcing action, by the concerned government and non-government players, in order to create and maintain synergies towards achieving the defined objective". The EU Programmes are implemented in different countries with different political priorities. They are either just complementing national and regional policies or becoming a main policy tool in some fields (e.g. new Member States). Given such diversity it may be claimed that achieving an overall multi-level EU policy consistency will never be possible while policy coordination can assume only soft forms. Ensuring policy coherence in case of such multi-level, multi-stakeholder EU programmes requires existence of an efficient multi-level governance system.

It is clear that ensuring policy coherence exceeds capacities of any organisation acting alone and that it requires a wide collaboration, a clear political mandate and a some degree of coordination between different bodies at all levels and at different stages of programme implementation. Given the fact that implementing bodies of EU instruments in question exist on different levels (supranational, national and sub-national) and are governed by different logic (e.g. cohesion vs. excellence), ensuring actual policy coherence appears as a major challenge, especially on the ground where EU instruments mix with national and regional policies. It is thus impossible —and dangerously misleading - to analyse policy synergies in isolation from the national and regional policy context. In fact, the potential for synergies would have to be assessed on the level of individual region, type of company or other type of beneficiaries.

#### Conclusions and recommendations

Actual synergies from the point of view of the direct beneficiary of funding will depend on their organisational capability and strategic need to combine support from different EU instruments. On a regional level a long term planning is necessary in order to achieve synergies in case of e.g. using one instrument (e.g. FP7) as a preparatory activity to prepare a larger infrastructural investment (e.g. through the Structural Funds).

The conclusion is that **potential synergies** of funding from different EU instruments will depend on a **bottom-up process** of selecting strategic objectives reflected in the policy mix of SF Operational Programmes at national and regional level. The realisation of a need to combine more than one funding source must be internalised into planning at an early stage. Member States have a direct role in ensuring coherence of the regions with opportunities available from Community initiatives.

However, the key role is likely to be that of decision makers in large firms and large public research institutions, which would directly benefit from coordination between funding at regional, national and European level. The main mechanism available under the Structural Funds to promote this role is a non-specific encouragement towards **consultation of RTD stakeholders by policy makers** throughout the programming and implementation period.

Hence a first principal recommendation is that DG REGIO should ensure that the Structural Funds regional operational programmes should allocate sufficient resources to sustaining and further **developing 'regional research and innovation strategic frameworks'**. A reserve funding pool could be included in ROPs with a view to its release based on the strategic framework analysis of needs. This approach is being currently followed for the case of the French regions and is likely to be extended to Polish regions.

A second recommendation concerns the possibility for the European Parliament to request that the Commission services commission a major **cross-cutting evaluation of inter-regional network funding** covering all activities under three programmes. This should be done before continuing to fund, parallel, overlapping networks of regional policy makers and practitioners with outputs of often doubtful value added without fully understanding the impact that they have on regional competitiveness.

Thirdly, the (ex-ante/impact assessments, interim and ex-post) **evaluation studies** on either of three instruments should include analysis of inter-relations with other instruments taking into account time lags and time inter-dependencies in achieving synergies. As an example, the recent ERA-NET Review 2006 considers 'the gap ERA-NETs filled' without looking at either of the other two programmes.

Finally, a more detailed **assessment of spatial coverage** of possible synergies is required, as an initial review suggests that only a limited number of regions have actual potential to benefit from synergies between the programmes. This requires strengthening regional level analysis of research and innovation potential and needs, notably by improving the statistical and qualitative data available (through for instance, EU level initiatives such as the Regional Key Figures database, or the TrendChart and ERAWATCH policy monitoring exercises, which are being extended to the regional level).

## 1. Introduction

By 2010, the European Union should become the "most competitive and dynamic knowledge-based economy in the world, capable of sustainable economic growth with more and better jobs and greater social cohesion". This crucial political statement was the conclusion of the Lisbon Summit in 2000. Following the Barcelona European Council of March 2002, the Head of States and governments agreed that investment in European research and development (R&D) must be increased to 3 % of GDP by 2010, with at least two thirds of the total investment coming from the private sector. This goal has focused the attention of the Commission and of the Member States on the reforms necessary to deliver not only higher but also more productive business investment. This gave rise to a number of policy initiatives set out in the 2003 communication "Innovation policy: updating the Union's approach in the context of the Lisbon strategy".

This target was reconfirmed at the Spring 2005 European Council: to become a genuinely competitive knowledge-based economy, Europe must become better at producing knowledge through research, diffusing it through education, and applying it through innovation. The communication issued in this context clearly highlights the need to look for "synergies between research, structural and cohesion funding by investing more in facilities for research and innovation, that should enable more regions to participate in EU level research activities".<sup>2</sup>

The European Parliament is especially concerned that the targets set out in the renewed Lisbon Strategy are successfully achieved. To this aim the major instruments available at Community level dealing entirely or partly with issues linked to the knowledge-based economy are:

- The 7<sup>th</sup> Research Framework Programme (FP7),
- The Competitiveness and Innovation Programme (CIP); and
- The Structural Funds.

The aim of the study was to provide background information and advice for the Members of the European Parliament Committee on Industry, Research and Energy (ITRE) on how to improve the coordination and synergy effects between these three EU programmes that are expected to contribute most directly to competitiveness and the achievement of the goals of the renewed Lisbon Strategy for Growth and Jobs. The study authors were asked formulate an independent view on possible synergies and related aspects such as gaps, overlaps and possible supplementary additional actions.

<sup>&</sup>lt;sup>1</sup> COM (2003) 112 final

<sup>&</sup>lt;sup>2</sup> COM (2005) 24, Communication to the Spring European Council, "Working together for growth and jobs, A new start for the Lisbon Strategy", Communication from President Barroso in agreement with Vice-President Verheugen

## 1.1 Scope of the study

Synergy comes from the Greek word synergia, meaning joint work or cooperative action. Synergy is the interaction or cooperation of two or more organisations, substances, or other agents to produce a combined effect greater than the sum of their separate effects.

In order to pursue the investigation of synergies between the three key Community programmes contributing to the development of a knowledge based economy, the study was asked, firstly, to cover three main points:

- Review possible synergies and activity fields (aiming at similar or different stakeholders) where synergies can develop between the three instruments;
- Analyse necessary conditions both existing conditions and those which have to be established in order to achieve the best complementarities possible;
- Identify possible gaps and overlaps between the three instruments, including the degree to which they are successful in bridging the gap between inventions as the fruits of R&D activities and the marketing of new products; assess the impact of such gaps and overlaps, as well as of any rectifying options.

The study analysis was to be carried out at several levels:

- The **regulatory and strategic level** to clarify and explore where political objectives and aims have been set in terms of synergies between the three programmes.
- The **programme level synergies** notably in terms of the possibilities for thematic or 'activity' field synergies across the three programmes. Two key sub-issues were expected to be analysed:
  - activity fields which can be reinforced by exploiting synergies;
  - possibilities for work-programme development in the fields thus identified in order to explore synergies.
- The potential for synergies from the point of view of **stakeholders and beneficiaries** and notably that of SMEs, targeted, to a greater or lesser extent by all three programmes. Three issues of interest were expected to be analysed:
  - different ways in which programmes address SMEs as stakeholders/beneficiaries;
  - different focus of programmes at Community and regional level;
  - possible implementation bottlenecks in participation.

A focus on **regional level aspects** was also requested given the importance from an economic and social cohesion point of view of reducing disparities in wealth and opportunities for citizens to participate to the knowledge-based society. The study team decided to integrate the regional aspect as a cross-cutting issue for each of the three levels of analysis.

From the point of view of setting the limits of the analysis, the study first needs to clarify the terminology used in each of the programmes to define different operational levels. The study specifications requested to focus analysis of programme level synergies at the level of "specific work-programmes" (FP7 terminology), which as can be seen from the table below is essentially a terminology applicable to FP7 and CIP.

At EU level, the Structural Funds limit the structuring of programmes to three broad objectives implemented by three funds (ERDF, ESF and Cohesion Fund). Implementation is defined through National Strategic Reference Frameworks (NSRF) and Operational programmes and not through European wide programmes.

**Table 1: Programming structure of three EU programmes** 

Level of programming	SF	FP7	CIP
Strategic orientations at EU level	SF Regulations and Guidelines	Council & Parliament Decision adopting FP7 (18.12.06)	Council & Parliament Decision adopting CIP (24.10.06)
Thematic programmes/objectives at EU level	Three objectives: - Convergence - Regional competitiveness and employment - European Territorial Co- operation	Specific programmes: - People - Ideas - Capacities - Co-operation	Three (sub-) programmes: - Entrepreneurship and innovation programme - ICT policy support programme - Intelligent Energy Programme
Operational implementation at EU level	Not applicable but operational prioritisation at EU level implicit for instance in Regions for Economic Change	Work-programmes for specific sub-programmes / themes (updated annually).	Work-programme for each sub-programme (updated annually).
National level priorities	National Strategic Reference Frameworks	Not applicable	Not applicable
National/Regional level implementation frameworks	Operational Programmes	Not applicable	Not applicable
Measure or project level	Project funding of direct beneficiaries (public, not for profit and private organisations). Individuals as final beneficiaries Co-financing received via national/regional agencies or joint secretariats (interregional).	Project funding of direct beneficiaries (public, not for profit, private organisations and individuals) (Co-)financing received from European Commission	Project funding of beneficiaries (public, not-for profit, private organisations). (Co-)financing received from European Commission

However, it should be noted that the NSRF and the Operational Programmes while designed by national and/or regional stakeholders are jointly negotiated with the Commission services of DG REGIO. Hence, the Commission has a degree of power to influence priorities in line with the strategic guidelines. Another exception would be the territorial co-operation actions (former INTERREG) and the related Regions for Economic Change initiative where "themes for modernisation" have been defined.

Given the resources available to the study, the analysis essentially focuses on the first three levels of the table all concerning EU level programming documents. However, the project level and regional aspects are captured through specific examples and scenario building. The study attempts to look beyond complementarities between the three instruments focusing analysis on how to achieve synergies between different sub-programmes and different instruments. Synergetic instruments allow for creating more than complementary actions, while it has to be noted that not all complementarities between programmes will lead to synergies.

## 1.2 Sources and methods

#### 1.2.1 Available sources and limitations of the analysis

Given the means available, this study is based essentially on desk research and on a crosscutting analysis of all available documentation (see the annex 4 for a full list of relevant documents).

The main types of documents analysed were as follows:

- Proposals, staff working documents and communications from the Commission concerning European research and innovation policies;
- Decisions and regulations implementing the programmes and their sub-programmes;
- Guidelines and work programmes for the specific programmes when already published
- Additional literature in the form of evaluations, studies, academic studies, etc.

A number of limitations are implicit in the available documentation. For FP7 not all sub-programmes have defined work-programmes, while only one CIP programme – Entrepreneurship and Innovation - has developed a work-programme. In the case of Structural Funds, the NSRF are all adopted but only a sub-set of all operational programmes have as of yet been proposed.

#### 1.2.2 Conceptual approach to the analysis

The questions and issues raised by the ITRE committee appear at first sight to be 'simple': identify how three major EU programmes, all of which are required explicitly to contribute to the over-riding EU policy objective (the Lisbon agenda) and all implemented for the first time during an identical time-frame, can best work together. Yet, the analysis of synergies, overlaps and gaps, requires going beyond a logical analysis of regulatory or operational texts.

In a first instance, they require an understanding of the conceptual or 'theoretical' framework under-pinning competitiveness; and particularly as noted above, synergies and complementarities in a multi-programme, multi-stakeholder environment imply an understanding of systems dynamics. Accordingly, the study team decided to adopt the well-established **conceptual framework of national innovation systems (NIS)**, which combines precisely the understanding that improved innovation performance and hence competitiveness is based on interactions amongst diverse groups of stakeholders in an economy.

The advantage of this approach is to:

- a) focus on understanding how the three EU programmes impact directly or indirectly on each of the blocks of actors, infrastructure, framework conditions, demand and the political system,
- b) analyse the question of synergies between the three programmes from a perspective of interactions amongst the blocks of the NIS.

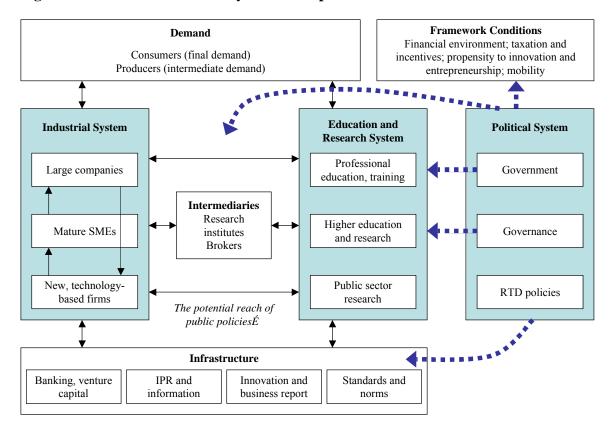


Figure 1: National Innovation System concept

Source: Arnold E., Kuhlman S., "RCN in the Norwegian Research and Innovation System, Background Report No 12 in the Evaluation of the Research Council of Norway", Royal Norwegian Ministry for Education, Research and Church Affairs, 2001

Yet, when analysing the potential for synergies or the risk of overlaps or gaps at a macrolevel, it remains difficult to go beyond general statements of intent. Even if regulatory or operational texts require or foresee complementary actions between the operations of all three instruments, a number of **factors** impinge on, or may favour, the 'on the ground' possibilities to actually achieve the "synergies" expected. Such factors or dimensions may include:

- *Time*: a dimension or factor that would seem hard to misunderstand may in fact play a major role in obstructing the realisation of synergies. An investment in 2008 by the Structural Funds in a major industrial research facility in a less-favoured region is unlikely to strengthen the potential for the research teams to participate in a FP7 project before 2011-12 at best. Hence, if carrying out an impact analysis, it would probably be necessary to search for synergies across programming periods (a Structural Fund project from 2004 contributing to increased participation in FP7 projects in 2008-9).

- *Eligibility or targeting of different types of beneficiaries*: the different programmes target different types of individuals or organisations with various instruments. However, an 'implementing' organisation for one programme, may be a direct beneficiary of another programme and a final beneficiary of a third. As an example, regional authorities are the responsible organisations for implementing Structural Fund operational programmes, and act more as guarantors for other regional actors in a more marginal way by the FP7 and CIP.
- Bottom-up versus top down strategies of stakeholders and beneficiaries: an analysis of potential synergies from a top-down approach based on the intervention logic of the programmes is likely to only capture part of the pictures. Organisations rarely operate on a 'project' basis but rather seek to use different sources of funding to implement their own longer-term strategies. This needs to be taken into account when understanding why certain beneficiaries may favour seeking funding from one or other of the three programmes. This bottom-up behaviour seems to be the key factor in essence the study requires a three-way evaluation of behavioural additionality effects thus this study can only highlight potential outcomes.
- Formal and actual geographical targeting of the programmes: while the Structural Funds objectives are explicitly defined by type of region defined on the basis of socioeconomic criteria, the other two programmes select projects for funding on criteria of excellence (or best value for money). However, certain specific actions of FP7 and CIP are explicitly or implicitly focused on certain types of regions. In some cases, this involves support for "convergence" regions, in other cases the programmes based on their objectives or procedures tend to favour what is called the "Matthew effect" (those who are strong get even stronger).

Accordingly, the study team decided to adopt a **scenario based approach** by putting themselves in the position of specific types of stakeholders and beneficiaries. A series of case scenarios were elaborated in order to explore in more depth the logical and operational possibilities for achieving synergies between the three programmes. At this stage, three cases have been developed as follows and are elaborated upon in chapter 4.2:

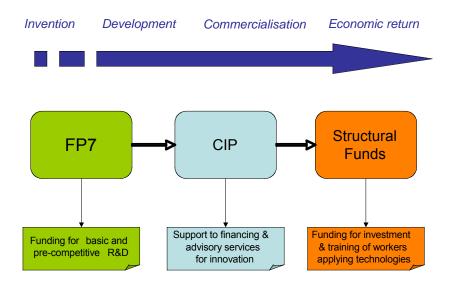
- A research-intensive spin-off/start-up firm seeking financing and advisory support from pre-incubation to production stages;
- An initiative to develop a regional cluster in the field of renewable energies;
- An ICT focused research centre seeking to strengthen its ability to participate in European research initiatives;

## 2. POTENTIAL SYNERGIES AT THE STRATEGIC LEVEL

## 2.1 Comparative overview of FP7, CIP and SF programmes

This chapter provides a short comparative assessment of the background and aims of the three instruments and their sub-programmes, based on the regulatory framework. The aim is to identify and highlight at the strategic level, the potential for interaction where synergies can develop. As noted above the study was asked to consider the "degree to which the three programmes are successful in bridging the gap between inventions as the fruits of R&D activities and the marketing of new products". This could be taken to imply a rather simple programming logic, mirroring almost the classic "linear model of innovation", as illustrated in the diagram below.

Figure 2: 'Linear' intervention logic for the three EU programmes



However, as will be seen in the course of the report, such a simplified "intervention logic" does not do credit to both the strategic objectives set for each of the three programmes, nor the potential for each programme to intervene at various stages in a much more 'modern' understanding of the role and importance of new technologies and innovation in boosting competitiveness. Indeed, the Communication "More research and innovation: a common approach" issued in October 2005 underscores the articulation between the actions foreseen at Community level and the related recommendations that Member States were invited to implement in order to get the full benefits of the actions conducted at a European level. According to the impact assessment of this communication<sup>4</sup>, it was the first time that research and innovation policies were presented in a fully integrated fashion.

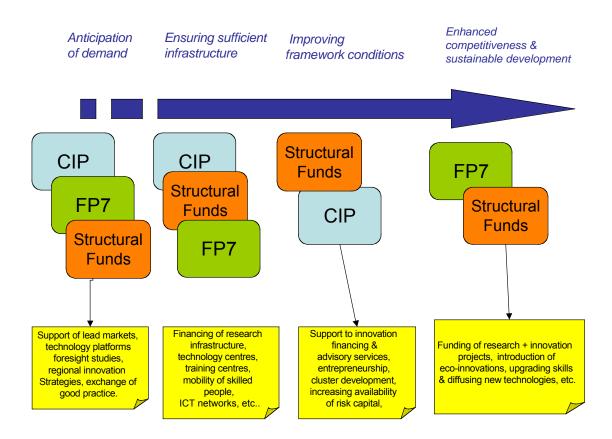
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<sup>&</sup>lt;sup>3</sup> COM (2005) 488

<sup>&</sup>lt;sup>4</sup> SEC(2005) 1289, Commission Staff Working Document, Annex to the Communication from the Commission to the Council, the European Parliament, the European Economic and Social Committee and the Committee of the Regions, "More Research and Innovation - Investing for Growth and Employment: A Common Approach, Impact Assessment", COM(2005) 488 final

In October 2006, responding to the recommendations of the Aho-Report<sup>5</sup> which placed research and innovation at the centre of action to fulfil the goals of the re-focused Lisbon Strategy, the Commission tabled a communication "Putting knowledge into practice: a broad-based innovation strategy for the EU" a ten points programme for action<sup>6</sup> at national and European levels to foster innovation as a main asset of the EU economy. This was the basis for the discussion by European leaders at the informal Lahti Summit in October 2006 and led to a call for better synergy between national and Community actions in support of innovation and full exploitation of all available Community instruments.

Figure 3: Demand driven intervention logic



The Communication outlined the most important on-going or planned initiatives, identifies new areas for action, and introduces a more focussed strategy to foster the creation and marketing of innovative products and services in promising areas, so-called "lead markets". The EU Competitiveness Council adopted these guidelines in December 2006 and well as tabling nine strategic priorities important measures for promoting innovation. This package of measures will be anchored as an integral part to the Lisbon process and the Council will hold a strategic debate about it annually. Adopting the Aho report inspired focus on demand factors, one of the main blocks of the NIS approach, in driving innovation could indeed lead to an entirely different, if equally simplified intervention logic for the interactions between the three programmes, as illustrated in the diagram above.

<sup>&</sup>lt;sup>5</sup>Report of the independent expert group on R&D and innovation chaired by Esko Aho, "Creating an innovating Europe", 2006

<sup>&</sup>lt;sup>6</sup> COM (2006) 502 final

## 2.2 The 7th Research Framework programme (FP7)

FP7<sup>7</sup>, with a total budget of €50.521 billion<sup>8</sup>, runs between 2007 and 2013. Covering ten high level themes (see annex 1 for a detailed flowchart of the FP7), FP7 is composed of four specific programmes, with different objectives<sup>9</sup>:

- Cooperation (64.1% of the budget): to gain leadership in key scientific and technology areas by supporting cooperation between universities, industry, research centres and public authorities across the European Union as well as with the rest of the world.
- *Ideas* (14.9%): to stimulate the creativity and excellence of European research through the funding of "frontier research" in all scientific and technological fields carried out by individual teams competing at European level. This action will be overseen by a European Research Council.
- **People** (9.4%): to develop and strengthen the human potential of European research through the support to training, mobility and the development of European research careers (through notably the Marie Curie actions).
- Capacities (8.1%): to enhance research and innovation capacity throughout Europe. The FP7 capacities programme aims to develop and fully exploit the EU's research capacities through large-scale infrastructures (including e-infrastructures such as GEANT, Grids, Supercomputing...), regional (Regions of Knowledge) and cross-border cooperation and innovating SMEs.

Across all the ten themes, support to trans-national cooperation will be implemented through funding schemes which will be used either alone or in combination, depending on the specifications of the work programmes for the different themes:

- *Collaborative research*: collaborative projects (either large-scale integrating projects, so called IPs, (an EU Contribution in excess of €4M) or small or medium-scale focused research projects, so called STREPs (an EU Contribution less than €4M), networks of excellence, coordination/support actions, actions to promote and develop human resources and mobility
- *Joint Technology Initiatives*: mainly resulting from the work of European Technology Platforms
- *Co-ordination of non-Community research programmes*: ERA-NET scheme and Treaty Article 169

Two specific activities under FP7 are worth highlighting in some detail due to their potential for facilitating synergies between the three programmes. Firstly, the **European Technology Platforms (ETP)** are a key instrument that brings together scientific excellence on a research topic/theme of strategic importance to achieving EU wide objectives and benefits. They build upon a strategic research agenda (SRA) bringing stakeholders including policymakers from a large number of EU countries and can be supported directly by the Structural Funds as is the case for the e-mobility ETP. The ETP are intended to become permanent collaborative activities similar to that of CERN and should remain open to participation from other Member States and third country collaboration.

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<sup>&</sup>lt;sup>7</sup> Decision No 1982/2006/EC of the European Parliament and of the Council of 18 December 2006 concerning the Seventh Framework Programme of the European Community for research, technological development and demonstration activities (2007-2013) - Statements by the Commission

<sup>&</sup>lt;sup>8</sup> See http://www.consilium.europa.eu/ueDocs/cms\_Data/docs/pressData/en/misc/92236.pdf

<sup>&</sup>lt;sup>9</sup> Plus the Euratom programme for the nuclear research

**Secondly,** the "Capacities" strategic programme with its budget allocation of €7.536 billion, is of **primary interest to regional policy** as it is this programme which specifically deals with measures targeted notably at:

- **Research infrastructures**, to help optimise the use and development of the best research infrastructure existing in Europe and create in all fields of science and technology new infrastructures of pan-European interest
- Research for the benefit of SMEs: it should help SMEs outsource research in terms of their research efforts, their networks, the exploitation of their research results as well as the acquisition of technological know how. Furthermore it should provide support to small groups of innovative SMEs to solve common or complementary technological problems. SME associations and SME groupings should also be supported to develop technical solutions to problems common to large numbers of SMEs in specific industrial sectors or segments of the value chain. The Competitiveness and Innovation Programme will provide support to networks of intermediaries and national schemes for actions to encourage and facilitate the participation of SMEs in the FP7
- **Regions of knowledge**: it aims at strengthening the research potential of European regions, in particular by encouraging and supporting the development, across Europe, of regional "research-driven clusters" associating universities, research centres, enterprises and regional authorities.
- Research potential of Convergence Regions: aims at unlocking and develop latent S&T forces in the EU's convergence and outermost regions

### Box 1: the risk sharing finance facility

The "Risk-Sharing Finance Facility" (RSFF)<sup>10</sup> is a new European guarantee scheme developed jointly by the Commission under FP7 and the European Investment Bank. The RSFF aims to improve access to the EIB debt finance for participants of large-scale European R&D projects.

The European Council in its decision on the Financial Perspectives for 2007-2013 specifically called for such a mechanism. The objectives of these loans are to foster increased investment in research by improving access to EIB finance, to allow larger volume of lending for riskier, but credit worthy research activities through risk-sharing with EIB and finally to generate a leverage effect of the funds allocated to the instrument estimated to 5. One billion Euros is financed by the EIB, 800 million Euros by the cooperation specific programme of the FP7 and 200 million Euros by the "capacities" specific programme. These funds will be used to back up financing operations with a higher risk profile than the average EIB lending portfolio. Given that each EUR of FP7 and EIB contribution to RSFF will, on average, translate into 5 EUR of RSFF loans and guarantees, the expected leverage is thus 10 billion Euros. The Commission contribution is used as a guarantee fund, what means that it should be only spent to cover failures to pay back loan.

Although the RSFF can cover high risk R&D and innovation, the Commission funds guarantees only for R&D while the EIB funds covers also commercial innovation. EIB loans will benefit major R&D projects (including infrastructure projects) with a strong European dimension. Beneficiaries may thus include large companies, SMEs, public and private research organisations, public-private partnerships. Partners in large projects supported by FP7, such as joint technology initiatives, collaborative projects and research infrastructures, will be automatically eligible.

<sup>10</sup> see www.eib.org/rsff

## 2.3 The Competitiveness and Innovation Programme (CIP)

The Competitiveness and Innovation Framework Programme (CIP) with a budget of approximately 3.6 billion Euro for 2007-2013<sup>11</sup> brings together, into a common framework (see annex 2 for a more complete overview of the CIP), specific Community support programmes and relevant parts of other Community programmes in fields critical to boosting European productivity, innovation capacity and sustainable growth, whilst simultaneously addressing complementary environmental concerns.

The CIP<sup>12</sup> should address both technological as well as non-technological aspects of innovation. With respect to technological innovation, it will focus on the downstream parts of the research and innovation process. More specifically, it will promote innovation support services for technology transfer and use, projects for the implementation and market take-up of existing new technologies in fields like ICT, energy and environmental protection, as well as the development and coordination of national and regional innovation programmes and policies. It should also improve the availability and access of innovative SMEs to external sources of financing, including for R&D and innovation activities and promote the participation of SMEs in the FP7.

The CIP covers also the market replication of existing technologies that are to be utilised in a new and innovative way. According to the decision establishing the CIP<sup>13</sup>, pilot projects for technological demonstration may sometimes be covered by both the CIP and the FP7 when certain technological solutions (for example technical standards in the ICT field) have to be validated during the market replication phase of an otherwise already demonstrated technology.

The CIP contains three specific programmes, but only the work-programme for the specific programme "Entrepreneurship and innovation" had been published by March 2007  $^{14}$ . Only when all annual work programmes are drawn up will it become clear what actions are planned, to whom they are available and what opportunities exist in practice. In addition, ecoinnovation will be a transversal theme of the whole programme with a budget of approximately  $\ensuremath{\in} 430$  million.

#### 2.3.1 Entrepreneurship and Innovation Programme

This programme (59.8% of the budget) continues actions from the Multiannual Programme (MAP) for SMEs, innovation actions from the FP6, activities for Industrial Competitiveness and eco-innovation actions. Unlike the previous MAP programme, SMEs may also benefit from direct funding from CIP. The EIP should offer SMEs a simple, clear and efficient access to EU support by a better integration of the existing networks of business support services (EuroInfoCentres and Innovation Relay Centres) and support development of innovation policies (Europe-Innova, Pro-Inno etc). Their role in providing feedback for developing EU policy will be enhanced, as will their role in improving SME access to EU research programmes in particular. A "no wrong door, no closed door" approach should ensure that SMEs access to such services is simplified.

The programme aims also to help enterprises innovate by providing access to finance by

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<sup>&</sup>lt;sup>11</sup> See annex for the flowchart of the CIP

<sup>&</sup>lt;sup>12</sup> 2005/0050 (COD), Proposal for a Decision of the European Parliament and of the Council establishing a Competitiveness and Innovation Framework Programme (2007-2013) (presented by the Commission) {SEC(2005) 433}

<sup>&</sup>lt;sup>13</sup> Decision No 1639/2006/Ec of the European Parliament and of the Council of 24 October 2006 establishing a Competitiveness and Innovation Framework Programme (2007 to 2013)

sharing risks and reward with private equity investors and providing counter or co-guarantees to national guarantee schemes. More than €1billion will be devoted to boosting the financial instruments managed by the European Investment Fund, which co-invest in venture capital funds (covering early stage and expansion stage), and provide co-guarantees on loans.

The conditions for innovation will also be improved through actions in favour of innovation policy development, including exchanges of best practices between Member States and evidenced based analysis. The existing European Innovation TrendChart, Innobarometer, Innovation scoreboard, etc. actions are re-grouped under the Pro-Inno Europe<sup>15</sup> label along with a number of other initiatives covering the policy analysis, learning and development phases. Europe INNOVA (supported initially under the FP6 and subsequently by the CIP) is expected to acting as the focal point for innovation networking in Europe. Europe INNOVA aspires to inform, assist, mobilise and network the key stakeholders in the field of entrepreneurial innovation, including firm managers, policy makers, cluster managers, investors and relevant associations.

## 2.3.2 ICT Policy Support Programme

With a budget of € 728 million (20.1% of the budget) the ICT Policy Support Programme will build on the aims of the previous e-TEN, Modinis and e-Content programmes and will support the aims of the new integrated strategy i2010. It should contribute to competitiveness, growth and jobs through fostering the emergence of a single European information space and stimulating a wider adoption and more efficient take up and better use of ICT in an inclusive information society with an improved quality of life.

Referring to the decision implementing the CIP, the ICT Policy Support Programme may be implemented by:

- projects including implementation, pilot and market replication projects to promote innovation, technology transfer and the dissemination of new technologies that are ready for market uptake;
- best practice actions to spread knowledge and share experience across the Community, to be conducted in clusters addressing specific themes and linked through thematic networks;
- thematic networks, which may be linked to policy actions, bringing together a variety of stakeholders around a given objective so as to facilitate coordination activities and the transfer of knowledge.

This instruments aim to foster the deployment and best use of innovative ICT-based solutions, in particular for services in areas of public interest and for SMEs. The coordination and the implementation of actions for developing the information society across the Member States are also supported. This includes actions for wide-scale testing and demonstration of innovative public services with a pan-European dimension.

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<sup>15</sup> http://www.proinno-europe.eu/

http://www.europe-innova.org

### 2.3.3 Intelligent Energy-Europe Programme

With a budget of € 727 million (20.1% of the CIP budget), the Intelligent Energy-Europe Programme will support energy efficiency, new and renewable energy sources, and technological solution to reduce greenhouse gas emission caused by the transport sector. It includes actions to:

- increase the uptake and demand for energy efficiency;
- promote new and renewable energy sources and support energy diversification;
- stimulate the diversification of fuels and energy efficiency in transport.

The programme will also help to increase the level of investment in new and best performing sustainable energy technologies and bridge the gap between the successful demonstration of innovative technologies and their effective introduction to the market to achieve mass deployment. Furthermore, it will strengthen the administrative capacity in the EU Member States both to develop strategies and policies and to help implement existing regulations.

## 2.4 The Structural Funds (SF)

The resources of the Structural Funds and of the Cohesion Fund are delivered through multiannual development programmes, managed jointly by the Member States, the regions and the Commission. In contrast with the FP7 and CIP, these programmes are based on a publicprivate partnership principle in which the Commission contributes together with the Member States and the Regional Authorities. As from 2007, the EU Cohesion policy which has been allocated a budget of €307.6 billion for 2007-2013 will revolve around three new priorities or "objectives" which put research and technological development and the transition to the knowledge economy as a high priority (a flowchart of the Structural and Cohesion Funds is provided in annex 3):

- *Convergence* (81.7%): support for growth and job creation in the least developed member states and regions. Regions whose per capita GDP is less than 75% of the EU average will be eligible, but temporary support (until 2013) will be given to regions where per capita GDP is below 75% for the EU-15.
- Competitiveness and employment (15.8%): designed to help the richer member states deal with economic and social change, globalisation and the transition to the knowledge society. Employment initiatives are to be based on the European Employment Strategy (EES) (adaptability of the workforce, job creation and accessibility to the labour market for vulnerable persons).
- *Territorial co-operation* (2.44%): to stimulate cross-border co-operation in order to find joint solutions to problems such as urban, rural and coastal development, the development of economic relations and the networking of SMEs. A new cross-border authority will be set up to manage co-operation programmes.

Structural Funds should therefore further stimulate the development of research capacity by supporting RTD infrastructure, RTD human resources, innovating companies, science parks, incubators or specific research projects in beneficiary regions. They also foster private sector involvement in R&D investment, especially at regional level.

The legislative package adopted by the European Parliament on 4 July 2006 to support these priorities, comprises one general and four specific regulations concerning:

- The *European Regional Development Fund (ERDF)* which should fund projects on research, innovation, environment, risk prevention, infrastructure in the least developed regions;
- The *European Social Fund (ESF)* (1081/2006) which targets projects for employment, quality and productivity at work and social inclusion;
- The *Cohesion Fund* which is designed to invest in environmental projects and trans-European networks in member states with a GNP of less than 90% of the Community average National income (e.g. the ten new member states, plus Greece and Portugal).
- The *European grouping of cross-border co-operation (EGCC)* which is a new instrument for cross-border projects

The **Strategic Guidelines for Cohesion Policy** 2007-2013<sup>17</sup> complete this regulatory framework and underline the importance of R&D and innovation for meeting the Lisbon goals and focus on the potential for Structural Funds to help regions build up research and innovation capacity. These guidelines call upon the Member-States to maximise the convergence effect of their investments by concentrating, as far as is useful, on the themes indicated by the guidelines. The choice of theme will vary between Member States and regions according to their relative economic strength.

The three thematic sets of guidelines and the cross-cutting territorial dimension can be summarised as follows<sup>18</sup>:

- improvement of the attractiveness of Member States, regions and cities by improving accessibility, ensuring adequate quality and level of services, and preserving their environmental potential;
- encouragement of innovation, entrepreneurship and the growth of the knowledge economy by research and innovation capacities, including eco-innovation, new information and communication technologies;
- creation of more and better jobs by attracting more people into employment or entrepreneurial activity, improving adaptability of workers and enterprises and increasing investment in human capital;
- achievement of a high overall growth potential and an even regional development by paying particular attention to specific geographical circumstances.

A broad range of research and innovation related actions may be funded<sup>19</sup>, such as regional and trans-regional clusters, poles of excellence, technology transfer, business support services and actions to develop human capital and to help workers and enterprises anticipate and adapt to economic change<sup>20</sup>. More particularly the strategic guidelines put improving access to finance for SME development as a top priority. In particular, it emphasises the need to enhance support for start-ups and micro-enterprises, through technical assistance, grants, loans, equity, venture capital and guarantees. These actions will take place in close cooperation between the Commission and other stakeholders, such as the EIB and the EIF<sup>21</sup>.

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<sup>&</sup>lt;sup>17</sup> Council Decision of 6 October 2006 on Community strategic guidelines on cohesion (2006/702/EC)

<sup>&</sup>lt;sup>18</sup> The themes are described more fully in Commission staff working document, SEC(2006) 1432.

<sup>&</sup>lt;sup>19</sup> See flowchart of the Structural Funds in annex for more details

<sup>&</sup>lt;sup>20</sup> http://cordis.europa.eu/aoi/print\_version.cfm?article=1544&lang=EN

<sup>21</sup> http://cordis.europa.eu/aoi/article.cfm?article=1773&lang=EN

Projects will be funded through a number of instruments, including Joint Assistance in Supporting Projects in European Regions (JASPERS), Joint European Resources for Microto-Medium Enterprises (JEREMIE), which provides access to finance for small-businesses, and Joint European Support for Sustainable Investment in City Areas (JESSICA).

## 2.5 Main synergies identified in the legislative texts

In designing the three programmes, the Commission has focused on different phases and actors of the innovation process and there is an explicit expectation that synergies will be sought. In the Community Strategic Guidelines for 2007-2013<sup>22</sup>, the Commission indeed states that "synergy between cohesion policy, the FP7 and the CIP is vital so that research and cohesion policies reinforce each other at regional level by providing national and regional development strategies showing how this will be achieved". The table below, which is a comparative synthesis of the three programmes based solely on the texts establishing them, provides an overview of the characteristics they share and highlights where complementarities may exist.

According to the proposal of the Commission establishing the CIP<sup>23</sup>, the CIP shares an objective of strengthening Europe's competitiveness and innovative capacities with the FP7, but focuses primarily on innovation as a business process, rather than being limited to technological research. FP7, in contrast, supports trans-national research cooperation, technological development, researcher mobility and research activities in particular between enterprises and public research organisations, as well as specific R&D schemes in favour of SMEs, and researcher's mobility between firms and academia. Support of trans-national cooperation between research-driven regional clusters will complement similar activities of the CIP focussing on regional innovation actions and policies. The CIP and FP7 are therefore formally designed to complement each other.

"The Competitiveness and Innovation Framework Programme should be complementary to the Community's Seventh Framework Programme for research, technological development and demonstration activities (2007-2013) by dealing with innovation, which includes non-technological as well as technological innovation, that has moved beyond the final demonstration phase and is ready for market replication (testing of innovations for application in markets). It should be ensured that there is no financing gap between research, development and application (technology-transfer activities including pre-seed phase). Therefore, funding the transfer of research results to commercialisation is a task to be carried out in close coordination with the Seventh Framework RTD Programme and other relevant research programmes<sup>24</sup>."

Considering the possible synergies between the FP7 and the Structural Funds, Janez Potocnik, the Commissioner for Research, emphasised that even if it would not be possible to combine funding from two different Community sources for a project funded by the Structural Funds, it would be always possible to use the Structural Funds and the FP7 funds for different phases of a given research infrastructure project, provided it meets both specifications for funding. Accordingly, a way to achieve concrete synergies between the Framework Programme and the Structural Funds would be to establish R&D priorities at the level of the countries and regions that could be considered as complementary with those of the FP7.

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<sup>&</sup>lt;sup>22</sup> Community Strategic Guidelines for Cohesion, 2006/702/EC

<sup>&</sup>lt;sup>23</sup> 2005/0050 (COD), Proposal for a decision of the European Parliament and of the Council establishing a Competitiveness and Innovation Framework Programme (2007-2013) (presented by the Commission) {SEC(2005) 433}

<sup>&</sup>lt;sup>24</sup> Decision No 1639/2006/EC of the European Parliament and of the Council of 24 October 2006 establishing a Competitiveness and Innovation Framework Programme (2007 to 2013)

This viewpoint has been recently reinforced by the conclusions of a CREST Working Group, which looked at "How to achieve better coordinated use of Framework Programme and Structural Funds to support R&D"<sup>25</sup>. The working group acknowledges that FP and SF can both finance research and development activities. However, the underlying policy logic differs:

the EU research policy focuses primarily on excellence with the perspective of global competitiveness, while the EU cohesion policy aims at ensuring that less developed regions and regions confronted with serious structural change can improve and contribute to European competitiveness. The two policies tend also to address different beneficiary groups: the applicants to FP are usually actors with the highest potential for excellence in research and belong to regions which usually make limited use of SF. Vice versa those regions receiving aid for convergence objectives participate less than the other regions in the FP.

The Commission's proposal for the CIP<sup>26</sup> calls on the regions eligible for the Convergence Objective of the Structural Funds to take part in exchanges and networking activities organized in the context of the CIP, so that their specific situations are taken into account in the identification of good practices adapted to their needs. According to this proposal, while the CIP identifies and promotes best practice and excellence in specific fields, the Structural Funds should ideally be used by national and regional authorities as the main instrument to boost regional competitiveness and innovation. Nevertheless, proposals for regional funding should be developed by regional bodies to meet their own needs and ambitions in order not to conflict with the bottom-up governance structure of the Structural Funds<sup>27</sup>.

#### Box 2: Summary of main synergies identified in legislative texts

- The three programmes share the broad Lisbon and Gothenburg objectives but primary focus on different actors and different phases of the innovation process;
- Structural Funds should ideally be used by regions to build up research and innovation capacity, enabling them to take part in European consortium and networks in these field;
- The CIP should focus on the commercialisation phase of innovation projects, whereas the FP7 focuses on encouraging R&D activities. This should help to avoid financing gaps between research, development and application of results;
- Regions eligible under the Structural Funds should take part in the networking activities and exchange of good practices promoted by the CIP, so that their specific situations are taken into account in the identification of good practices adapted to their needs:
- The CIP should provide support to networks of intermediaries and national schemes for actions to encourage and notably facilitate the participation of SMEs in the FP7;
- Close co-operation between the European Commission and the European Investment Bank (EIB) and the European Investment Fund (EIF) should ensure an enhanced support for start-ups and micro-enterprises, through technical assistance, grants, loans, equity, venture capital and guarantees

<sup>&</sup>lt;sup>25</sup> Guidelines on coordinating the Research Framework Programme and the Structural Funds to support Research and Development. CREST Working Group, on "How to achieve better coordinated use of Framework Programme and Structural Funds to support R&D", April 2007

<sup>&</sup>lt;sup>26</sup> 2005/0050 (COD), Proposal for a decision of the European Parliament and of the Council establishing a Competitiveness and Innovation Framework Programme (2007-2013) (presented by the Commission) {SEC(2005) 433}

<sup>&</sup>lt;sup>27</sup> Decision No 1639/2006/Ec of the European Parliament and of the Council of 24 October 2006 establishing a Competitiveness and Innovation Framework Programme (2007 to 2013)

Another manner to consider synergies is to look at the 'thematic' complementarities or gaps. The tables in annexes 5 and 6 provide an overview of the extent to which the programmes converge in terms of their thematic focus (or activity fields to adopt the language of the study specifications).

**Table 2: Main characteristics of the three programmes** 

	FP7	CIP	<b>Structural Funds</b>
Broad aim	Progress in building the European Research Area and achieving the Lisbon Strategy <i>objectives</i> : "the most competitive and dynamic knowledge-based economy capable of sustainable economic growth with more and better jobs and greater social cohesion"		
Duration and type of instruments	7 years programmes: 2007 – 2013		
Budget	50.521€bn	3.6€bn	307.6€bn
Type of approaches	<ul> <li>Excellence-driven</li> <li>Competitive approach</li> <li>Project-based (projects will emerge)</li> </ul>	Competitiveness and innovation oriented	<ul> <li>Cohesion oriented</li> <li>Public-private partnership approach</li> <li>Programme-based (result from planning)</li> <li>Mainly territorial and decentralised</li> </ul>
Main Objectives	Strengthen Europe's competitiveness and innovative capacities, avoiding financing gaps between research and innovation		<ul> <li>Help regions to build up research and innovation capacity, enable them to take part to the European research and innovation activities</li> <li>Help regions implement regional innovation strategies and action plans</li> </ul>
	<ul> <li>Support transnational research cooperation, technological development, research mobility and research activities, in particular between enterprises an public bodies</li> <li>Support specific R&amp;D schemes in favour of SMEs</li> <li>Support researcher's mobility between firms and academia</li> </ul>	initiative, technology transfer)  d Promote all forms of innovation including eco-innovation  Accelerate development of a sustainable, competitive, innovative	<ul> <li>Convergence</li> <li>Competitiveness and employment</li> <li>Territorial cooperation</li> </ul>

table 2 cont. overleaf.

table 2 cont.

table 2 cont.	FP7	CIP	Structural Funds	
Domains of intervention	Research, technological development and demonstration of new technologies	<ul> <li>Innovation and research processes: non-technological and technological innovation, that has moved beyond the final demonstration phase and is ready for market replication</li> <li>Market take-up of proven technologies: environmental, ICT, renewable energy, energy efficiency</li> </ul>	<ul> <li>Development of research capacity</li> <li>Fostering of private sector involvement</li> </ul>	
Main target groups	■ Industry (including knowledge intensive SMEs), universities, research centres, individual researchers, public bodies	SMEs, Business support services	<ul> <li>Regional and local bodies (SMEs, high education institutes, research centres, intermediaries)</li> </ul>	
Key thematic areas	Ener	rgy - ICT - Environment - Tra	nsport	
	<ul> <li>Health; Food, agriculture and fisheries; biotechnology; Nanosciences, nanotechnologies and new production technologies; Transport; Socio- economic sciences and humanities; Security and space</li> </ul>			
Type of instruments	<ul><li>Collaborative projects</li><li>Small or medium-scale</li></ul>	Development and support to clusters, incubators, poles of excellence, public-private innovation partnerships		
	focused research projects  Networks of excellence  Coordination/support actions  Actions to promote human resources and mobility  Joint technology initiatives  Coordination of non-Community research programmes (ERA-net and Treaty Article 169)	<ul> <li>Implementation, pilot and market replication projects</li> <li>Best practice actions to spread knowledge and share experience across the EU, to be conducted in clusters addressing specific themes and linked through thematic networks</li> <li>Supporting measures for business innovation, demonstration, knowledge transfer</li> <li>Thematic networks bringing together stakeholders around a given objective so as to facilitate coordination activities and the transfer of knowledge</li> </ul>	<ul> <li>R&amp;D infrastructure and equipment</li> <li>Framework conditions for stimulating R&amp;D and innovation</li> <li>Joint Assistance in Supporting projects in European Regions (JASPERS)</li> <li>Joint European Resources for Micro-to-medium Enterprises (JEREMIE)</li> <li>Joint European Support for Sustainable Development in City Areas (JESSICA)</li> </ul>	

table 2 cont.

table 2 cont.	FP7	CIP	Structural Funds	
SMEs consideration	Ensure involvement of SMEs in the programmes through strengthened and simplified approach to research funding as well as concrete measures for their benefits			
	<ul> <li>Simplification of procedures</li> <li>SME needs reflected in thematic content</li> <li>Specific SME schemes (CRAFT)</li> <li>Flexibility in choice of funding schemes</li> <li>Research for the benefit of SMEs (Capacities)</li> </ul>	Actions promoting SMEs participation in FP7, via horizontal networks	Support for start-up and micro-enterprises: technical assistance, grants, loans, equity, venture capital and guarantees (cooperation with the Commission, the EIB and the EIF)	
Access to finance	<ul> <li>"Risk Sharing finance Facility": loan for large European RTD projects and infrastructures (with EIB)</li> <li>Up to pre-seed phase</li> </ul>	<ul> <li>Risk capital (seed, startup, expansion)</li> <li>SMEs guarantee facility</li> <li>SMEs loan securitisation</li> <li>Capacity building</li> <li>JEREMIE: equity, venture capital, guarantees and technical assistance</li> <li>National and regional venture capital funds</li> </ul>		
Regional aspects		ons, to increase competitiveness and enable participation in FP7 EU research and innovation policy		
	Help optimise use and development of research infrastructures     "Regions of knowledge": Encourage development of "research-driven clusters"     "Research potential of convergence regions": unlock and develop scientific and technical forces, transnational secondments of research staff, development of research equipment, evaluation facilities of research quality and infrastructure	<ul> <li>Regions are asked to take part in exchanges and networking activities in the context of the CIP to be able to take account of their specific situations when identifying good practices. Structural Funds should then</li> </ul>		
Dissemination of knowledge	<ul> <li>Within projects</li> <li>In thematic areas</li> <li>Mobility of researchers</li> <li>Coordination of national programmes and policies</li> <li>Workshops and conferences between countries</li> </ul>	<ul> <li>Networks providing horizontal business and innovation support services (IRCs, IPR Helpdesk)</li> <li>Promotion of projects to remove non-technical barriers</li> </ul>	<ul> <li>Through support of clusters and networks at regional and local levels</li> <li>Interregional cooperation: knowledge sharing, mentoring</li> </ul>	

## 3. SYNERGIES, OVERLAPS AND GAPS AT OPERATIONAL LEVEL

The previous section succinctly presented the three programmes and concluded by identifying and highlighting the synergies expected on the basis of the 'legal texts'. This chapter reviews at a more operational level the practical possibility for synergies to emerge during the implementation of the three programmes. It does so by examining the programmes at the level of specific work-programme and policy actions. An identification of possible gaps and overlaps between the three instruments is undertaken with a particular emphasis on:

- the extent to which the actions and financial instruments of the programmes support SMEs in their innovation and development process;
- the coherence of the actions funded with a view to promoting regional competitiveness including support for clusters policy and inter-regional co-operation.

In both cases, the analysis includes an identification of the necessary conditions, existing or required, in order to achieve the best complementarities possible. The 'meso-programming level' analysis of this chapter is further complemented in the next chapter by specific case study examples of how actual or potential participants to programmes can best exploit potential synergies or face difficulties in securing funding at different stages of their projects.

## 3.1 SME support and financial engineering

Small and medium-sized enterprises (SMEs) are the backbone of all economies and are a key source of economic growth, dynamism and flexibility in advanced industrialized countries, as well as in emerging and developing economies. SMEs constitute the dominant form of business organisation, accounting for over 95% and up to 99% of enterprises depending on the country. They are responsible for between 60-70% net job creation in OECD countries<sup>28</sup> and in Europe, 65% of GDP comes from small firms. At the same time, a small group of highgrowth firms, or "gazelles" are often responsible for a large share of employment growth at regional and national levels.

Given their importance to the European economy, SMEs are targeted by all three programmes and, as the technical specifications for this study noted, could be considered as "a linking factor in the implementation process". The specifications requested in particular that "the degree to which they (the programmes) are successful in bridging the gap between inventions as the fruits of R&D activities and the marketing of new products" should be focused on.

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<sup>&</sup>lt;sup>28</sup>OECD (2004): Facilitating SMEs access to international markets. 2<sup>nd</sup> OECD Conference of Ministers responsible for SMEs. Promoting entrepreneurship and innovative SMEs in a global economy: towards a more responsible and inclusive globalization. 3-5 June 2004, Istanbul (Turkey)

globalization. 3-5 June 2004, Istanbul (Turkey)

29 The definition most widely used in the literature characterizes high growth firms as having a sales growth rate of at least 20% per year for 3 or more consecutive years. See the Europe Innova scoping paper on gazelles available at:

http://www.europe-innova.org/servlet/Doc?cid=6008&lg=EN

Market focused **Biz and Product Technology** Early commercialization development creation Cash Flow "Valley of death" Normalized cashflow or sales Cash Flow Sales The chasm Innovators majority majority

Early

adopters

Figure 4: The cash flow 'valley of death'

Source: Murphy &. Edwards (2003)

In particular, the issue of whether the programmes (individually or collectively) assist in overcoming the valley of death<sup>30</sup> in cash flow terms faced by (innovative) SMEs needs to be taken into account. This issue of the valley of death tends to impact specific types of enterprises, notably research spin-offs and enterprises facing a long product development cycle.

Laggards

Moreover, as noted above, there has been increasing attention in public policy circles towards high-growth SMEs, which are not necessarily research intensive firms, but second-movers, followers, who copy and imitate existing technology or business models or the appropriate mix of them and generate their success by exploiting the right timing or business context to get the necessary volumes and profitability. These firms often are the ones which get in to the product cycle early enough to exploit good sales while minimising development costs. In this case, while financing remains important other forms of more traditional support can also be important to help such gazelles sustain growth or manage successfully the phase of rapid growth.

All three programmes give priority to the contribution of SMEs to innovation and access of innovative SMEs to funding. However, the degree to which each of the programmes takes account of SMEs and actually targets specific categories of firms (more or less innovative) obviously varies according to the specific instruments and programmes.

The rest of this section reviews the three programmes in turn in terms of recent (2000-2006) actions to support SMEs and the specific actions planned for 2007-2013 with a view to identifying gaps and overlaps.

<sup>&</sup>lt;sup>30</sup> In the venture capital industry, this term refers to the period before a new company starts generating revenues, when it is difficult for the company to raise additional money.

#### 3.1.1 SME support from the Research Framework Programmes

Considering first the **Framework Programmes for R&D**, there has been much criticism in recent years of the extent to which SMEs are really encouraged or assisted to participate in European level research programmes. SMEs could take part in the FP6 in two different ways. Through the specific programmes reserved to SMEs having a capacity to innovate but with limited research capacity (61% of total SMEs participation in FP5<sup>31</sup>): Collective Research and Co-operative Research ("CRAFT"). Within these schemes, SMEs or groupings dominated by SMEs may entrust research work to solve their particular problems to research performers (research institutes, universities etc.). Ownership of the results rests with the SMEs or the SME groupings. 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 addressed.

Co-operative Research (CRAFT) is a scheme whereby a number of SMEs from different countries assign a significant part of the required scientific and technological research to 'RTD performers', for example, universities or research centres. Projects are relatively short-term: they must last a minimum of one year and a maximum of two. Other enterprises and end-users will be able to participate in Co-operative Research Projects, provided they do not assume a dominant role. The intellectual property rights of the results belong exclusively to the SME participants, but the other enterprises and end-users involved will also benefit from the exploitation of the results.

According to the impact assessment of the FP7<sup>32</sup>, this scheme has an important impact on the competitiveness of SMEs as shown by the resulting high number of commercial product and process innovations and new methods. CRAFT projects not only have a positive impact on the participating SMEs, but also benefit a larger number of SMEs while implementing the results. The qualitative benefits (e.g. access to knowledge of the partners, extension of technology and business networks) are considered very important. There is however need for taking a closer look at the effects of participation modalities on research-intensive SMEs, in particular start-ups, as it could open up possibilities to increase the impact of the actions targeted at SMEs.

Collective Research is a form of research undertaken by RTD performers on behalf of Industrial Associations/Groupings in order to expand the knowledge base of large communities of SMEs and to improve their general standard of competitiveness. They will be substantial Europe-wide projects lasting between two to three years. An 'SME core group' should contribute to the project, from the definition phase to the dissemination of the final results. The intellectual property rights belong exclusively to the Industrial Associations/Groupings, while the SME core group benefits from the exploitation of the results.

SMEs were encouraged to participate in the activities implemented under the priority thematic areas within Networks of Excellence (NoE), Integrating Projects (IP), and specific targeted research projects (STREPS) (31% of the total SMEs participation in FP5). Concerning NoE, IP and STREPS, project applicants were asked to explain in their proposal how SMEs can best be involved to achieve the project's objectives.

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<sup>&</sup>lt;sup>31</sup> EURAB, "Report and Recommendations on SMEs and ERA", May 2004: http://ec.europa.eu/research/eurab/pdf/eurab 04 028 sme\_era.pdf

<sup>&</sup>lt;sup>32</sup>SEC 2005 430, COM(2005) 119, Commission staff working paper, "Annex to the Proposal for the Council and European Parliament decisions on the 7th Framework Programme (EC and Euratom), Impact assessment and ex ante evaluation"

In addition, special attention has been given to areas, which are particularly relevant to SMEs. SMEs were also encouraged to form associations or groupings as an alternative route for those SMEs that might not be able to participate on their own in the new instruments. Nevertheless the report of the expert panel on the mid-term review of the new instruments of the FP6 (Marimon report 2004)<sup>33</sup> precisely pointed to difficulties for SMEs wanting to be involved in Networks of Excellence or to their disadvantaged positions in Integrated Projects.

Under the FP5, less than 15000 SMES participated<sup>34</sup>. Over an operational period of about four years, FP5 reached about 1 SME in 650. According to the impact assessment of the FP7, since FP4, the quantitative targets to SME participation have rapidly been set at a higher level (5-15% in FP4 depending on thematic area, 10% for FP5). In FP6, at least 15% of the budget of the first and second Specific Programmes has been foreseen for research performing SMEs. Their level of participation in FP6, was overall around 13% in the first calls, but varied among the different priority thematic areas, depending also on the level of SME activity and mobilisation in each area or sector.

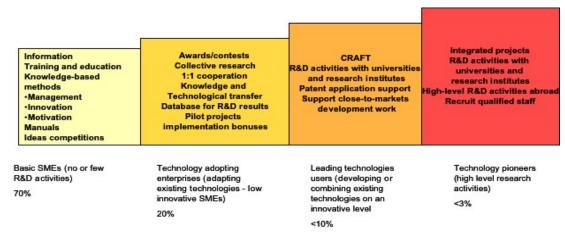
**Table 3: Effectiveness of FP6 instruments** 

	FP6 (new instruments)	FP6 (all instruments)
Average EC contribution requested	12 M	6.2 M
Average number of participants	32	17.5
Financial oversubscription rate	7 (IP) - 9.5 (NoE)	7.3
Participation rate of SMEs	13%	16%
Participation rate of industry	34% (IP) - 10% (NoE)	23%
Participation rate from new MS and Accession Countries	6-7%	7%

Source: Marimon R. (2004): Evaluation of the effectiveness of the New Instruments of FP VI

In its 2004 recommendations on SMEs and the ERA, the European Research Advisory Board (EURAB)<sup>35</sup>, proposed to take account of the differences between different types of SMEs as illustrated in the following diagram<sup>36</sup>.

Figure 5: EURAB proposal for a "SME research stairway"



Source: EURAB, "Report and Recommendations on SMEs and ERA", May 2004

<sup>&</sup>lt;sup>33</sup> Marimon R. (2004), "Evaluation of the effectiveness of the New Instruments of Framework Programme VI, Report to the European Commission", 2004 See: <a href="http://cordis.europa.eu/fp6/find-doc-general.htm#moni">http://cordis.europa.eu/fp6/find-doc-general.htm#moni</a>

<sup>&</sup>lt;sup>34</sup>DG Research does not count individual participating enterprises, but "participations", i.e. a firm is counted once each time for each project in which it participates. Thus, an SME which participates in three FP-funded projects is counted three times. <sup>35</sup> EURAB - a high-level, independent, advisory committee created by the Commission to provide advice on the design and implementation of EU research policy

<sup>&</sup>lt;sup>36</sup> For an overview on the opinions of key stakeholders on the three programmes considered in this study, see annex 4

The 2005 FP6 Monitoring Report<sup>37</sup> is damning in this respect. From the SME perspective, it seems that FP6 has tended to address mainly technology pioneers, even though most industrial innovation takes place and is used by technology adopters and leading technology users. Moreover, the participation of SMEs in FP6 projects has become more difficult because of the characteristics of the new instruments (large-scale budgets, high areas more oriented to fundamental research, duration, etc.). The panel considers that the FP6 instruments are too big and far too complex for SMEs.

## 3.1.2 SME support: from the MAP to the CIP

Turning now to the **CIP**, it is clear that a major part funding of both the current programme and the previous MAP initiative is concentrated on financial support for SMEs. The MAP 2001-2005 budget amounted to around 450 million Euros. The structure of the programme followed a specific Community intervention logic aiming at addressing the various areas that affect European SMEs. The diagram below summarises the intervention logic.

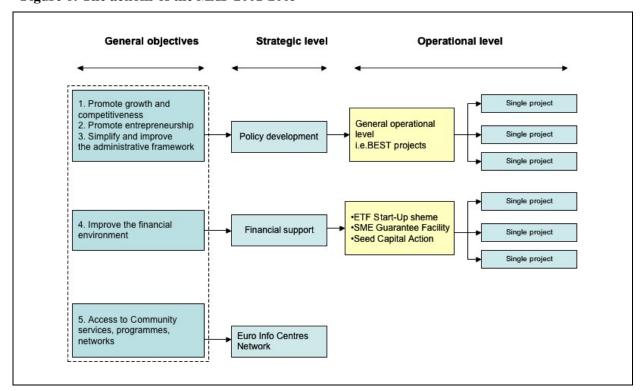


Figure 6: The actions of the MAP 2001-2005

Source: Renda A., Schrefler L., Von Dewall F.A., "Ex post evaluation of the MAP 2001-2005 initiative and suggestions for the CIP, 2007-2013", Study commissioned by the Budget -Committee of the European Parliament, 31 August 2006

At least **two separate evaluations of the MAP** were carried out<sup>38</sup> and both highlighted that the quality of MAP outputs varied noticeably between and within pillars and produced an overall mixed result, with some actions being particularly effective and useful for SMEs, while others still exhibit a significant margin for improvement.

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<sup>&</sup>lt;sup>37</sup> ftp://ftp.cordis.europa.eu/pub/fp6/docs/monitoring-report-2005.pdf

Renda A., Schrefler L., Von Dewall F.A., "Ex post evaluation of the MAP 2001-2005 initiative and suggestions for the CIP, 2007-2013", Study commissioned by the Budget -Committee of the European Parliament, 31 August 2006 and INFYDE, Lacave Allemand & Associés consultants, "Report on a multi-annual programme for enterprise and entrepreneurship and in particular for small and medium-sized enterprises (SMEs) (2001-2005)", Commission staff working paper, SEC(2004) 1460, 2004.

The different evaluations that were conducted on the MAP have underlined several points concerning the effectiveness of SME financing instruments:

- Role of accountants and administrative offices: within the triangle of SMEs, financiers and intermediaries, the crucial role played by accountants and administrative offices in filling the finance gap was not sufficiently addressed. These intermediaries are key in solving the problem of building the much needed credit history and financial/cash flow forecasts, and could play an important role in the credit assessment process, especially for starters and young small companies.
- Substitution of credit risk from private to community level: the financial pillar was mostly meant to assist innovative and high growth SMEs in financing their activities: however, the lion's share has been directed to traditional companies. This raises the issue of substitution of credit risks from the private sector to the community level. Traditional companies normally gain access to finance more easily than innovative or high growth companies with fluctuating cash flows. While access to finance was most probably made significantly easier, it is impossible to conclude that financial intermediaries actually took more risks than they would have done without the existence of the Programme and that a significant number of companies with significant potential could enter the market thanks to the MAP financial instruments. Risk profiles have not been changed: beneficiaries have not invested in or provided guarantees to "more risky" companies, except probably for financial intermediaries that benefit from SMEG (SME Guarantee Facility) micro-credit (disadvantaged target groups).
- Coordination between MAP and other Community initiatives targeting SMEs (e.g. Structural Funds, Research Framework Programmes) was not always smooth. In some cases, unnecessary overlapping has been observed, for example between existing support networks or between the scope of financial instruments and other Community funding schemes. In other cases, intervention gaps were not filled or there was insufficient feedback between complementary actions, for example between the projects implementing the Charter for Small Enterprises and other MAP activities. This can be partly attributed to a residual lack of communication between and within competent DGs in the European Commission, a shortcoming of previous programmes that has only been partially remedied in the current MAP.

According to the ex-post evaluation of Renda et al. (2006), the effectiveness of the financial pillar of the MAP can be measured by indicators of the **leverage effect** of funds allocated by the Commission (underlying loan volume supported divided by allocated budget). In particular:

- 340 million Euros were allocated to the SMEG instrument, mobilising approximately €24 billion of investments, with a leverage effect of (70:1);
- Venture capital early stage investments under the ETF-SU scheme totalled 170 million and mobilised €0.85 billion investments, with a leverage effect of (5:1).

In total, €510 million of MAP financing led to around €25 billions of investments, with an average leverage effect of (20.4:1). The table below shows the leverage effects of the loan, micro-credit and equity guarantee windows of the SMEG instrument at the end of 2005. These results suggest that the financial instruments pillar prove to be effective over the 2000-2005 period.

Table 4: Leverage effect at 31 December 2005 in terms of estimated volume of loans

	Allocated budget (signed) million EUR	Estimated underlying loan volume supported million EUR	Maximum EIF Guarantee Amount million EUR	Leverage effect  loan volume / allocated budget
Loan guarantee window	173,8	12 352,5	3 624,1	75
Micro-credit window	32,1	259,1	177,6	8,1
Equity guarantee window	17,3	306,3	89,4	17,7
Total	223,2	12,917,9	3,891,0	60,34

Source: European Commission, MEMO/06/259, 30 June 2006

The SMEG reached approximately 178,000 beneficiaries, of which about 166,000 SMEs, over a period of 4-5 years covered by the MAP and its predecessor, the Growth and Employment Initiative, which ran from 1998 to 2000. These figures continued to improve over time, with 192,000 SMEs beneficiaries in 2005 (Infyde, Lacave 2004).

According to the evaluation of the MAP conduced by Infyde and Lacave in 2004, SMEG and ETF-SU have made a strong contribution to improving the financial environment for business, especially SMEs, through addressing well identified market gaps and/or failures. Both help to alleviate risk for financial intermediaries, consequently facilitating SME access to finance, and have a high leverage effect:

- ETF-SU (European Technology Facility Start-Up), besides its leverage effect, gives "legitimacy" to funds supported, and, to some extent, to SMEs in which supported funds have invested. It has encouraged some Member States and regional authorities to develop policies and schemes favouring venture capital. It had a limited quantitative impact, but a strong strategic impact.
- **SMEG** has had a large impact on SMEs as well as a high leverage effect. It has allowed financial intermediaries to increase significantly the volume of loans to targeted categories of SMEs. It therefore had a rather large quantitative impact and an important strategic impact.
- SCA (Seed Capital Action) was expected to be effective by a large number of financial intermediaries, but has been of limited use so far because of the market downturn and the resulting lack of recruitment in the venture capital (VC) industry and its linkage to EIF investment (only EIF supported funds are eligible). Its effectiveness and efficiency could not be assessed in 2004. Although SCA has had a slow take-up, the evaluators were nevertheless of the opinion that it had to be maintained since it undoubtedly addressed a potential demand from VC funds (in particular early stage and regional).
- Directly managed by the European Commission, the *Joint European Venture (JEV)* was aimed at fostering the trans-national cooperation of European SMEs by financing the creation of joint ventures between enterprises from different member states operating in the same sector. In the attempt to avoid duplications in the allocation of funding because of potential overlapping with other Community programmes, JEV application procedures were conceived as extremely complex and ultimately were one of the main reasons of the programme's failure.

Table 5: Summary of findings of ex-post evaluation of MAP-Financial instruments pillar

Evaluation criteria	Positive aspects	Negative aspects
Relevance	<ul> <li>Appropriate objectives</li> <li>Coherent budget allocation mechanisms</li> <li>Coherent budget distribution</li> <li>Appropriate choice of beneficiaries</li> </ul>	<ul> <li>Insufficient action on traditional SMEs for the financial needs arising in the growth and expansion stages</li> </ul>
Effectiveness	<ul> <li>High leverages effects for SMEG</li> <li>Satisfactory leverage effects for ETF-SU</li> <li>High number of final beneficiaries reached (260 000)</li> <li>Micro-credit window increased access to finance and bankability</li> <li>Increased investment by intermediaries</li> <li>Enhanced credibility for targeted actors</li> </ul>	<ul> <li>Failure of JEV project</li> <li>IST-loan guarantee window was not used</li> <li>The pari passu approach failed to stimulate private investment in venture capital instruments</li> <li>Potential of SCA could be exploited better</li> <li>Poor dissemination diminished positive spillovers</li> <li>Some lack of flexibility</li> </ul>
Efficiency	<ul> <li>Balanced allocation of funding</li> <li>Accurate analysis of the market</li> <li>Significant distortions avoided</li> </ul>	<ul> <li>Some resources were lost in complex bureaucratic procedures</li> <li>SCA budget initially overestimated</li> </ul>
Utility	<ul> <li>Easier access to finance</li> <li>Pro- and countercyclical effects</li> <li>Solid base for follow-up actions</li> </ul>	<ul> <li>Excessive focus on innovative enterprises penalized traditional sectors</li> <li>Missed support for later stage finance needs of SMEs</li> </ul>

Source: Renda A., Schrefler L., Von Dewall F.A., "Ex post evaluation of the MAP 2001-2005 initiative and suggestions for the CIP, 2007-2013", Study commissioned by the Budget Committee of the European Parliament, 31 August 2006

During 2007-2013, as has been noted above, the CIP reinforces the types of support initiatives and financial instruments offering a wider choice of funding from loan guarantees to equity and quasi equity finance and extends its support to traditional industry sectors. It is intended to be a market led initiative: the instruments are managed by the EIB and EIF and triggered by decisions from private financial backers and financial institutions. It mostly aims at facilitating favourable decisions by these organisations.

Table 6: MAP and CIP financial instruments: a comparison

MAP 2000-2006	CIP 2007-2013	
ETF Start-Ups ■ VC early-stage investments Leverage effect 5:1	<ul> <li>High Growth and Innovative SME facility</li> <li>VC funds: Early stages, expansion stages for innovative companies</li> <li>Co-investments in side-funds with business angels</li> <li>Leverage effect: 5:1</li> </ul>	
<ul> <li>SME Guarantee Facility</li> <li>Loan guarantee window</li> <li>Micro-credit window</li> <li>Equity guarantee window</li> <li>ICT window</li> <li>Leverage effect 70:1</li> </ul>	<ul> <li>SME Guarantee Facility</li> <li>Loan guarantee window</li> <li>Micro-credit window</li> <li>Equity and mezzanine guarantee window</li> <li>SMEs securitisation</li> <li>Leverage effect: 60:1</li> </ul>	
Capacity building  Seed Capital Action	<ul> <li>Capacity building</li> <li>Seed Capital Action</li> <li>Financing of partnerships with international financial institutions</li> </ul>	

Source: Renda A., Schrefler L., Von Dewall F.A., "Ex post evaluation of the MAP 2001-2005 initiative and suggestions for the CIP, 2007-2013", Study commissioned by the Budget Committee of the European Parliament, 31 August 2006

The diagram below summarises the targeting of the new CIP financial instruments per development stage of enterprises. From this it is clear that the EU level financial instruments, per se, do not necessarily directly target the 'valley of death' phase but that rather this phase is supported through policy development support to regional or national stakeholders involved in financing start-ups and spin-offs.

Risk capital Debt financing and guarantees **High Growth** Early stages SME Guarantees Intellectual property Initiative SME Micro-finance Loan Micro credit Technological Scheme Equity and Transfer Round table of Seed finance bankers and Investments SMES Securisation readiness **Business Angels** Better governance Capacity building Enterprise's revenue Public stock markets Fomal Venture Capital Funds Bank loans and guarantees Seed/early stage VC Funds Business angels Entrepreneur, friends, family Emerging growth Development Seed phase ed phase Start-up phase Valley of Death Enterprise's development stage IGHER RIS LOWER RISK EU policy development EU financial instruments

Figure 7: CIP financial measures at different stages of enterprise development

Source: <a href="http://ec.europa.eu/enterprise/entrepreneurship/financing/index\_en.htm">http://ec.europa.eu/enterprise/entrepreneurship/financing/index\_en.htm</a>

The table below summarises the expected impact of the CIP financial measures suggesting that guarantees and loans will have the widest application, while support for high-growth enterprises remains relatively restricted (some 1500 enterprises over seven years). The relative 'impact' in value added or employment terms could of course be rather different if the high-growth enterprises fulfil their promise.

**Table 7: Expected impact of CIP financial measures** 

Community Financial instruments	Number of SMEs benefited at 7 year horizon	Average cost (€)	Number of jobs maintained or created at 5 year horizon	Average cost (€) to the EU budget per job created or maintained
Venture capital for Growth and innovative SMEs: early stage	674	300 000 (600,000 for eco- innovation)	35 048	6 362
Venture capital for Growth and innovative SMEs: expansion stage	526	500 000 (750 000 for eco- innovation)	27 352	10 420
Guarantees and counterguarantees for SME loans	315 750	1 330	315 750	1 330
Capacity building (Grants accompanying credit lines from international financial institutions	10 000	25 000	n.a	n.a.

Source: Impact analysis of SME finance instruments of the CIP – source SEC (2005) 433 – Annex to the proposal for a Decision on the CIP

In conclusion, available evidence suggests that the efficiency of CIP SME finance instruments will depend on their integration in regional policy development; and if past experience is to be believed attempts through CIP to promote improved private equity finance could be undermined by the provision of grants to SMEs by regional authorities through the Structural Funds.

### 3.1.3 SME support through the Structural Funds

Finally, the orientations and programmes of the past 2000-2006 and current 2007-2013 programming periods of the **Structural Funds** obviously give a strong focus on support for SMEs and notably on financial engineering instruments.

Evidence on the extent to which past Structural Fund investments in investment and venture capital type funds (or other forms of financial instruments) is limited and patchy at best. According to the country level analysis for the above-mentioned Strategic Evaluation, a significant number of EU25 regions have investment or equity funds but their effectiveness has been questionable so far. More recently, seed-capital and venture capital funds have been created in some regions with public contribution and with the objective of supporting innovative companies at early stage, such as in the Italians region Lombardy; or in the Netherlands, where regional innovation funds have been created. Few of these funds have attempted to apply for support from the EIF through other Commission programmes.

In general, analysis suggests regions have poor capacities in designing and establishing financial engineering schemes and an 'equity culture' is not much developed at regional level, in spite of increasing support to business angels' networks.

Despite the limited and inconclusive evidence, the 2007-2013 Cohesion Guidelines continue to place a significant emphasis on actions to facilitate access to finance as a key ingredient for the promotion of knowledge and innovation. The guidelines do stress that "risk capital markets related to innovation activities need to be developed in conjunction with a better regulatory environment that makes entrepreneurship easier", and hence a potential direct synergy to CIP type activities could be expected.

The Guidelines for Cohesion policy do not especially 'limit the field' of what Structural Funds resources can be used for defining the possible actions to include:

- Supporting non-grant instruments such as loans, secured debt financing for subordinate debt, convertible instruments (mezzanine debt) and risk capital (e.g. seed capital and venture capital).
- Guarantee and mutual guarantee mechanisms should also be supported, in particular to facilitate access to micro-credit by SMEs.

DG REGIO clearly expects that regions will make use of the facilities offered by the EIB and the EIF notably "in order to develop financial resources in areas where entrepreneurship is hampered by market failures owing to the high risks associated with RTD activities". However, as with the CIP, "private equity and venture capital, and rotating funds for innovative start-ups should play the essential role as an engine for entrepreneurship, innovation and job creation"; and the priority should be to create or expand specialised providers of risk capital and bank guarantees, where there is market failure.

Such recommendations are all well and fine, yet as a recent strategic evaluation for DG REGIO concluded financial engineering initiatives require a certain scale to generate sufficient 'deal flow', mobilise funds (e.g. from business angels or strategic investors) and expert advice, etc. Creating a high-tech venture fund in every European region is not a solution to the structural weakness of the European venture capital market. Yet, many Structural Fund innovation measures have continued to ignore this reality and encourage an inward looking dynamic of regional actors.

Secondly, the need to provide an integrated package of support, starting with training prior to the business start-up or expansion is underlined and as an exception the preference for nongrant instruments, "Grants should be used to build and maintain infrastructures that facilitate access to finance (e.g. technology transfer offices, incubators, "business angels" networks, investment readiness programmes)". Hence, the supporting environment for finance continues to be promoted but again in a way that gives complete latitude to regional planners in limiting (or not) their choice of actions.

Here there are clear potential synergies with the Europe Innova and Pro-Inno networks of 'innovation and financial practitioners' under CIP which are intended to exchange good practice and 'professionalize' such actors in regional and national systems.

# 3.2 Improving regional competitiveness

## 3.2.1 Innovation and knowledge in the Structural Funds

The Structural Funds aim to reduce regional disparities, mostly in economic terms, while the aim of FP7 is to promote excellence in research. Nevertheless, regional disparities can be identified in:

- research facilities, strength and output,
- structural differences such as infrastructures,
- innovation capabilities,
- relationship between different stakeholders/factors of the innovation chain, such as within regional clusters.

The technical specifications for the study noted that the issue of interest in this respect are how FP7 and CIP can work together and supplement the Structural Funds to:

- improve the competitiveness of regions,
- disseminate excellence across regions between different actors in the innovation system.

Various recent studies have underlined that regional disparities in 'research and innovation' capacities and potential remain significantly different. The recently published Regional Innovation Scoreboard 2006 highlights significant differences in regional innovation performance.

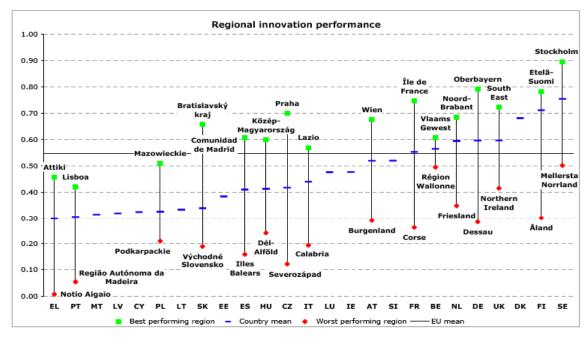


Figure 8: Regional Innovation Performance 2006

Source: http://www.proinno-europe.eu/pdf/eis\_2006\_regional\_innovation\_scoreboard.pdf

Similarly, a recent 'strategic evaluation' carried out by DG REGIO analysed indicators for innovation potential in 220 plus regions across the EU and proposed four key types of regions, based on the similarity of the policy challenges expressed in terms of innovation and knowledge.

#### Box 3: Four types of knowledge regions for SF support for innovation and competitiveness

The **Global Consolidation Regions** (for instance, Copenhagen, Ile de France, London, Prague, Stockholm, Vienna, etc.) regions bring together what could be described as the crème de la crème of Europe's innovative regions. These regions are clearly well above the average for all four factors as well as GDP/capita with the exception of the private technology factor where they are close to the EU average. Their main challenge is to continue to compete at a global level in terms of attracting and retaining highly skilled knowledge workers,

The **Sustaining Competitive Advantage Regions** (for instance, Baden-Württemberg, Flanders, Ireland, Piemonte, Rhône-Alpes, Salzburg, Scotland., etc.) are relatively strong on private technology (reflecting the industrial tissue and heritage of these regions) and on learning families but much weaker in public knowledge and urban services (suggesting a difficulty to restructure towards more knowledge based services.

**Boosting entrepreneurial Knowledge Regions** (for instance, Athens, Berlin, Bratislavasky, Catalunya, Lisbon, Midi-Pyrénées, Warsaw, Wallonia., etc.) are strong on public knowledge and relatively competitive in terms of urban services but need to boost private technology and in particular learning family drivers of their knowledge economies

**Entering knowledge economy regions** (the majority of the Convergence regions' on the southern and Eastern rims of EU) are faced by different possible trajectories to bringing their economies and societies towards. A number of the Eastern convergence regions could expect to make rapid strides towards higher technology activities based on their current skills base, increased investment in knowledge and attracting more research intensive industries. On the other hand, the knowledge economy model for the more rural areas is likely to be driven by access to improved ICT networks, innovative tourist products and reconversion of agro-sectors towards new products (biofuels).

Source: Technopolis, Strategic Evaluation of Innovation and Knowledge in the Structural Funds; 2006;

It is clear that if such regional differences in knowledge creation and innovation potential do matter, they need to be taken into account in developing EU policies in order to avoid perpetuating the cohesion gap. At the same time, creating and maintaining a number of European "poles of excellence" (normally metropolitan regions concentrating a critical mass of know-how in one or more technology fields), is important for the EU's ability to compete on a global level. So on one level, the cohesion versus excellence debate appears to remain alive.

I firmly believe that if we want to stimulate growth and employment we must mobilise commitment and resources throughout the Union. The EU budget should therefore consist of various instruments whose common denominator is their contribution to growth and employment, whether it be through centrally-run programmes like the Framework Programme for Research or via joint programmes like the cohesion policy. It is high time we stopped talking in terms of competitiveness versus cohesion, excellence versus redistribution, growth versus convergence. The debate is misplaced, and we need to move on. However, if these policies are to make a difference we need adequate financial resources.

José Manuel Barroso, Les régions en tant que moteurs de croissance; XXième anniversaire de l'Assemblée des Régions d'Europe; Strasbourg, 24 November 2005

However, as the above quote from the European Commission president suggests, the debate about the need or not for the inclusion of cohesion as a criteria alongside excellence in the distribution of EU research funding could be considered as "passé" in the context of the Lisbon objectives and the need for all EU policy instruments (centrally run or 'decentralised') to contribute to improving competitiveness.

Yet, as a recent study has pointed out, in reality, the debate continues to simmer below the boiling point and remained a topic for arguments between different Member States and various sets of stakeholders during the approval of the financial perspective for 2007-13<sup>39</sup>.

According to J. Potocnik, the European Commissioner for research<sup>40</sup>, achieving synergies means "working in a complementary mode; using different instruments and policies towards largely similar objectives. It goes without saying however that research policy will continue to be driven by excellence, and regional policy by the principle of cohesion." The central goal for FP7 should be the progress in building the European Research Area and achieving the Lisbon Strategy<sup>41</sup>. Yet, this type of statement perpetuates the notion that investment in knowledge infrastructure or R&D projects in "less-favoured regions" should be made on the basis of other criteria than excellence, for the "sake of cohesion". It also ignores a more sophisticated multi-geometry of regional potential based on a broader range of indicators other than R&D expenditure.

National competitiveness policies have in a monetary union potential 'beggar-thy-neighbour' implications. At the same time the ERA is regarded as a "race to the top" because the European targets are translated in national targets and benchmarks. However there is a growing need for a bottom-up approach with the regional diversity being a factor for knowledge activation policies. Although Europe is a unique laboratory of regional development policies, social cohesion aims are being questioned now...a diversity of regional development is a reflection of mixture of factors, one of which is agglomeration effects, i.e. population density is closely linked to knowledge activities. Also, cluster effects have both positive and negative features. The social cohesion implications of the ERA are under-researched: (since they imply) massive internal EU movement of highly skilled people, i.e. the Mathews effect (those who are strong get even stronger).

Prof. Luc Soete, MERIT, University of Maastricht (NL)

It is clear that in this context, the challenges for the three programmes in co-ordinating a reasoned approach to R&D infrastructure investments, support to regional innovation strategies, etc. that balance the cohesion versus excellence issues if they are to favour the adoption of a more sophisticated policy mix for research and innovation. The rest of this section reviews what the three programmes are doing to promote such policies, individually (with the risk of overlaps or gaps) or in a complementary fashion.

During 2000-2006, the DG REGIO guidelines for the Structural Funds gave a greater emphasis to competitiveness, in general, and research, technological development and innovation in particular. The above mentioned Strategic Evaluation on Structural Fund investments in favour of innovation and knowledge came to the conclusion that, during 2000-2006, approximately 10,198 million EUR was allocated to RTDI initiatives by the ERDF. Although as a share of total funds, this significant absolute amount remains relatively limited<sup>42</sup>, the Structural Funds are an important contributor to national efforts in boosting R&D expenditure, especially in Objective 1 regions (from 5% to 18% of annual GERD depending on the Member State).

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<sup>&</sup>lt;sup>39</sup> Hölzl, Werner, Cohesion and Excellence: Two ways to a better Europe ? WIFO/Technology and Information Policy Consulting, April 2006

Potocnik J., European Commissioner for Science and Research, Research and Innovation – an Opportunity for Convergence Regions, Conference on Structural Funds, Warsaw, 13 February 2006, SPEECH/06/77
 Corpakis D., Head of Sector on Regional aspects of Research Policy, DG RTD - M3.1 "EU Instruments for RTD and

<sup>&</sup>lt;sup>41</sup> Corpakis D., Head of Sector on Regional aspects of Research Policy, DG RTD - M3.1 "EU Instruments for RTD and Innovation: FP7 and the interactions with the SF Knowledge and Innovation for Growth", Open Days 11.10.2005 <sup>42</sup> Some 77% of the total Community allocation for RTDI measures was devoted to Objective 1 zones, or an average planned

<sup>&</sup>lt;sup>\*2</sup> Some 77% of the total Community allocation for RTDI measures was devoted to Objective 1 zones, or an average planned spending of 4.9% on RTDI from total available EU funding. In Objective 2 zones, about 2,400 MEUR were devoted to RTDI, corresponding to 9.8% of total funds.

While unable to perform an impact analysis, or draw on good quality national or regional evaluations, the Strategic Evaluation concluded that the overall impact of Structural Fund expenditure on innovation and knowledge was still not having a significant effect on regional competitiveness. This was particularly true in the old Objective 2 zones, where funding patterns were often fragmented due to the zoning of small urban or industrial decline areas, or rural areas with little 'domestic' RTDI capacities. The analysis of this evaluation suggested that there are four key challenges (see exhibit below), in terms of content and strategic design of programmes, which need to be addressed in the 2007-13 programming period.

### Box 4: Conclusions on innovation & knowledge in the Structural Funds 2000-2006

- A greater recognition of the diversity of regional innovation potential implies distinct 'tailor-made' approaches to target setting and programming of innovative measures in Europe's regions. Many regions need to face up to the fact that they are primarily 'users' of technologies and know-how 'invented' elsewhere and focus more on developing effective policies aimed at diffusing and applying such knowledge, than building up 'advanced research infrastructure' at the risk of costly duplication and further fragmentation of the 'European Research Area'.
- There is a need to launch and test more 'complex projects' or 'multi-actor-multi-measure' initiatives with a clear focus on marketable applications of new technologies rather than R&D infrastructure based approaches to technology development and transfer. The effects of Structural Fund support for innovation and knowledge has not always been significant in terms of over-coming 'system failures' in regional innovation. A more strategic and systemic approach to focusing on key, existing or emerging, regional strengths in markets or technologies is required if Structural Fund expenditure is to lead to more radical system innovations.
- There is a need for a longer-term planning and more sustainable process of strategic management of regional innovation policies. The lack of an underlying strategic framework for Structural Fund innovation and knowledge measures in many regions is evident. In Western Europe, this has been due to a fragmented zoning map, leading to sub-regionalism and initiatives with limited critical mass or likelihood of achieving 'excellence' at European level. In the southern and eastern 'convergence' countries, Structural Funds have become or may soon become a surrogate for national innovation policies.
- There is a significant potential for exploiting the new European Territorial Co-operation Objective to create inter-regional innovation platforms. Enterprises operate in specific regional innovation environments but also are linked through (global) value chains and innovation networks to other enterprises, suppliers, providers of specialist knowledge, contract research organisations, etc. Regional administrative boundaries mean little in this context, the proximity of a technology centre important for building working relations but not sufficient (if better expertise can be found elsewhere). Equally, (the best) researchers increasingly operate in European wide networks, aiming at bringing together the required expertise and access to research infrastructure.

Source: http://ec.europa.eu/regional\_policy/sources/docgener/evaluation/rado\_en.htm

Keeping these conclusions on the previous period in mind, it is worth considering the extent to which the instruments for 2007-2013 focus on innovation and competitiveness. There has clearly been a great effort made to ensure a direct link between the Lisbon Agenda and Regional Cohesion Guidelines, notably concerning the theme of Knowledge and Innovation for Growth. Indeed, the guidelines and negotiation procedure for the NSRF and Operational Programmes imply that the impact of Cohesion Policy goes beyond the actual funding disbursed through the Structural Funds to an explicit influence on national and regional policies.

Box 5: Summary comparison between Lisbon and Cohesion guidelines

Renewed Lisbon policy (Com 2005 024)	Guidelines on cohesion, 2007-2013
A more attractive place to invest and work	Making Europe and its regions more
Extend and deepen the internal market	attractive places to invest and work
Improve European and national regulation	expand and improve transport
Ensuring open and competitive markets	infrastructures
inside and outside Europe	strengthen the synergies between
Expand and improve European	environmental protection and growth
Infrastructure	address Europe s intensive use of traditional
	energy sources
Knowledge and innovation for growth	Improving knowledge and innovation for
<b>Increase and improve investment in Research</b>	<u>growth</u>
and Development	increase and better target investment in RTD
Facilitate innovation, the uptake of ICT and	facilitate innovation and promote
the sustainable use of resources	entrepreneurship
Contribute to a strong European industrial	promote the information society for all
base	improve access to finance
Creating more and better jobs	More and better jobs
Attract more people into employment and	attract and retain more people in
modernise social protection systems	employment and modernise social protection
Improve the adaptability of workers and	systems
enterprises and the flexibility of labour	improve adaptability of workers and
markets	enterprises and the flexibility of the labour
Investing more in human capital through	market
better education and skills	increase investment in human capital
	through better education and skills
	administrative capacity
	help maintain a healthy labour force

The explicit "Lisbon targeting" and in particular the Structural Funds operational programmes must support the knowledge for growth objective with a focus of increasing capacity locally and regionally for public research and private RTD and supporting spatial integration via poles of excellence and clustering of public & private RTD within or between regions including cross-border regional integration. Through territorial co-operation objective (INTERREG C / Regions for Economic Change) a networking dimension on a pan-European scale is expected to involve practitioners and policy-makers with a focus on exchanging best practice and "mainstreaming". In this respect, the risk of 'overlap' with CIP initiatives such as Europe Innova and FP7 funding for ERANET and Regions for Knowledge initiatives needs to be considered, as is done below for the example of cluster policy networks.

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<sup>&</sup>lt;sup>43</sup> The funds must target the priorities of the European Union regarding the promotion of competitiveness and job creation (Lisbon strategy). The Commission and the Member States oversee that 60% of the expenditure of all Member States for Convergence and 75% of the expenditure for Competitiveness and Employment target these priorities.

## 3.2.2 The Research Framework Programmes and regional competitiveness

As noted above, the primary aim of the Framework Programmes for R&D is not to promote regional competitiveness in the sense of a 'geographically balanced' allocation of research funds but rather to promote research excellence. Nevertheless, under FP6, a "Bonus Scheme" was set up for participants from less-favoured regions: "In the case of participation of bodies from regions lagging in development, when a project receives the maximum intensity of cofinancing authorised under this Programme [FP6] or an overall grant, an additional contribution from the Structural Funds could be granted."

The main features of the Bonus scheme were the following:

- The Bonus scheme was open to all FP6 contractors established in an Objective 1 region;
- Applications were only accepted after the FP6 contract has been signed by the Commission;

Applications could only be made to Structural Fund Managing Authorities responsible for the programme covering the area in which the eligible organisations were located. However, as Structural Fund programmes are separate from the Framework Programme and have their own selection criteria, there was no guarantee that funds would be made available.

Despite no available evidence that the bonus scheme actually was implemented to any great extent or had an impact, it has been extended for the FP7<sup>44</sup>: "In the case of participants in an indirect action established in a region lagging in development (convergence regions and outermost regions, complementary funding from the structural funds will be mobilised wherever possible and appropriate". In the case of participation of entities from the candidate countries, an additional contribution from the pre-accession financial instruments may be granted under similar conditions.

In terms of the impact of the Framework Programmes on regional competitiveness, the evidence is again rather limited. One hint is given by a 2004 monitoring report<sup>45</sup>, which underlined that the new Member States have a lower participation rate than the older members when only the total personnel capacity of the R&D systems is taken into account.

According to this report, it is obvious that the total contracted funds are strongly related to size of country. Moreover the new Member States (except Cyprus) have systematically contracted less per researcher than the old Member States. According to the authors, it is due to the fact that the new Member States have lower GDP per capita than the old Member States (and the local costs of projects have a lower price level), but another cause lies in the structure of the contracted projects. For example, contributions to co-ordination projects and specific support actions are usually lower than contributions to research (thematic) projects themselves.

The report gives a clear message: new Member States may obtain more resources from European research funds for their teams, if they invest a higher percentage of their GDP into their own R&D systems. It also appears that the new Member States have a ratio of total funds contracted in FP6 to GERD significantly higher than the EU-15 Member States.

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<sup>&</sup>lt;sup>44</sup> Decision N°1982/2006/EC of the European Parliament and of the Council of 18 December 2006 concerning the Seventh Framework Programme of the European Community for research, technological development and demonstration activities (2007-2013)

<sup>(2007-2013)

45</sup> Albrecht V., Klusacek K., "FP6 – an instrument for balancing R&D spending in the member states?", in Monitoring 2004, "Implementation of activities under the EC and Euratom framework and corresponding specific programmes", August 2005

The conclusion of the authors of the report is that Structural Funds appear to be a more suitable and powerful instrument for building research capacities in regions with weaker starting positions than the FPs.

Within FP7, the Capacities Programme appears to be the programme most directly relevant to regional policy makers and to support elements of importance for regional development and investment in knowledge infrastructure. Indeed, one of the aims of the programme is "to find synergies with regional and cohesion policies, the Structural Funds, education and training programmes and the Competitiveness and Innovation Programme (CIP)".

Table 8: Specific measures under FP7 in favour of regional competitiveness

FP7 Sub-programme	Work programme content linked to CIP and SF	Complementarities with CIP and SF
Regions of knowledge and support for regional research- driven clusters	Supports Regional research driven clusters through  Preparatory work  Networking of actors  Joint strategies between clusters  Mentoring by and for clusters	The support is supplementary to the initiatives taken by Regions under SF to support a research driven cluster and requires their approval (as leading public sector entity involved) and participation
Research potential of Convergence Regions	Support to Research centres in Outermost and Convergence Regions Partnering with established centres of excellence in the same field elsewhere in the EU including:  2 way Secondments & recruitments of staff from the other centre; Acquisition, development or upgrading of research equipment for Organisation of workshops and conferences to facilitate knowledge transfer at regional, national and international level	The support is supplementary to the initiatives taken by Regions under SF to support research centres – These have to provide as part of their proposal to FP7 – a detailed explanation of the articulation of the proposed actions with the activities supported under SF Funding

As regards actions in the 'research infrastructures' part of the 'capacities' programme of the Seventh Framework Programme, the detailed funding arrangements for these will be defined with a view to ensuring that there is effective complementarity between community research funding and other Community and national instruments, notably the Structural Funds.

However, this promise of 'effective complementarity' is not as obvious as could be expected. As noted in the previous section, a recent CREST working group has set out a number of guidelines for co-ordinating FP7 with the Structural Funds in order to "support research and development" The working group highlight an important aspect related to the realisation of synergies, namely that coordination between the two instruments can only occur effectively by their funding complementary activities. CREST views this as being essentially an issue of adequate planning by regional and national authorities so that 'synergies' with FP7 are factored into the programming cycle of operational programmes:

<sup>&</sup>lt;sup>46</sup> CREST (2007), ibid.

In the case of SF this must be specifically foreseen in the strategic or operational programmes of the countries/regions willing to coordinate the two instruments, as part of the more general national/regional strategy for socio-economic development. FP and SF can thus finance different sets of actions and related costs, in such a way that they mutually reinforce their effects and help to achieve better and more sustainable results. This is the only possible coordination option, as double-funding from different sources or co-financing with different EU Community funds of the same expenditure is prohibited.

This conclusion while valid is rather 'unilateral', it assumes that Structural Funds need to adapt to the thematic logic of the FP7, begging the question as to what regions which decide their research themes are different from those defined by FP7 can do to access and participate in European networks of (excellent) research. It also poses an issue of 'temporal coherence', regions should have planned in at an early stage appropriate investments in knowledge infrastructure or regional research priorities, allowing them to leverage additional research infrastructure or research project funds from FP7. A reality check, and past experience, suggests this is unlikely to happen.

Various interviews with DG REGIO officials during the first quarter of 2007, highlight the weaknesses of regional research and innovation strategies being put forward in the framework of draft operational programmes. In many cases, the Structural Funds are being asked to intervene to provide 'complementary funding' to research infrastructures without the OPs providing any real justification of the important of such investments even from a 'research excellence' perspective. In the case of France, for instance, this has led DG REGIO and the French Ministry of Industry to impose on all French regions an obligation to undertake or update research and innovation strategies in order to create a 'pipeline' of better justified projects in this field.

# Box 6: CREST recommendations for the coordinated use of FP7 and SF support to R&D

**Develop RTDI strategies and strengthen the governance:** A comprehensive RTDI strategy is an important tool to undertake and coordinate actions – and actors – for the development of an RTDI system. FP and SF offer support for the development, implementation and assessment of RTDI strategies, taking into consideration also a coordinated use of FP and SF.

**Strengthen and develop the RTDI basis:** Human resources and research infrastructure are two central pillars for the development of RTDI systems. SF contribute to build, mainly in less developed regions, the physical and human capacity to undertake research, while FP7 connects regional actors to European and global knowledge communities.

**Develop RTDI excellence:** Developing the quality of the RTDI system to the level of international competitiveness is essential. Both FP and SF offer opportunities to build up excellence, with FP focusing on promoting European and international collaboration of excellent quality and SF on strengthening the research and technological development capacities.

**Develop R&D cooperation at European and international level:** The sustainable efficiency of RTD systems needs connections to international networks and trends at European level and beyond. The coordinated use of FP and SF provides opportunities to this respect.

**Strengthen the exploitation and economic utilisation of R&D results:** To achieve the aims of the Lisbon strategy, it is important to develop new products, processes and services from research knowledge. Valorising results and transferring knowledge to the economy can become more efficient when using FP and SF in a coordinated way.

**Improve communication and information:** Crucial elements for better coordination of FP and SF – aswell as for the whole functioning of the RTDI system – are information availability and good communication among actors. These are needed to establish links between the FP and SF "communities" and are preconditions for better coordination.

Source: CREST Working Group Report on FP7 and the Structural Funds, April 2007

### 3.2.3 The CIP: supporting regional competitiveness?

Under the previous programming round, actions supported by DG Enterprise were split between the multi-annual programme for SMEs (MAP) and activities supported under the Innovation Programme (a sub-programme of FP6, hence technically funded by EU research funds, administered however by DG Enterprise rather than DG Research). MAP did not focus extensively on regional competitiveness per se. The evaluation of MAP (Lacave Allemand/INFYDE) did however point out that in the enlarged EU a majority of regions are Objective 1 and that MAP Financial Instruments are in competition with grants from Structural Funds (and that in addition, Structural Funds are far better known than the corresponding MAP instruments).

Accordingly, the evaluation made a number of recommendations concerning the MAP and future CIP instruments and notably recommended a stronger co-operation between DG Enterprise and DG REGIO for combining properly Structural Funds support through grants with the CIP Financial Instruments and preventing competition, through a clearer distribution of tasks: MAP Financial Instruments focusing on improvement of the financial fabric and access to finance for SMEs with a market-driven approach; DG Regio in charge of regional development and providing initial equity to funds. Moreover, the evaluators argued that the variety of administrative traditions, size, financial market structures (debt and equity finance) in new member states may require measures (especially financial instruments) to be differentiated and more flexible in a future multi-annual programmes.

Under the MAP policy pillar, the evaluators considered that actions (such as BEST action) had more direct influence on national policy makers and experts who participated in specific MAP actions, than stakeholders from regional levels. However, the under the parallel Innovation Programme a number of measures also targeted the regional level notably networks and exchange of good practice such as: Innovating Regions in Europe (IRE), economic and technological intelligence projects and the PAXIS (Regions of Excellence) action; as well as to some extent actions aimed at putting services in place and consolidating them such as the Innovation Relay Centres (often involving regional agencies and helping to professionalise them).

Aside from the CIP financial instruments discussed in the previous section, its main output in favour of regional development is likely to be in the form of contributions to policy design and support to implementation. As such, it is a toolbox for policy development by national and regional (and to a lesser extent, local) authorities, but a toolbox as noted earlier in competition with actions funded under the inter-regional co-operation measures of the Structural Funds and to a lesser extent with the ERANET type projects of DG RTD.

### 3.2.4 EU support for European cluster networks: a tangled web?

All three programmes provide (and indeed provided during previous 2000-2006 period) direct financial support for networking of (national and regional) practitioners and policy-makers on specific themes related to competitiveness, innovation, R&D, cluster policies, etc. In the field of clusters policies in particular, there appear to be a significant and potentially inefficient multiplication of networks developing.

## Structural Funds: INTERREG C and Regions for Economic Change

- Under INTERREG IIIC, a simple search using the key-word "cluster" on the http://www.interreg3c.net site yields a total of 29 actions more or less focused on cluster issues ranging from Regional Framework Operations to networks to individual projects (involving a few regions, such as the STRATINC project);
- Under the new territorial co-operation programmes (INTERREG IV) for 2007-13, clusters, innovation, SME policies, etc. remains a key theme of expected actions as clearly stated in the regulation. The thematic approach promoted via Regions for Economic Change will maintain a focus on inter-regional networking related to clusters.
- Indeed, one of the INTERREG IIIC networking actions, CLOE, has been selected by DG REGIO as the first 'fast-track' network under the Regions for Economic Change initiative, and the current limited partnership will be extended in this framework. At the same time, partners from CLOE are also involved in a parallel cluster policy 'best practice' INNO-NET project (CLUNET) under PRO-Inno Europe.

#### CIP: Europe Innova and PRO-Inno Europe

- Policy development and learning networking activities and analysis on clusters in Europe is strongly supported under the two parallel platforms of DG Enterprise focusing on innovation.
- Europe Innova supports 12 cluster networks in a variety of sectors as well as 10 financing networks also with a strong sectoral/cluster theme. A major mapping exercise is also being undertaken with mapping of clusters at regional level in the EU10 (new Member States) complete and work on the EU15 underway. The High Level Advisory Group on clusters was established in December 2006 under the Europe INNOVA Initiative
- PRO-INNO Europe further support networking and exchange on clusters. Four INNO-Nets projects (BSR Network, CEE-ClusterNetwork, CLUNET, INNET) are funded since 2006 bringing together more than 50 partners, involving ministries, regional development agencies and innovation agencies, and deal with the development of joint activities between partner organisations.
- Moreover, a European Cluster Alliance is being supported as an umbrella initiative that brings together a number of cluster initiatives supported under the PRO INNO Europe and Europe INNOVA initiatives with the objective to facilitate the emergence of world leading clusters in Europe. This work will be facilitated and further complemented by the preparation of a European Cluster Memorandum that will set the priorities and identify areas for action. The Memorandum will be politically endorsed at a European Cluster Conference that will be organised in cooperation with Europe INNOVA stakeholders. This conference will be hosted by the Swedish government in November 2007.
- Finally, it should be noted that a range of networks and inter-regional co-operation projects (of a generally smaller scale than INTERREG, etc.) have also been funded under the umbrella of the Innovating Regions in Europe (IRE, http://www.innovating-regions.org/) network, supported by DG Enterprise through the Innovation Programme. Again a number of these have focused on clusters or related themes.

### DG RTD: Regions of Knowledge and ERANETS: research intensive clusters

- Under the Regions of Knowledge pilot action (2003), initiated at the explicit request of the European Parliament, at least three of the 14 pilots concerned clusters (BRIDGES, Baltic Sea-KR, Demand Knowledge) and there was a supporting action on this theme (NEKS: Network, knowledge Sharing and cluster development);
- While under Regions of Knowledge 2: an additional 18 projects were launched in 2006 with the aim to promote increased and improved regional investment in research and development through mutual learning, coordination and collaboration between regional policies and initiatives. In this case, the focus on clusters is less evident (one project description, RICARDA, mentions the term explicitly) but the overlap with actions funded under INTERREG C or CIP remains strong on the RTD investment theme.
- ERANET projects concern ostensibly the national level, but regional policy-makers are increasingly involved notably from countries where research (and innovation) policies are managed regionally. In general, it appears there is little overlap with the other activities although one or two of the projects do mention clustering as a sub-theme.

Summing up, it seems that despite publicly stated objectives of officials from all three services that this significant amount of funding for parallel, often 'on-paper' overlapping, networks should seek to avoid 're-inventing the wheel', the risk of duplication of effort (and hence of financial support) appears significant. At the very least, there appears to be limited value added (at European or lower levels of governance) in all three Commission services running actions aimed at networking practitioners and policy-makers in such closely related thematic fields.

### Box 7: Regions for Economic Change - consolidating exchange of experience?

Regions For Economic Change will focus two existing instruments of European Regional Policy – the Interregional Cooperation programme and the Urban Development network programme – around economic development themes set by the Commission and coherent with the Community strategic guidelines on cohesion. It will function within the framework of the new European Territorial Cooperation Objective2. The two instruments will in total have a budget of € 375 million in 2007-2013.

Regions For Economic Change will introduce a number of novelties:

- Regions and cities will continue to have the possibility to form and manage their own networks but will also be asked to do so around themes selected to connect Union policies to the modernisation agenda. The Commission will, through a coordinated effort by its services, and in cooperation with Member States, set out the themes to be pursued.
- A new fast track option will provide a rapid testing ground for policy ideas emanating from Commissioners and their services. Within this option, the Commission will be the prime mover in setting up the network of volunteer regions and cities and animating the programmes (see paragraphs 7 and 8).
- There will be a "two-way bridge" between thematic development and mainstream European Regional Policy programmes. Through this "two-way bridge" projects tested under the € 375 million budget of the Regions For Economic Change instruments will be rapidly disseminated into mainstream programmes

Source:http://ec.europa.eu/regional\_policy/cooperation/interregional/ecochange/documents\_en.cfm?nmenu=2

Although the RFEC initiative (see exhibit above) is expected to both structure inter-regional networking around Lisbon themes and provide a "two-way bridge", past experience tends to suggest that channelling inter-regional actions in a specific direction is not always as easy as stating it on paper.

# 3.3 Synergies, gaps and overlaps: key conclusions

## 3.3.1 Key conclusions on SME support and financing

Taking stock of the analysis of this chapter, the matrix below attempts to summarise the way in which the three instruments, or specific actions, target the different types of SMEs proposed in the EURAB report. For sake of clarity, the information in the cells for each programme is illustrative notably for the Structural Funds.

In summary, the analysis of gaps versus overlaps for financing measures of innovation SMEs suggests that on one level, the Structural Fund programmes could technically provide support for all types of firms financing needs.

Table 9: summary of actions targeting different types of SMEs

	Structural Funds	FP7	CIP
Technology pioneers	<ul> <li>ERDF support for seed capital funds, technology incubators, etc.</li> <li>Funding for industrial R&amp;D projects, cooperation initiatives with knowledge institutes</li> <li>Indirectly from research infrastructure investments</li> </ul>	<ul> <li>Essential beneficiary of SME related financing under FP6 (and likely under FP7)</li> <li>Indirectly from research infrastructure investments</li> <li>Involvement in Technology Platforms</li> </ul>	<ul> <li>High growth innovative SMEs scheme</li> <li>Indirectly through policy development for business angels, etc.</li> <li>Clusters networks in fields like biotech, etc.</li> </ul>
Leading Technology users	<ul> <li>Funding for industrial R&amp;D projects, cooperation initiatives with knowledge institutes, technology transfer and IPR actions</li> <li>Regional technology platforms</li> </ul>	<ul> <li>Involvement in CRAFT and other SME instruments</li> </ul>	<ul> <li>Possibly High-Growth Innovative SMEs scheme</li> <li>SME guarantees (loans)</li> <li>Technology transfer and IPR advice via IRCs, etc.</li> </ul>
Technology adopting SMEs	■ Technology transfer actions, technology and innovation centres providing advisory services, ESF training in advanced technologies, etc.	<ul> <li>Limited involvement, mainly beneficiary of dissemination actions.</li> </ul>	<ul> <li>SME guarantees (loans)</li> <li>Technology transfer via IRCs</li> <li>Guarantee and loans</li> </ul>
Basic SMEs	<ul> <li>Business support services and business development grants</li> <li>Availability of industrial zones and services</li> <li>ESF training actions, Etc.</li> </ul>	■ Not targeted	<ul> <li>Not targeted directly, potentially indirectly via policy development in favour of non- technological innovation</li> </ul>

The main issue arising appears to be the involvement of leading technology users and technology adopting SMEs in European level actions. One obvious type of action that has begun to be funded under the Structural Funds is the development of regional technology platforms enabling these types of regional firms to be informed of and eventually integrate actions of the European technology platforms.

## 3.3.2 Key conclusions on regional competitiveness and clusters

Identifying policy 'gaps' in the field of regional competitiveness is not a simple task because the Structural Funds guidelines provide a rather large leeway for regional and national policy makers to implement a wide-ranging set of initiatives. The major issues requiring attention are:

- on the one hand, the need to improve the understanding of the relative effectiveness of measures in favour of research infrastructure financed under FP7 versus the considerably greater funding available through the Structural Funds for potentially identical types of investment;
- the overlapping of actions in favour of inter-regional networking funded under all three programmes in the broad field of research and innovation policies and notably clusters. All of which tend to target both the same type of target group and the themes leading to a significant risk of duplication of effort.

The Strategic Cohesion Guidelines encourage specific support to the networking of RTD activities such as financial support and funding for expert guidance aiming a stimulating participation of local players in activities funded under FP7, CIP or other Community programme. This, however, is a matter of implementation decided by regional authorities receiving the funds and national authorities overseeing the planning. Such initiatives are part of a multi-annual programming cycle and depend on the timely delivery to regional decision-makers of information on the content of FP7 and CIP work-programmes and the prospects for participation of players in the region.

In reality, a key role is likely to be played by decision makers in large or technologically advanced regional firms and major public/academic research institutions, notably when they are involved in the structured development of 'regional competitiveness poles'. In these cases, the direct benefit of coordination of funding opportunities available at regional, national and European levels is most obviously logical and feasible from an operational point of view. For instance, this can be done by financing actions through the Structural Funds linking 'regional technology poles or platforms' to the ETPs and the future Joint Technology Initiatives of FP7.

# 4. THE ROLE OF STAKEHOLDERS

# 4.1 From programme design to implementation

As noted in the introduction, it appears insightful to view the possible interactions between different groups of stakeholders in the programme management cycle, both within a single programme and in terms of the operational level synergies that stakeholders and beneficiaries may seek to develop. This involves developing an understanding of the different types of stakeholders who are active in the programmes, at different stages of the programming cycle. A simplified conceptual approach is sketched out below illustrating the possible ways in which the three programmes fund or encourage co-operation amongst groups of stakeholders.

Private
financial bodies
(Business angels, seed-funds and venture capital, banks)

Framework conditions

SMEs

Framework conditions

Figure 9: schematic mapping of stakeholder involvement in programmes

As suggested by the diagram, the FP7, CIP and Structural Funds address in different ways a large group of stakeholders and beneficiaries. Although they are governed by different procedural logics, they often address similar problems and similar target groups. The table below illustrates the involvement of different types of stakeholders at different stages in the programming cycle.

Table 10: Stakeholders per instruments and level of governance

		Instrument	
Level	FP7	CIP	SFs
Programme d	esign		
EU level	EU Council European Parliament European Commission: DG Research DG Information Society JRC	EU Council European Parliament European Commission:  DG Enterprise DG INFSO DG TREN	EU Council European Parliament European Commission:  DG Regional Policy DG Employment DG Agriculture
National level	Business & research organisations (consultations)	Business federations and innovation agencies, etc. (consultation)	National governments (NSRF, sectoral operational programmes, etc.)
Regional level	As above	As above	Regional authorities (regional operational programmes)
Programme im	plementation		
EU level	European Commission:  DG Research DG Information Society JRC	European Commission:  DG Enterprise  DG INFSO  DG TREN	European Commission:  DG Regional Policy DG Employment DG Agriculture
National level	■ National Contact Points		<ul><li>National governments</li><li>National agencies</li></ul>
Regional level		■ Innovation Relay Centres, EICs, etc.	<ul> <li>Regional authorities</li> <li>Specialised regional bodies:</li> <li>Regional development agencies</li> </ul>
Beneficiaries			
Actors	<ul> <li>R&amp;D institutes</li> <li>Higher education institutions (HEI)</li> <li>Researchers</li> <li>Knowledge intensive SMEs</li> <li>BEs</li> </ul>	<ul> <li>SMEs</li> <li>Large enterprises</li> <li>Business support organisations (intermediaries)</li> </ul>	<ul> <li>Regional and local authorities</li> <li>SMEs</li> <li>R&amp;D institutes</li> <li>Higher education institutes</li> <li>Business support organisations (intermediaries)</li> </ul>
Rationale for participation	<ul> <li>International collaboration</li> <li>Research excellence</li> <li>R&amp;D funding</li> </ul>	<ul> <li>International collaboration</li> <li>Innovation development</li> </ul>	<ul> <li>Funding infrastructure development</li> <li>Regional and local collaboration (e.g. clusters and networks)</li> </ul>

# 4.2 Selected cases of cross-programme interactions

## 4.2.1 Case 1: a research spin-off: from idea to market

The technical specifications requested that the "analysis should concentrate on SMEs as recipients of knowledge produced by basic and applied research, but also as knowledge generators via individual or collective involvement in research activities (at Community level in the research framework programme and at local level through the appropriate design of programme implementation in the Structural Funds)". A logical first case to examine the potential for the strategies of actors to operationalise potential synergies is therefore the case of a 'research-intensive' spin-off company. It should be emphasised that this is a trajectory of events/ actors not a single target.

In order to build the scenario, the following assumptions are made:

- The spin-off is located in a 'Regional Competitiveness and employment' region relatively well-endowed in terms of research infrastructure;
- The starting point for the analysis is an exploitable research result which has been patented by the host research centre, but which has not yet been commercialised.
- For a thematic flavour, the assumption is made that the spin-off is operating in the biomedical sector
- The commercial exploitation of the research result requires further pre-competitive research and development (prototyping, etc.).
- The region has through previous Structural Fund programming rounds established a support infrastructure for spin-offs and start-ups (incubation, etc.) and created a number of financial engineering instruments.

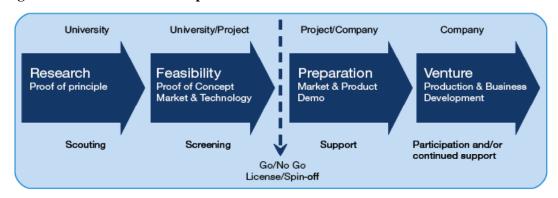


Figure 10: Commercialisation path

Source: PWC, "Boosting the knowledge valorisation process: putting plans into action. Direct your university towards entrepreneurship", The Hague, June 2006

In order to examine this case, a simplified approach is adopted based on a relatively standard set of four stages of a spin-off process, in this case from a university.

The table on the following pages summarises in a simplified manner the potential use that such a spin-off could make of the three programmes.

Table 11: Case scenario 1 - research intensive spin-off

STAGE	2	FP7	CIP	SF	Comments
e	Development of pro-entrepreneurial activities in university	Marie Curie – industry academia partnerships	EIP: Exchange of good practice through Europe Innova networks and Inno-Nets	Funding for entrepreneurship training (ESF) for academics and researchers	Complementary actions (in principle)
Proof of principle	Scouting for technologies to spin-off	n.a.	EIP: Exchange of good practice through Europe Innova networks and Inno-Net	Funding of commercialisation services in universities/research centres (ERDF/ESF)	Essentially SF
	Additional basic research if required	Research supported through participation in FP7 co-operation "Health" / Research for the benefit of SMEs: Eurostars initiative	n.a.	Possibly ERDF grant to research infrastructure in centre if required	Essentially FP7
	Technical feasibility studies	n.a.	n.a.	Regional grants schemes for technical feasibility studies	SF only
ncept	Market analysis and business case development	n.a.	<b>EIP</b> : studies on lead markets, work of Europe Innova networks	Regional grants schemes for consultancy and advisory services	SF only
Proof of concept	Development & testing concept	Research supported through participation in FP7 co-operation "Health"	n.a.	Proof of concept programmes	Complementary – FP7 access to European networks
d	IP protection and licensing	n.a.	IPR help desk, IRC network advice, etc.	ERDF: Regional grant schemes to cover costs of patenting	Essentially SF plus EU wide networking through CIP
	Pre-Incubation (business planning, etc.)	n.a.	EIP: Europe Innova: pan-European incubation platform	ERDF: Incubation facilities for knowledge-intensive SMEs and Regional funding of business advisory services	Essentially SF
Preparation	Seed funding	n.a.	EIP: High Growth and Innovative SME facility (equity for early stages and expansion phase) and SME guarantee Facility (counter or co-guarantee to guarantee schemes operating in eligible countries)	ERDF: Improve access to finance (financial engineering instruments	CIP and SF both provides financial and technical support
	Prototype development	Research supported through participation in FP7 co-operation "Health"		ERDF: Regional grant schemes for product development	Potentially both FP7 and SFs

STAGE	2	FP7	CIP	SF	Comments
	Incubation support	n.a.	EIP: Europe Innova: pan-European incubation platform	ERDF: Incubation facilities for knowledge-intensive SMEs	Essentially SF
	Equipment and infrastructure	n.a.	n.a.	ERDF: Regional grants for start-up companies	Essentially SF
	Recruitment of skilled employees	Marie Curie: Industry-Academia partnerships	n.a.	ERDF: Regional grants for recruitment of scientists and engineers	Essentially SF
ch	Business advisory services	n.a.	EIP: Networks providing innovation, technology and knowledge transfer services (Innovation relay centres)	ERDF: Promoting industrial R&D, SMEs and technology transfers and Business support services	Essentially SF
Spin-off launch	Venture funding	n.a.	EIP: High Growth and Innovative SME facility (equity for early stages and expansion phase) and SME guarantee Facility (counter or co-guarantee to guarantee schemes operating in eligible countries)	ERDF: Improve access to finance (financial engineering instruments	CIP and SF both provides financial and technical support
	Managing IPR	n.a.	EIP: Supporting the protection and management of industrial and intellectual property (IPR Helpdesk)	ERDF: Regional grants for IP protection and exploitation Regional advisory services (PATLIB), etc;	Essentially SF
	Commercialisation	n.a.	EIP: IRC network	ERDF: Grants or advisory services for SMEs in introducing innovations into the market	Essentially SF
pport	Investment in production plant n.a.		n.a.	ERDF: investment support grant/loans/guarantees Venture capital funding	Essentially SF
Post spin-off support	Training of staff in new technologies, etc.	Marie Curie: Industry-Academia partnerships	n.a.	ESF: training cheques for companies ERDF: creation of new industry specific training centres	Essentially SF
Post s	New product development  Project funded under research for the benefits of SMEs / or Co-operation project under Health theme		Information diffusion based on studies on lead markets	Regional grants/loan schemes for industrial R&D	Potentially both FP7 and SFs

Considering each of the five stages described in the table above, the following conclusions can be drawn in terms of synergies, overlaps and gaps.

### **Proof** of principle

The potential support offered by the three programmes at this stage would tend to be targeted at the host research institute or university research management structures. The main direct support is likely to be channelled through regional or national programmes aimed at fostering a more entrepreneurial culture and improved management of research commercialisation in such organisations. In many cases, these types of initiatives are co-funded through the Structural Funds (ESF and on occasions ERDF), which in this case appears to be the main EU funding support available.

However, certain instruments under FP7 and CIP do offer complementary funding to host organisations of spin-offs (potential for instanced Marie Curie Industry-Academia partnership could be used to foster greater understanding of industrial needs along with internationalisation); or what could be termed technical assistance to regional stakeholders involved in the commercialisation process through the CIP action in favour of entrepreneurship or technology transfer and IPR. However, this is a much more indirect form of support and only touches a limited number of institutions in most regions.

An aspect worth underlining at this stage is that the research results being identified through scouting activities in 2007-2008 would most likely be the result of previous FP6 or regional/national funding programmes (potentially supported by the Structural Funds 2000-2006). It is for instance, more difficult to view a process where a research centre would participate in a FP7 project launched in 2007-2008 and be in a position to make use of Structural Fund support before 2013 (although the time lag depends very much on the technology field).

### **Proof of concept**

Again at the proof of concept stage, the Structural Funds appears to be the main instrument offering direct support. At this stage, a gap may appear in certain regions, given that the classic State aid mechanisms for feasibility studies, etc. tend to be open only to SMEs; while if the spin-off company has not, logically, been formed a funding gap may exist. Proof of concept type programmes do exist in a number of regions and have proved successful at bridging this gap.

Where additional research is required to develop the concept both regional funding schemes and participation in FP7 projects can offer solutions. These two funding schemes could be considered as complementary since the objective of working in a FP7 project can be seen from the perspective of accessing additional competencies or technical know-how through the EU level consortium.

#### Preparation for spin-off

Support for incubation and high-growth SMEs is a major sub-theme of the CIP programme. At a first level, the support offered tends to take the form of networking of incubation actors (e.g. a pan-European incubation platform). At a second level, the CIP programme through the various financial facilities implemented in partnership with the EIF, provides additional and complementary financial resources to national and regional intermediaries. For the spin-off company itself, the origins of the financial resources delivered through a regional seed capital fund, for instance, may not be obvious; however the support can be considered as relatively direct.

At the same time, the Structural Funds guidelines place considerable emphasis on improving support for spin-offs, incubation services, financial engineering, etc., notably in "regional competitiveness" zones. A raft of measures and initiatives have been supported in the past under the Structural Funds in many regions, leading to some need for rationalisation and exchange of experience (also supported in part by CIP under Europe Innova or Inno-Nets, and by FP7 under Regions of Knowledge).

The funding streams for financial engineering can be seen as to some extent complementary since in many cases the Structural Fund support has been targeted at less high-risk funds. However, the possibility of overlaps cannot be ruled out although it would be expected that investments into regional venture funds would be scrutinised adequately given the need to follow market principles.

## Spin-off launch

During this phase, it can be expected that the spin-off will focus essentially on managing its financial capital by making of CIP-EIF type facilities and regional venture funding. It will also be likely to make use of ERDF funded grants and loans for on-going product development, managing IPR and commercialisation. At first sight there is little overlap at this stage and it is likely that Structural Funds will provide the main source of support.

### Post spin-off support

At this stage, it is assumed that the spin-off has successful launched its product line and is seeking to a) expand production capacities, b) manage the product life-cycle by beginning development work on new products or further innovations for the existing product.

Structural Fund measures providing investment grant or loans for development of industrial infrastructure through the ERDF clearly provide a major source of funding for enterprises establishing themselves in an eligible zone. Similarly, on paper the ESF funded training schemes for employees in specific technologies, etc. can also be of relevance. On-going use of industrial placement schemes, etc. can be used to recruit or make available additional required expertise.

The two other programmes may also intervene at this stage notably FP7 support for research activities of SMEs or on-going participation of the spin-off in FP7 Co-operation specific programme projects under Health theme could be pursued. CIP studies or network activities related to lead markets might represent a marginal source of information on future trends; as would foresight or road-mapping activities supported under FP7, or in the framework of Technology Platforms.

### 4.2.2 Case 2: a regional cluster in renewable energies

This case will look into potential funding and learning possibilities for stakeholders willing to invest and develop regional clusters in renewable energies with support of Structural Funds, FP7 and CIP. We will focus on selected actions and calls under all three instruments, which could potentially benefit a region at the initial stage of cluster development. Following the study logic the emphasis is on complementarities, synergies and possible gaps and overlaps in available support.

A region in question is eligible for Structural Funds support under Convergence Objective and is also eligible for Cohesion Fund. The regional authorities put a strong emphasis on energy efficiency, and developing renewable energy potential in particular, in the Regional Operational Programme (ROP). The region has a considerable –but fragmented- potential in the field and has so far developed a limited experience in cluster policy.

The aim of the region is, therefore, to learn about cluster strategy and policy, exchange experience with other regions, strengthen its research potential in the field and improve science-industry links, support regional SMEs linked to renewable energy sector as well as learn how to integrate energy from renewable sources into its own energy grids. The ambitious goals are to become an internationally recognised renewable energy cluster well integrated into regional economy and contributing to a regional energy system.

The inspiration for developing a cluster focusing on renewable energy came from Regional Innovation Strategy (RIS) and the participation in ERDF's Regional Programme of Innovative Actions (RPIA) where one action focused on renewable energy as well as from FP6 projects developed by regional research institutions. The partnership organised around RIS and RPIA called for strategic and policy involvement in this area. This was sustained at the political level and subsequently included in ROP. Partnerships developed around various SF programmes and FP6 programmes have joined forces looking into possible use of future SF and FP7 to achieve regional objectives.

In order to build the scenario, the following assumptions are made:

- The region is located in a "Convergence" objective area
- The start point for the analysis is a developed Regional Innovation Strategy and Action Plan with a focus on renewable energy potential
- The region plans to use EU funds for each step of cluster development process including idea and concept development, capacity building, strategy and design, implementation, and monitoring and evaluation.
- In this scenario we focus on possible actions of regional authorities and other relevant regional bodies such as regional development agency.

### From idea to action plan

FP7 and Structural Funds both offer opportunities to learn about new ideas and concepts related to renewable energy and clusters from other regions. Territorial cooperation under ERDF and Regions of Knowledge – RoK (Capacities Specific Programme of FP7) both offer a possibility to focus on renewable energies. The difference between the two is that while Regions of Knowledge programme aims solely at research-based clusters, Territorial Cooperation focuses broadly on reinforcement of regional policy, including cluster building. In reality the distinction remains unclear as Territorial Cooperation projects may also focus on research-based clusters. Depending on its objective a region can choose to participate in one or both actions addressing different aspects of renewable energy cluster. For instance, RoK knowledge may be focused on strengthening research base of the future or existing cluster whereas Territorial Cooperation more on wider issues of cluster building in regional policy, strategic cooperation in inter-regional or cross-border dimension. Importantly, in both cases the region can choose to be mentor or mentee region and thus share experience with other regions. In our case, the region will be seeking advice and experience from regions already advanced in the cluster building and exploitation of renewable energy sources.

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<sup>&</sup>lt;sup>47</sup> Compare FP7 Capacities, Part 3 "Regions of Knowledge" and Structural Funds regulation

Table12: Case scenario 2 - using FP7, CIP and SF for developing a regional renewable energy cluster – model approach

Stage		FP7	CIP	SF	Comments
Concept	Idea and inspiration	(participation in FP6)	<ul> <li>(participation in completed RIS-NACs, specific benchmarking projects, EUROPE INNOVA projects etc.)</li> <li>Intelligent Energy Programme (promote new and renewable sources and support energy diversification)</li> <li>IRE Network</li> </ul>	<ul> <li>(participation in 2000-2006 SF programmes and projects including Innovative Actions Programmes, SF mainstream operations as well as INTERREG IIIC)</li> <li>Territorial cooperation (including Regions for Economic Change)</li> </ul>	Potential complementarity or synergy unclear (depend on IEP work- programme)
	Profiling and mapping including feasibility studies	Regions of Knowledge (CSA)		<ul> <li>Convergence and Regional Competitiveness and employment ERDF</li> <li>Territorial cooperation</li> </ul>	Unclear complementarity and/or synergies between RoK and Territorial Cooperation (risk of overlap)
	Studies and good practice review	Regions of Knowledge (CSA)	<ul> <li>Intelligent Energy Programme (promote new and renewable sources and support energy diversification)</li> <li>PRO-INNO</li> <li>EUROPE INNOVA</li> <li>IRE Network</li> </ul>	Territorial cooperation (including Regions for Economic Change)	Unclear complementarity and/or synergies between RoK and Territorial Cooperation (risk of overlap) Potential complementarity and synergy between Territorial Cooperation and RoK with IRE network and Europe INNOVA
g capacity	Inter-regional learning	Regions of Knowledge (CSA)	<ul> <li>Actions in relation to innovation (sector-specific innovation, clusters, innovation networks etc)</li> <li>IRE network</li> </ul>	Territorial cooperation (including Regions for Economic Change)	Unclear complementarity and/or synergies between RoK and Territorial Cooperation (risk of overlap) Potential complementarity between CIP and collaborative projects under SF and FP7
ing and planning	Partnership	Regions of Knowledge (CSA)		<ul> <li>Convergence and Regional Competitiveness and employment ERDF</li> <li>Territorial cooperation (including Regions for Economic Change)</li> </ul>	
Strategy building and planning capacity	Strategy	Regions of Knowledge (CSA)	Intelligent Energy Programme (promote new and renewable sources and support energy diversification)	<ul> <li>Convergence and Regional Competitiveness and employment ERDF</li> <li>Territorial cooperation (including</li> </ul>	Potential complementarity or synergy unclear (depend on IEP work-programme) Unclear complementarity and/or synergies between RoK and Territorial
	Implementation plan	Regions of Knowledge (CSA)		Regions for Economic Change)	Cooperation (risk of overlap)

Stage		FP7	CIP	SF	Comments
	Cluster management and coordination	Regions of Knowledge (CSA)			Unclear complementarity and/or synergies between RoK and Territorial Cooperation (risk of overlap)
	Science-business relations (including joint science- industry R&D projects)	<ul> <li>CAPACITIES Research for the benefit of SMEs</li> <li>COOPERATION Specific Programme (Work-programmes on ENERGY, ICT, ENVIRONMENT)</li> <li>PEOPLE Marie Curie Actions (Industry Academia partnerships and pathways)</li> </ul>	<ul> <li>SME cooperation</li> <li>Services in support of business and innovation (support for SMEs in the participation in FP7)</li> </ul>	■ Convergence and Regional	Possible complementarities between FP7 and SF activities (FP7 focussing on international collaboration while SF on regional and national partnerships)
tation	Business advisory services		<ul> <li>Services in support of business and innovation (information, technology and knowledge transfer services)</li> </ul>	Competitiveness and employment ERDF	Possible complementarity and overlaps between SF and CIP
Implementation	Technology transfer		■ Innovation Relay Centres - IRCs		Possible complementarity between IRCs and national technology transfer support activities under SF
	Business networks, including internationalisation	CAPACITIES Activities of international cooperation (CSA)	<ul> <li>SME cooperation</li> <li>Services in Support of Business and innovation (services assisting SMEs to develop international cooperation partnerships)</li> <li>Innovation Relay Centres</li> </ul>		Possible complementarity and overlaps between SF and CIP
	Cluster infrastructure	<ul> <li>CAPACITIES</li> <li>Research infrastructure (CP and CSA)</li> <li>Research potential (CSA)</li> </ul>		<ul> <li>Convergence and Regional Competitiveness and employment ERDF</li> <li>Cohesion Fund</li> </ul>	potential synergy FP7-SF (if research infra is of Pan-European interest OR in case of Convergence region – Research potential)
	Human capital for innovation	PEOPLE Marie Curie Actions		Convergence and Regional competitiveness and employment ESF	high potential of synergy (FP – SF)

Stage		FP7	CIP	SF	Comments
	R&D (including collaborative R&D projects)	<ul> <li>IDEAS (European Research Council)</li> <li>COOPERATION Specific Programme (ENERGY, ICT, ENVIRONMENT Thematic Workprogrammes)</li> <li>National Contact Points for support of SMEs to participate in FP7</li> <li>CAPACITIES Research potential (CSA for convergence and outermost regions)</li> </ul>		Convergence and Regional competitiveness and employment ERDF	High potential of synergy (FP – SF)
	Business incubation and Innovation finance (including improving capacities of financial intermediaries)		<ul> <li>Access to finance for the start-ups and growth of SMEs and for investment in innovation activities, including eco-innovation:</li> <li>EIF Financial Instruments for SMEs</li> <li>(most notably The High Growth and Innovative SME Facility, but also the SME Guarantee Facility and Capacity Building Scheme)</li> <li>Financing SME growth (expert group on good practice in using risk capital inc. CIP instrument and JEREMIE)</li> </ul>	<ul> <li>Convergence and Regional competitiveness and employment ERDF</li> <li>JEREMIE</li> </ul>	Risk of overlap or possibility of positive synergy effect (e.g. if addressed to different types of companies)
	Commercialisation		■ Intelligent Energy Programme	<ul> <li>Regional competitiveness and employment ERDF</li> </ul>	possible synergy (unclear until work- programme for IEP programme is published)
я	Evaluation capacity		<ul> <li>Entrepreneurship and innovation culture</li> <li>Actions in relation to innovation (sector-specific</li> </ul>		
uatio	Benchmarking	<ul> <li>CAPACTIES</li> </ul>	innovation, clusters, innovation networks etc)  • Entrepreneurship and innovation culture		Possible synergies (studies and evaluations done in the framework of
Monitoring and evaluation	Policy learning	<ul> <li>Regions of Knowledge (CSA)</li> <li>CAPACITIES</li> <li>Integrated Infrastructure Initiatives (I3)</li> </ul>	PRO-INNO EUROPE INNOVA IRE Network	<ul> <li>Convergence and Regional</li> <li>Competitiveness and employment ERDF</li> <li>Territorial cooperation (including Regions for Economic Change)</li> </ul>	individual programmes can be used to improve policy learning and evaluation capacity)

The lessons learned during inter-regional cooperation, can directly benefit cluster strategy planning and action plan. The latter can be also supported by experience in inter-regional projects, but both preparatory research and implementation plan can receive more considerable co-funding under ROP or even national Sectoral Operation Programme.

Using interregional programmes (RoK and Territorial Cooperation) to learn from others to better design strategies and action under ROP can be seen as a strong potential synergy between different SF operations (e.g. ROP and Territorial Cooperation) as well as between SF and FP7. We may, nonetheless, consider FP's RoK initiative and SF Territorial Cooperation as partly overlapping.

In order to strengthen their strategic potential the actors in a Convergence region could take part in FP7 activities, e.g. design studies addressing the key questions no the assessment of the technical and financial feasibility of new facilities. This should lead to a "conceptual design" report to support decision makers in their decision regarding new infrastructures. The focus on financial aspects potentially funded under this activity can also include arrangements as regards complementarities between national and Community instruments, most notably Structural Funds and European Investment Bank. This may seem as an obvious synergy as FP7-supported planning may lead to developing SF-funded RTDI infrastructures. Nevertheless, it will be challenging —or in some cases impossible—to benefit from the FP7 activity to better plan funds in 2007-2013 period. The time lag between the relevant calls and SF spending schedules may be too long.

Moreover, designing and planning regional RTDI infrastructure can be funded by SF and most likely most regions will prefer this solution as it reduces paper work needed for FP participation.

CIP also offers potentially relevant cluster mapping and good practice review studies that can be of interest to regional actors. Europe INNOVA initiative includes cluster mapping and cluster network projects. Cluster networks projects include a network dealing with energy (CENCE) also including the theme of the renewable energy. The network groups European energy clusters willing "to develop a new co-operative learning platform for exploiting synergies, exchanging experience and knowledge and building leaning communities". Results of such initiatives could be of interest for a region aiming at developing a cluster.

### *Implementation*

As regards implementation, EU programmes, most notably SFs and FP7, can be used to support a number of cluster development elements including cluster management and coordination, cluster infrastructure (including renewable energy infrastructure), science-business relations, business networks, business advisory services, human capital, R&D projects, business incubation and innovation finance. Depending on the cluster development strategy the above can be adapted to contribute to a specific thematic focus, e.g. renewable energy related human capital, renewable energy related collaborative R&D projects, energy-related high-tech start-ups, etc.

<sup>49</sup> Compare http://www.europe-innova.org/

<sup>&</sup>lt;sup>48</sup> European Commission, C(2007) 563 of 26.02.2007, CAPACITIES, Part 1, Research infrastructures, p. 13

The infrastructure can be supported from both Structural Funds as well as FP7 (Capacities, Research Infrastructure). FP7 tends to focus on preparatory works necessary for construction (e.g. design studies as well as legal organisation, management and multi-annual financial planning) as well as –but to a lesser extent- on actual construction. Importantly, support to infrastructures within FP7 should concentrate on those of pan-European interest, which to certain extent limits accessibility to funds for regions lagging behind. Nonetheless, the action is also "to examine the opportunities to exploit the potential for scientific excellence of the convergence and outermost regions through new infrastructures". <sup>50</sup> Hence, we may talk about certain overlap between SF and FP funding. Although FP funding tends to focus on investments of pan-European importance, in practice it is very difficult to clearly define what is of this "European importance".

All three instruments address directly or indirectly cluster management techniques. Nonetheless, the most relevant direct support for regions is offered in the framework of SF (Operational Programmes and Territorial Cooperation) and FP7 (RoK). CIP also offers potentially relevant cluster mapping and good practice review studies including elements of cluster management such as above mentioned cluster network project CENCE.

Support from SF and FP7 have higher potential for developing cluster management capacity and skills than CIP. Collaborative SF and FP7 instruments such as Territorial Cooperation and RoK can focus on cluster management (this happened in the past in case of both INTERREG IIIC and RoK II) whereas Regional Operational Programmes can include a measure aiming at technical and coordination support to cluster. The latter may be a follow-up of collaborative projects, which may be turn into a potential synergy.

In terms of renewable energy related R&D potential, thematic FP7 Work-programmes under COOPERATION Specific Programme such as Energy, Environment and ICT can to a large extent support development of research potential of renewable energy cluster – given regional research institutions and SMEs have capacity to participate in EU FPs. As mentioned, participation in collaborative FP7 research projects can develop synergies with research activities co-funded by the SF Regional Operation Programme provided it has similar thematic focus (on renewable energy in our case). In this case, SF can provide strategic funding in R&D infrastructure based on experience from pilots previously tested under FP7. Long term cluster level planning and coordination can thus contribute significantly to synergies between investment in infrastructure and research from SF and FP7. It requires, however, well-developed planning capabilities from the region.

ESF-funded actions on improving human capital for innovation can be complemented by Marie Curie Actions (PEOPLE Specific Programme of FP7). Marie Curie Actions can act as an internationalisation element of human capital development and –given cluster development strategy be shared by relevant regional actions— can focus on building skills and sharing knowledge related to renewable energies.

The region can also have a considerable role in improving access and providing innovation financing. SF can co-fund regional capital funds which can be profiled to give priority to renewable energy-oriented SMEs.

Also CIP includes instruments providing support for renewable energy activities (ecoinnovation) i.e. European Investment Fund's Financial Instruments for SMEs (most notably The High Growth and Innovative SME Facility). From the point of view of the region eligible for the EU structural support, regional venture capital fund is a more relevant instrument, especially if the region would like to profile the strategic orientation of the fund.

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<sup>&</sup>lt;sup>50</sup> European Commission, C(2007) 563 of 26.02.2007, CAPACITIES, Part 1, Research infrastructures, p. 6

An additional instrument that can be potentially of help in this respect is JEREMIE. Access to finance is addressed by both SF and CIP. Despite possible overlap, there is a potential of synergies between the two instruments. Depending on the strategic choices made under SF funds, the regional, national and EU wide financial instrument may complement each other (e.g. by addressing different technological profiles of companies).

As regards business advisory services and advanced technology transfer services, CIP offers coordinated effort of IRCs (Innovation Relay Centres) and EURO INFO Centres which -if well integrated in regional system- can provide efficient support to SMEs also in terms of participation in FP7 or SF funded initiatives.

At this stage it is difficult to assess complementarities and potential synergies between SFs, FP7 and the CIP's Intelligent Energy Programme as the work-programme has not yet been published for the latter. Given its focus on promotion of renewable sources of energy and support for energy diversification, however, there is a potential of additional complementarities and synergies.

Implementation of renewable energy-oriented regional cluster policy using EU programmes, including integrating and building infrastructure, will use predominantly Structural Funds and –to a lesser extent- FP7. An extent to which synergies can be achieved between different regional, national and EU instruments will depend considerably on the focus of the National and Regional Operational Programmes, e.g. virtually all cluster support activities, including constructing and up-grading infrastructure, could be supported from SF Operational Programmes. Other EU instruments will be perceived only as supporting instruments in cluster building, most notably in terms of international cooperation.

Naturally, the role of delays and time coordination must not be forgotten when assessing possible synergies between the programmes. As the presence of a highly advanced R&D infrastructure is necessary condition to fully benefit from collaborative R&D programmes, synergies between SF and FP7 may become visible only after some time, that is after relevant R&D infrastructure is developed.

It should be highlighted, however, that investment in R&D infrastructure should be preceded by serious need and capacity assessment. Such assessment can be supported both under FP7 and ROP.

### Policy learning - monitoring and evaluation

Policy learning including monitoring and evaluation can be developed under collaborative actions offered by all SFs, FP7 as well as CIP. SF regime requires undertaking evaluation at different stages of programme implementation; these include most notably ex-ante, ex-post and interim evaluations. The policy learning capacity can substantially strengthened by participation in ERDF's Territorial Cooperation and FP7 RoK. Both offer a possibility to learn from and exchange experience with other regions. The cooperation may focus e.g. on developing evaluation capacity and benchmarking in the field of renewable energy. In addition, FP7 CAPACITIES (Integrated Infrastructure Initiatives I3) offer the possibility to develop evaluation capacity focused on R&D infrastructure.

#### **Conclusions**

The most striking conclusion stemming from the above exercise is that the extent to which EU funding can produce synergies on the level of potential beneficiary depends considerably on regional and national strategic choices reflected in SF Operational Programmes. The most important synergies appear between SF and FP7 and SF and CIP and to a lesser extent between CIP and FP7.

# 4.2.3 Case 3: an ICT research centre: competing in the ERA

As a third example, the case of an ICT focused research centre located in a convergence region is explored. It is assumed that the management of the centre is seeking to strengthen its ability to participate in the European research initiatives through the use of the different instruments available in the FP7, the CIP and the Structural Funds.

In order to build up the scenario, the following assumptions are made:

- The region in which the research institute is located is eligible for the Structural Funds support under the Convergence objective as well as for the Cohesion Fund.
- The Regional Operational Programme has been designed in such a way that it notably fosters the development of the research capacities of the region. It particularly aims to develop the regional ICT infrastructure, the uptake of ICTs by firms as well as the development of e-skills.
- The research centre is relatively new and small.
- The ultimate goal of the research performed by the institute is to develop an Internet protocol, which could be used and diffused at the international level.

The table on the following pages summarises in a simplified manner the different steps through which the research institute has to go to be able to compete in the European Research Area as well as the potential use that such a research centre could make of the three programmes.

The different stages are the following:

- information on funding sources
- capacity building
- research
- dissemination of knowledge
- commercialisation and internationalisation

#### Information on funding sources

To define an action plan to improve its research capacities (research quality and infrastructure), the region can first of all make use of FP7 funds available for the "research potential" part in order to get the services of an independent evaluator. The debates at the European level on emerging ICT trends and developments encouraged by the CIP-ICT work-programme may also produce useful insights for the research institute to define its research area. Information on the European programmes to which the research institute can apply to get funding or support may then be provided by the National Contact Points funded by the FP7; the CIP actions such IRCs and EICs provides information mainly to SMEs.

Moreover, under the Research Potential work programme, the research institute can directly benefit from coordination and support actions to exchange know-how and experience with research organisations from other EU countries.

Table13: Case scenario 3 - an ICT research centre: competing in the ERA

	Stage	FP7	CIP	SF (through operational programmes mainly)	Comments
ion	Existing programmes and funding opportunities	<ul> <li>Cordis</li> <li>National Contact points: benchmarking, workshops, training and twinning schemes</li> </ul>			Only FP7, research centres not targeted by CIP
Information	Evaluation of the existing capacity	Research potential (CSA): evaluation of research facilities in the convergence regions	Stimulation of the debate at the European level on emerging ICT trends and developments		FP7, benchmarking through CIP
	Inter-regional learning	Research potential: exchange of know-how and experience with organisations in other EU-countries	EIP programme: mutual learning for excellence in national, regional and local administrations	■ Inter-regional learning (IRE) network	FP7, SF, CIP: risk of overlap
	Research infrastructure	Capacities:  Research infrastructure (equipment, databases, collections)  Research potential: acquire, develop or upgrade the research equipment	<ul> <li>Fostering of clusters, innovation network</li> <li>Widen ICT-based services accessibility, interoperability, use of open standards and security</li> </ul>	<ul> <li>ERDF: to strengthen R&amp;D capacities and infrastructures</li> <li>ERDF: Development of clusters</li> </ul>	Clear overlap between FP7 and SF
uilding	Human Capital	<ul> <li>Marie Curie actions: training of researchers, mobility actions, excellence awards</li> <li>Research potential: CSA to recruit excellent researchers</li> </ul>		ESF: human potential in research and innovation, notably via post- grad studies and training of researchers	Complementarity between SF and FP7 (initial learning funded mainly by SF, mobility by FP7)
Capacity building	Access to finance	RSFF for legal entities and research infrastructures, for R&D and innovation			Mainly FP7, financial instruments of CIP not targeted to research centres
C	Technology transfer		<ul> <li>Innovation relay centres: services for transnational knowledge and technology transfer</li> </ul>	ERDF: aid to technology transfer	FP7, CIP and SF
	Management of IPR		IPR-Helpdesk: support to the management of IPR rights		Only CIP
	Management capacity		Support of innovation management		Only CIP
Basic and applied research	Collaboration with SMEs	Capacities: research for SMEs: collaboration with SMEs to help them outsource research	Measures encouraging SMEs to collaborate with innovation actors		FP7
Ba: applie	Collaboration with pears (mainly)	<ul> <li>Networks of excellence (if research capacity fragmented in the thematic research area): long-</li> </ul>			FP7

Stage	FP7	CIP	SF (through operational programmes mainly)	Comments
	term durable integration of research resources and capacities (researchers, services, teams, organisations, institutions) in fields of strategic importance for European research, through establishment of single virtual centre of research for achieving a defined objective  COST coordination and support action			
Collaboration between industry and academia	Cooperation:  Integrating project (IP): objective driven R&D, demonstration project, innovation activities, training of researchers and other key staff, project management activities  Small or medium-scale focused research actions (STREP): R&D project and/or demonstration project: fixed overall work plan  Capacities:  Regional level: Regions of Knowledge: integration of research actors, facilitation of emergence of clusters  Research infrastructure: IPs and CSA to develop ICT based e-infrastructure  People:  partnerships with industry: staff-sharing, trainings		ERDF: improvement of links between SMEs, HEI and research     ESF: networking activities between higher education institutions, research and technological centres and enterprises	Essentially FP7 for research funding, SF for networking with SMEs and HEI
Frontier research	ERC grants • For starting independent researcher • For advanced investigator			FP7
Dissemination of knowledge	<ul> <li>Cordis services</li> <li>Research potential: dissemination of knowledge and promotion activities</li> </ul>			FP7, research centres not targeted by CIP
Commercialisation	■ RSFF	<ul> <li>Support of the take-up of innovative technologies and concepts, e-skills development policies</li> <li>Promotion and awareness-raising campaigns to promote innovation in processes, services and products enabled by ICT</li> </ul>	<ul> <li>ERDF: support to SMEs to adopt and use ICT</li> <li>ESF: fostering of e-skills</li> </ul>	Support to commercialisation through RSFF, support to ICT take-up through CIP and SF
Internationalisation	Capacities: Activities of international cooperation	Support of international cooperation		FP7 and CIP

### Capacity building

Practically all elements for the research institute to develop its capacities can be funded by the European programmes.

The first tool at its disposal is the Research Potential part of FP7, which may provide the research institute with up to 100% funding for the recruitment of excellent researchers as well as for acquiring, upgrading or developing the research equipment. At the regional level, both the FP7 and the SF-ERDF may contribute to the development of research infrastructures and capacities (scientific equipment, knowledge-based resources such as databases, collections, ICT infrastructure such as GRID, computing software and communications, etc.). It means that European funds may be used in parallel by both the region and the institute to increase the research capacities. The Capacities programme as well as the CIP-EIP and the ERDF are also encouraging the regional bodies to integrate the research actors through notably networking activities and the fostering of collaboration patterns. This can be of use for the knowledge institute if it aims to enlarge its knowledge basis. Furthermore, the research institute could benefit from the CIP-ICT programme to improve its access to ICT-based services.

To develop its human capital (mobility and training), the research centre can make use of both the People programme of the FP7 and the European Social Funds training actions. This could be regarded as a potential overlap between the programmes but in general the ESF actions are much less technology focused.

Concerning access to finance, only the Risk-Sharing Finance Facility is targeted towards the research institutes to finance high-risk investments in R&D projects.

Technology transfer is mainly promoted by the CIP and the SF, through the Innovation Relay Centres of the CIP and through the SF-ERDF. The emphasis of CIP is, however, on international technology transfer whereas many research institutes are interested even more in transferring the technology to local companies. This could be the focus of SF-funded technology transfer activities which could become complementary to services offered by IRCs.

The research institute may find support for the management of its intellectual property rights through the IPR-Helpdesk financed by the CIP-EIP. This programme can then also provide support for the innovation management.

#### Research activities

Once the research institute has developed strong internal capacities, it can then compete for funding its research, knowing that the same research project cannot get double funding. Nevertheless, it can still get funding at a regional level through the ERDF and the ESF for networking activities with enterprises, higher education institutions and technological centres.

To be able to get funding from the FP7, the research institute must be ready to collaborate with EU partners.

If the research institute attempts to achieve excellence in the research domain characterised by a high degree of fragmentation at the European level, it can then participate in a Network of Excellence. The aim of this virtual research centre bringing together mainly academic actors is to get a durable integration of the research resources and capacities to achieve a defined objective. If the research institute aims at getting a rapid commercialisation of its research product, then it can collaborate with industry in Integrating Projects and STREPs.

This will fund the R&D part of the project as well as the demonstration and dissemination activities, the training of researchers and the management of the project.

The FP7-Capacities part encourages also the research institutes to collaborate with SMEs to help them outsource research and the People programme provides funding if the research institute is ready to share staff with industry. In parallel, the CIP-EIP has also developed some measures to foster notably the collaboration between SMEs and research centres.

The frontier research is promoted by the European Research Council which encourages and supports excellent, innovative investigator-initiated research projects. It may provide grants to the research institute if it has been recognized as excellent and if its research area is regarded as of primary importance.

#### Commercialisation and internationalisation

To bridge the gap between research and innovation, the research centre may use the Risk-sharing Finance Facility if it already took part in the Cooperation scheme of the FP7. In the specific area of ICT, the take-up of the developed technology can be facilitated by the CIP-ICT programme as well as by the SF-ERDF supporting the take-up of innovative technologies and concepts and the development of e-skills. The campaigns funded by the CIP-ICT to promote and raise awareness for innovation in processes, services and products enabled by ICT may also help the research institute to find markets for its developed products.

To find new partners and markets on the international level, the research centre may benefit from the financial schemes of the FP7 Capacities programme (support of bilateral cooperation as well as coordination of research programmes with third countries, common identification of scientific and technological priorities to be included in the research themes of FP7).

#### Conclusions

This short scenario underlines the importance of FP7 instruments to fund basic, applied and frontier research. The CIP appears to target mainly SMEs and will therefore not provide much support to research bodies, unless they collaborate with SMEs to help them outsource research.

Nevertheless, it should be emphasised that infrastructure development is funded by both the FP7 and the SF. Even if the FP7 provides funding solely for infrastructure of a pan-European interest, we may consider this point as an overlap between both programmes.

Furthermore, knowing that the same phase of the project of the research centre cannot get double European funding, this scenario highlights the need of strong internal planning capacities of potential EU programmes beneficiaries should they plan to benefit from all the available funding schemes during different development phases.

## 5. IMPROVING SYNERGIES BETWEEN FP7, CIP AND STRUCTURAL FUNDS

# 5.1 Conclusions on main synergies, gaps and overlaps

The study has analysed the extent of synergies, gaps and overlaps at three main levels:

- Strategic Level (Political objectives and aims)
- Programme implementation (Programme management & delivery)
- Operational level (strategies of stakeholders/beneficiaries)

The most important **potential synergies** appear between SF and FP7 and SF and CIP, and to a lesser extent between CIP and FP7. It is impossible to assess the potential of operational synergies between the latter as two out of three CIP work-programmes have not been published. The main practical opportunities for synergies may derive from thematic complementarities between the programmes with a stronger 'technology' or 'sectoral' focus developing at European, national and regional levels. Considering the conceptual framework proposed in the introduction, the potential, for linking up lead-market initiatives of CIP with technology platforms under FP7 and regional technology road-mapping and related RTDI initiatives under the Structural Funds is one example of such complementarity.

The **main gaps** are related to support measures for those SMEs, which while not being the 'top technology pioneers' could benefit from greater integration in trans-regional co-operation on technology development. While in principle the Structural Funds could support such initiatives, subsidy instruments tend to be inward looking and mono-regional. Neither FP7, which focuses on the technology pioneers, nor CIP, which gives greater emphasis to supporting networks of practitioners supporting SMEs directly, addresses this issue.

The **main overlaps** concern the support for research infrastructure under both Structural Funds and FP7; and the myriad initiatives aimed at 'policy development' at a cross-country or inter-regional level. This conclusion is backed up by both the recent CREST working group report which called for more emphasis on "comprehensive RTDI strategies, taking into consideration a coordinated use of FP and SP"; and of a similar conclusion of the recent Review of ERA-NETS which argued that further measures are needed to prepare the ground for effective trans-national cooperation<sup>51</sup> and notably the development of coherent regional or national strategies for achieving synergies.

These conclusion lead to the **major overall message of this report** which is that realising potential synergies, eliminating gaps and avoiding overlaps of funding available from the three EU instruments will depend on the effectiveness of 'bottom-up' strategic processes at regional and/or national levels (depending on the size and degree of decentralisation of the Member States). This implies that such a strategic reflection on maximising the impact of available EU instruments needs to be reflected in the policy mix of SF Operational Programmes at national and regional level.

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<sup>&</sup>lt;sup>51</sup> "Critically, these are likely to involve the development of coherent national strategies for participation in ERA-NET, based on informed analyses of national needs and priorities, the 'added-value' of participation in ERA-NETs, and the barriers to be overcome if trans-national initiatives are to become further embedded in national and regional policy portfolios. Few programme owners and managers entered the first exploratory phase of ERA-NET informed by such strategic perspectives. In future, this situation has to change." See the ERA-NET Review 2006, Report of the Expert Review Group. Rapporteur; Ken Guy. December 2006.

Adopting the point of view of different types of stakeholders, the table below summarises the potential relevance of each of the EU programmes with respect to three stylised needs (learning/knowledge sharing notably at an EU or inter-regional level, funding R&D or innovation projects, funding research/knowledge infrastructure).

Table 14: overview of types of support provided by programmes to key types of stakeholders

Actor/instr	ument	Learning and knowledge sharing	Funding projects	Funding infrastructure
	FP7	<b>→</b>	71	n n
SMEs	SF	<b>→</b>	71	7
	CIP	<b>→</b>	<b>→</b>	<b>u</b>
Dagianal	FP7	<b>→</b>	<b>→</b>	<b>→</b>
Regional actors	SF	7	71	7
	CIP	7	<b>→</b>	<b>u</b>
	FP7	7	71	7
Research institutions	SF	<b>→</b>	Я	Я
	CIP	'n	Ŋ	<b>u</b>

**<sup>7</sup>** - of high direct relevance to the beneficiary (e.g. direct funding)

Actual synergies from the point of view of the direct beneficiary of funding will depend on their organisational capability and strategic need to combine support from different EU instruments. In many cases, it is likely to prove impossible for SMEs, or other types of participants, to combine direct support from more than one instrument due to internal limited capacity or due to external issues such as time-consuming application processes leading to delays in receiving support, etc..

## 5.2 A need for greater policy coherence

Coordination of major EU instruments such as FP7, SF and CIP is not only a question of political intentions, but also a **policy coherence challenge**. OECD (2003, p.9) differentiates policy coherence from policy coordination and policy consistency. Policy co-ordination means getting the various institutional and managerial systems, which formulate policy, to work together whereas policy consistency means ensuring that individual policies are not internally contradictory, and that policies that conflict with reaching for a given policy objective are avoided. Policy coherence goes beyond coordination and consistency and is defined as a process of "ensuring the systematic promotion of mutually reinforcing action, by the concerned government and non-government players, in order to create and maintain synergies towards achieving the defined objective" (ibid. p.11). The study's scope covers all three dimensions of coordination, consistency and coherence. Nonetheless, the question of coherence is the most important for the analysis of potential synergies.

<sup>→ -</sup> of indirect relevance to the beneficiary (e.g. no or limited direct funding, mainly indirect support)

**a** - of insignificant or low relevance to the beneficiary (neither direct funding nor indirect support)

<sup>&</sup>lt;sup>52</sup> OECD, Policy Coherence, PUMA, 2003

Questions of consistency and coordination are also relevant as policy coherence will be not be possible without a consistence and a degree of coordination. It is worthwhile to underline that "a full coherence is never a realistic outcome" (ibid. p.11)

The OECD definition of policy coherence can be also applied to the case of EU where the issue of coherence becomes considerably more complex than on a national level. Ensuring policy coherence in case of multi-level, multi-stakeholder EU programmes requires existence of an efficient multi-level governance system. What is striking in the above definition is that a "defined objective" is needed. In case of the three EU instruments, stakeholders are faced by multiple objectives loosely linked under an umbrella of the Lisbon agenda.

In this context, it is necessary to differentiate between three types of policy coherence: horizontal, vertical and temporal (see exhibit below).

### **Box 8: Three types of policy coherence**

- **Horizontal coherence** ensuring that individual objectives and policies developed by various entities are mutually reinforcing. Strengthening the inter-connectiveness of policies and promoting a "whole-of-government" perspective are ways of promoting the horizontal perspective on policy coherence.
- Vertical coherence ensuring that the practices of agencies, authorities and autonomous bodies, as well as the behaviour of sub-national levels of government, are mutually reinforcing with overall policy commitments. For example, the delivery of goods and services to the citizens should not contradict national objectives. "Programme efficiency" is one way of stressing the need for vertical coherence, and the issue of ensuring compliance across levels of government is a typical expression of this dimension.
- **Temporal coherence** ensuring that policies continue to be effective over time and that short term decisions do not contradict longer-term commitments. Ensuring "dynamic efficiency" is another way of expressing this perspective. It pertains to how policies work out as they interact with other policies or other forces in society, including whether future costs are taken into account in today's policy-making.

Source: OECD 2003

Achieving policy coherence in all three dimensions is a pre-condition for lasting synergies. Horizontal coherence cannot be seen in isolation from vertical coherence. Horizontal coherence between all three instruments cannot be brought about by publishing communications or strategic guidelines at EU level, but has to be ensured by an effective process of co-operation between national and regional governments (SFs) and the Commission. Thus, the multi-level character and decentralisation of the instruments in question implies that vertical coherence is a condition sine qua non of horizontal coherence.

In the case of the Structural Funds, a "whole-of-government" perspective means ensuring coherence between OPs designed and implemented by Member States/regions and the strategic (Lisbon) objectives of the EU. A key role in this context belongs to the European Commission, which negotiates the NSRFs and particularly the OPs with Member States. However, final decision-making powers on specific funding opportunities lies largely in the hands of national and regional governments, allowing divergence from stated aims.

As regards CIP and FP7, the Commission plays a more important role, as specific Commission services (DG Enterprise, and DG Research and DG Information Society respectively) are the 'guiding hand' for the implementation of these initiatives. However, the 'imposition' of thematic priorities from EU level, raises issues related to their coherence with the priorities and needs of lower levels of government, particularly in terms of consultation of regional and local authorities.

This is a key question of coordination and consistency. The EU programmes are implemented in different countries with different political priorities. They are either just complementing national and regional policies or potentially become a surrogate policy framework in some fields (e.g. new Member States). Given such diversity it may be claimed that achieving an overall multi-level policy consistency will never be possible while policy coordination can assume only soft forms.

Temporal coherence is of critical relevance in the context of ensuring synergies between the programmes given the role of time lags indicated earlier in this report. In order to understand better the delays and lags in fully benefiting from various EU instruments it is necessary to develop a capacity to monitor and evaluate long-term (cross-)impacts between different programmes. This calls for developing stronger capacity in thematic evaluations focusing on internal and external coherence of the programmes.

In this context, it is worth underlining the following requirements to achieve policy coherence (OECD, p.24):

- Commitment by the political leadership is a necessary precondition to coherence and a tool to enhance it.
- Establishing a strategic policy framework helps ensure that individual policies are consistent with the government's goals and priorities.
- Decision-makers need advice based on a clear definition and good analysis of issues, with explicit indications of possible inconsistencies.
- The existence of a central overview and co-ordination capacity is essential to ensure horizontal consistencies among policies.
- Mechanisms to anticipate, detect and resolve policy conflicts early in the process help identify inconsistencies and reduce incoherence.
- The decision-making process must be organised to achieve an effective reconciliation between policy priorities and budgetary imperatives.
- Implementation procedures and monitoring mechanisms must be designed to ensure that policies can be adjusted in the light of progress, new information, and changing circumstances.
- An administrative culture that promotes cross-sectoral co-operation and systematic dialogue between different policy communities contributes to the strengthening of policy coherence.

Given the fact that implementing bodies of EU instruments in question exist on different levels (supranational, national and sub-national) and are governed by different logic (e.g. cohesion vs. excellence), ensuring actual policy coherence appears as a major challenge, especially on the ground where EU instruments mix with national and regional policies. It is clear that ensuring policy coherence exceeds capacities of any organisation acting alone and that it requires a clear political mandate and a some degree of coordination between different bodies at all levels and at different stages of programme implementation.

EU programmes may strive for consistency and coherence on the strategic level, however, understanding of actual synergies between different EU programmes on the ground will be limited due to the fact that EU instruments are just an element of national and regional policy mix. It is thus impossible –and dangerously misleading - to analyse such synergies in isolation from the national and regional policy context. In fact, the potential for synergies would have to be assessed on the level of individual region, type of company or other type of beneficiaries. Such analysis will be easier in the regions and countries where EU instruments are by far the most important public policy measures or de facto constitute policies (i.e. new Member States).

## **5.3** Recommendations for policy measures

The technical specifications for the study called for recommendations on additional policy measures possible or available in enhancing synergy effects at all levels of the analysis carried out

The basic argument developed by this report is that **long term planning is necessary on a regional level** in order to achieve synergies in case of e.g. using one instrument (e.g. FP7) as a preparatory activity to prepare a larger infrastructural investment (e.g. through the Structural Funds). The realisation of a need to combine more than one funding source must be internalised into planning at an early stage. At the same time, it is almost impossible for the Commission services to judge the pertinence of a major research infrastructure investment without a serious feasibility study taking into account the strategic interest not only for the host institute but also the regional economy.

Hence a **first** principal recommendation is that DG REGIO should ensure that the Structural Funds regional operational programmes should allocate sufficient resources to sustaining and further developing **'regional research and innovation strategic frameworks'**. A reserve funding pool could be included in ROPs with a view to its release based on the strategic framework analysis of needs. This approach is being currently followed for the case of the French regions and is likely to be extended to Polish regions.

A **second** recommendation concerns the possibility for the European Parliament to request that the Commission services commission **a major cross-cutting evaluation of inter-regional network funding covering all activities under three programmes**. This should be done before continuing to fund, parallel, overlapping networks of regional policy makers and practitioners with outputs of, too often, low value added without fully understanding the impact that they have on regional competitiveness.

**Thirdly**, the (ex-ante/impact assessments, interim and ex-post) **evaluation studies** on either of three instruments should include analysis of inter-relations with other instruments taking into account time lags and time inter-dependencies in achieving synergies. As an example, the recent ERA-NET Review 2006 mentioned above, considers 'the gap ERA-NETs filled' without looking at either of the other two programmes.

**Finally**, a more detailed assessment of **spatial coverage of possible synergies** is required, as an initial review suggests that only a limited number of regions have actual potential to benefit from synergies between the programmes. This requires strengthening regional level analysis of research and innovation potential and needs, notably by improving the statistical and qualitative data available (through for instance, EU level initiatives such as the Regional Key Figures database, or the TrendChart and ERAWATCH policy monitoring exercises, which are being extended to the regional level).

# Annexes

## **Annex 1: Flowchart of the Seventh Framework Programme**

#### Cooperation

#### Health:

- Biotechnology, generic tools and medical technologies for human health
- Translating research for human health
- Optimising the delivery of health care to European citizens

#### ICT:

- Pervasive and Trusted Network and Service Infrastructures
- Cognitive Systems, Interaction, Robotics
- Components, systems, engineering
- Digital Libraries and Content
- Towards sustainable and personalised healthcare
- ICT for Mobility, Environmental Sustainability and Energy
- Efficiency
- ICT for Independent Living and Inclusion
  - Entire and Empraina Tashnalasias

#### Energy:

- Hydrogen and fuel cells
- Renewable electricity generation
- Renewable fuel production
- Renewables for heating and cooling
- Co2 capture and storage technologies for zero emission power generation
- Clean coal technologies
- Smart energy networks

## Socio-economic sciences and humanities:

- Growth, employment and competitiveness in a knowledge society
- Combining economic, social and environmental objectives in a European perspective
- Major trends in society and their implications; Europe in the world; The citizen in the European union; Socioeconomic and scientific indicators; Foresight activities: Strategic activities IP/A/ITRE/ST/2006-16

## Food, agriculture and fisheries, biotechnology:

- Sustainable production and management of biological resources from land, forest and aquatic environments
- Fork to farm: Food (including seafood), health and well being
- Life Sciences, biotechnology and biochemistry for sustainable non-food products and processes

#### Nanosciences, nanotechnologies, materials and new production technologies:

Nanosciences and
 Nanotechnologies; Materials; New
 Production; Integration of technologies for industrial applications

## **Environment (including climate change):**

- Climate change, pollution, and risks
- Sustainable management of resources
- Environmental technologies
- Earth observation and assessment tools for sustainable development

#### **Transport (including aeronautics):**

Aeronautics and air transport;
 sustainable surface transport; horizontal activities for implementation of the transport Programme; Galileo

#### Security and space:

- Space-based applications at the service of European Society Strengthening the foundations of Space science and technology
- Security of citizens; Security of infrastructures and utilities; Intelligent surveillance and enhancing border security; Restoring security and safety in case of crisis; Security systems integration, interconnectivity and interoperability: Security and society

#### People

#### Marie Curie Actions:

- Initial
   Training of
   Researchers
- "Life-long Training and Career
   Development
- Industry-Academia partnerships and pathways
- International dimension
- Specific Actions

#### Ideas

#### European Research Council:

- ERCStartingIndependentResearcherGrants
- ERCAdvancedInvestigatorGrants
- Coordinat
   ion and
   support
   actions

#### Capacities

## Research infrastructure (CP and CSA):

- Support to existing research infrastructures (integrating activities, ICT-based einfrastructures)
- Support to new research infrastructures (design studies, construction of new infrastructure)
- Support for policy development and programme implementation, including support to emerging needs

# Activities of international cooperation (CSA):

- Bi-regional coordination of S&T cooperation including priority setting and definition of S&T cooperation policies
- Bilateral coordination for the enhancement and development of S&T Partnerships
- Supporting the coordination of national policies and activities of Member States and Associated States on international S&T cooperation

## Coherent development of research policies

Currently no call

## Research for the benefit of SMEs:

- Research for SMEs
- Research for SME associations
- Coordination and support activities

### Euratom

**Euratom:** 

### of )

- Fusion energy
- NuclearFission andRadiationProtection

### Research potential (CSA):

- Unlock and develop latent S&T forces in convergence and outermost regions
- Trans-national two-way secondments of research staff
- Acquisition and development of research equipment
- Organisation of workshops and conferences to facilitate knowledge transfer
- "Evaluation facilities" of research quality and capacity done by independent expert for research organisations in convergence regions
- International Co-operation

#### Science in society (CSA):

- A more dynamic governance of the science and society relationship
- Strengthening potential, broadening horizons
- Science and society communicate
- Strategic Activities

#### Regions of knowledge (CSA):

- Analysis, mentoring and integration of research actors
- Facilitating the emergence of new clusters and mutual information

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## Annex 2: Flowchart of the Co m petitiveness and Innovation Programme

#### Entrep reneursh ip and innovation programme

#### Entrepreneur ship and innovation culture:

- enco uraging entrepreneurial mindsets, skills and culture, and the balancing of entrepreneurial risk and reward, in particular for women and young people;
- encouraging a business environment favourable to innovation, enterprise development and growth;
- supporting policy development and cooperation between actors, including trans-national cooperation of national and regional programme managers, with a view to fostering the SME-friendliness of programmes and me asures;
- encouraging the creation and transfer of enterprises.

## Access to finance for the start-up and growth of SMEs and for investment in innovation activities, including eco-innovation:

- increasing the investment volumes of risk capital funds and investment vehicles promoted by business angels;
- providing leverage to SME debt financing instruments
- improving the financial environment for, and the investment readiness of, SMEs.

#### Main instruments:

- The High Growth and Innovative SME Fa cility (GIF): supply of equity for innovative SMEs in their early stages (GIF1) and in the expansion phase (GIF2).
- The SME Guarantee Facility: counter or co-guarantees to guarantee schemes operating in eligible countries, and direct guarantees to financial intermediaries, in order to increase the supply of debt finance to SMEs
- Europe Innova: creation of a pan-European incubation platform for start-ups in knowledge-intense services; Sectoral Innovation Watch: exchange and dissemination of results

#### Enterprise and in novation-related economic and administrative reform:

- collecting data, analysing and mon itoring performance, and developing and coordinating policy;
- contributing to the definition and promotion of competitiveness strategies related to industry and service sectors;
- supporting mutual learning for excellence in national, regional and local administrations.

#### SMEs cooper ation:

- fostering services in support of SMEs;
  - o networks offering information, feedback and business cooperation services, and innovation, technology and knowledge transfer services as well as services encouraging the participation of SMEs in the FP7
  - o Increase synergies among network service providers, notably by providing joint services
- contributing to measures helping and encouraging SMEs to coope rate with other enterprises and other innovation actors across borders, including SME involvement in the field of Europe an and international standardisation:
- promoting and facilitating international business cooperation, including at regional level and through SME networks favouring the coordination and development

#### Actions in relation to innovation:

- fostering sector-spec ific innovation, clusters, innovation networks, public-private innovation partnerships and coope ration with relevant international organisations, and the use of innovation management;
- supporting national and regional programmes for business innovation;
- supporting the take-up of innovative technologies and concepts and the innovative application of existing technologies and concepts;
- supporting services for trans-national knowledge and technology transfer and for the protection and management of intellectual and industrial property;
- developing and exploring new types of innovation services;
- fostering techno logy and know ledge through data archiving and transfer.

#### ICT po licy support programme

#### The single Europe an information space:

- ensure seamless access to ICT-based services and establish appropriate framework conditions for the rapid, appropriate and effective convergence of digital communications and services, incorporating, inter alia, interoperability, the use of open standards, and security and trust aspects;
- improve the conditions for the development of digital content, taking into account multilingualism and cultural diversity;
- monitor the Europe an information society, through data collection and analysis of the development, availability and use of digital communication services, including the growth of internet, access to and take-up of broadband

## Innovation through the wider adoption of and investment in $\mathbf{ICT}$

- promote innovation in processes, services and products enabled by ICT, in particular in SMEs and public services, taking into account the necess ary skills requirements;
- facilitate public and private interaction as well as partnerships for accelerating innovation and investments in ICT:
- promote and raise awareness of the opportunities and benefits of IC T and its new applications for citizens and businesses, including enhancing confidence in and openness to new ICT, and stimulating debate at the European level on emerging ICT trends and developments.

# An inclusive inform ation society, more efficient and effective services in areas of public interest and improved quality of life

- widen ICT, including digital content, access ibility and digital literacy;
- reinforce trust and confidence as well as support of ICT use, addressing, in particular, privacy concerns:
- improve the quality, efficiency, availability and accessibility of electronic services in areas of public interest and for ICTenabled participation, including, where appropriate, interoperable pan-European or cross-border public services as well as the development of comm on interest building blocks and the sharing of good practices.

#### Intelligent Energy programme

## Foster energy efficiency and the rational use of energy resources

- improvement of energy efficiency and the rational use of energy, in particular in the building and industry sectors
- supporting the preparation of legislative measures and their application.

#### Promote new and renewable energy sources and support energy diversific ation

- promoting new and renewable energy sources for centralised and decentralised production of electricity, heat and cooling, and thus supporting the diversification of energy sources
- integrating new and renewable energy sources into the local environment and the energy systems;
- supporting the preparation of legislative measures and their application.

# Promote energy efficiency and the use of new and renewable energy sources in transport:

- supporting initiatives relating to all energy aspects of transport, and the diversification of fuels;
- promoting renewable fuels and energy efficiency in transport;
- supporting the preparation of legislative measures and their application.

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### **Annex 3: Flowchart of the Structural and Cohesion Funds**

## European Regional Development Fund

Research and technological development (R&TD) and innovation

Convergence

- strengthening R&TD capacities and infrastructures;
- aid to R&TD, notably in SMEs, and to technology transfer:
- improvement of links between SMEs, HEI and research;
- development of business networks: PPP and clusters:
- support for business and tech. services to groups of SMEs;
- fostering entrepreneurship and innovation through financial engineering instruments for SME
   improving and busing services;

Information society, including aid and services to SMEs to adopt and use of ICT

Local development initiatives and aid for structures providing neighbourhood services to create new jobs (other than ESF)

Environment protection including aid to SMEs to promote sustainable production patterns

**Prevention of risks**, inc. natural and technological risks

**Tourism**, including sustainable tourism;

**Investments in culture**, including sustainable tourism

Transport investments, including improvement of TENS; strategies for clean transport

Energy investments, including improvements to trans-European networks; energy efficiency and renewable energies

Regional competitiveness and employment

ess Territorial cooperation

## Innovation and the knowledge economy

- enhancing regional R&TD and innovation capacities by supporting competence centres, promoting industrial R&TD, SMEs & tech. transfer stimulating innovation and entrepreneurship by e.g. supporting SMEs in introducing innovations onto
- the market, business networks and clusters, improving access to finance and business support services;
- promoting entrepreneurship by facilitating commercialisation & supporting spin-offs,
   financial engineering instruments and incubation

#### facilities, especially for Environment and risk prevention

- investment in rehabilitation of the physical environment
- development of infrastructure linked to biodiversity
- energy efficiency and renewable energy production
  clean and sustainable public transport (mainly urban areas)
- risk prevention
- protection and enhancement of natural and cultural heritage inc. sustainable

# Access to transport and telecom services of general economic interest

- strengthening secondary transport networks
- promoting access to, take up, and efficient use of ICTs
   by SMEs inc. action plans for very small and craft firms

#### Cross-border joint strategies for sustain-able territorial development

- entrepreneurship, inc. development of SMEs
- protection/management of natural and cultural resources, risk prevention
- urban-rural areas links
- reducing isolation via access to transport, info and communication nets, water, waste and energy
- •systems and facilities;
- collaboration and joint use of infrastructures, e.g. health, education

## Establishment and development of transnational cooperation

- innovation: scientific
  and tech networks, regional
  RTDI capacities
- environment: water management, energy efficiency, risk prevention, environment
- accessibility: activities to improve access to and quality of transport and telecom services
- sustainable urban development

## Reinforcement of regional policy

- interregional cooperation on innovation, knowledge, environment and risk prevention
- exchange of experience in identification, transfer, dissem. of best practice
- actions involving studies, data collection, observation, analysis of EU development trends

## European Social Fund

Convergence

Regional competitiveness and employment

## Increasing adaptability of workers, enterprises and entrepreneurs

- entrepreneurship and innovation and business start-ups
- lifelong learning and investment in human resources by enterprises, especially SMEs
- design and dissemination of innovative and more productive forms of work organisation

#### **Enhancing access to employment**

- -modernisation and strengthening of labour market institutions -mainstreaming and action to improve access to employment
- -increase the participation of migrants in employment and strengthen their social integration
- -facilitate mobility of workers and integration of cross-border labour markets

### Reinforcing the social inclusion of disadvantaged people

- integration and re-entry into employment for disadvantaged people
- diversity in the workplace and the combating of discrimination

#### **Enhancing human capital**

- -design and introduction of reforms in education and training systems to develop employability with a view to innovation and a knowledge economy
- -networking activities between higher education institutions, research and technological centres and enterprises

**Promoting partnerships, pacts and initiatives** through networking of relevant stakeholders to mobilise for reforms in the field of employment and labour market inclusiveness

## Expanding and improving investment in human capital

- reforms in education and training systems to respond to needs of a knowledge society and lifelong learning;
- participation in life-long learning
- human potential in research and innovation, notably via post-grad studies and training of researchers

# Strengthening institutional capacity and efficiency of public administrations and services

 improve policy and programme design, monitoring and evaluation
 policy capacity building in in the relevant fields

### Cohesion Fund

Trans-European transport networks (TENS)

#### **Environment**

- within the priorities of the Community environmental protection policy under the policy and Environmental Action Programme
- energy efficiency and renewable energy
- transport sector outside the trans-European networks, rail, river and sea transport, intermodal transport systems and their interoperability, management of road, sea and air traffic, clean urban transport and public transport.

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Annex 4: Main sources of information on the opinions of stakeholders on the programmes

Programmes concerned Stakeholders	EU research and innovation in general	FP7	CIP	Structural Funds
European Commission: summaries of consultations		SEC(2005) 430, Annex to the Proposal for the Council and European Parliament decisions on the 7th Framework Programme (EC and Euratom), Impact Assessment And Ex Ante Evaluation, COM(2005) 119 final, http://cordis.europa.eu/documents/documentlibrary/ADS0011908EN.pdf	Community Competitiveness and Innovation framework Programme, Summary of the results of the public consultation: <a href="http://ec.europa.eu/enterprise/enterprise_policy/cip/docs/summary_results.pdf">http://ec.europa.eu/enterprise/enterprise_policy/cip/docs/summary_results.pdf</a>	Working document of Directorate-General Regional Policy summarising the results of the public consultation on the Community Strategic Guidelines for Cohesion, 2007-2013 http://ec.europa.eu/regional_policy/sources/docoffic/2007/osc/report.pdf
European Institutions and Advisory Bodies	EURAB: European Research Advisory Board: Report and Recommendations on "Research and Technology Organisations (RTOs) and ERA" (December 2005): http://ec.europa.eu/resea rch/eurab/pdf/eurab 05 037_wg4fr_dec2005_en. pdf EURAB Report and Recommendations on SMEs and ERA (May 2004): http://ec.europa.eu/resea rch/eurab/pdf/eurab 04 028_sme_era.pdf	EURAB Report and Recommendations on "The Social Sciences and the Humanities in the 7th Framework Programme" (December 2005) http://ec.europa.eu/research/eurab/pdf/eurab2005_reprec_ssh_7fp_en.pdf  EURAB Report and Recommendations on "Science and Society": An agenda for a responsive and responsible European science in FP7 (September 2005): http://ec.europa.eu/research/eurab/pdf/eurab_05_0_35_wg6_final_report-rev_160905.pdf  EURAB Report and Recommendations on The Financial Perspective for Framework Programme 7 and Criteria for the Selection of Topics for the Work Programmes (10 May 2005): http://ec.europa.eu/research/eurab/pdf/eurab_05_0_15_wg2_final_report_en.pdf  EURAB Report and Recommendations on FP6 assessment with a focus on instruments and with a forward look to FP7 (April 2005): http://ec.europa.eu/research/eurab/pdf/eurab_05_0_14_wgi_final_report_en.pdf  EURAB Recommendation on the proposed European Institute of Technology (EIT) (April 2005): http://ec.europa.eu/research/eurab/pdf/eurab_05_0_21_1_eit.pdf  EURAB Report on Interdisciplinarity in Research (April 2004): http://ec.europa.eu/research/eurab/pdf/eurab_04_0_09_interdisciplinarity_research_final.pdf  EURAB Recommendations on European Technology Platforms (Jan 2004):	EURAB Report and Recommendations on "Boosting European Private R&D: The Foundation Stone of the New Lisbon Strategy" (October 2005): http://ec.europa.eu/research/eurab/pdf/eurab_05_036_wg5_final_report_en.pdf  Committee of the Regions: Opinion on the CIP (Dec. 2005): http://coropinions.cor.eu.int/coropiniondocument.aspx?language=en&docnr=150&year=2005:  Council: Opinion by the Economic Policy Committee on CIP (May 2005): http://register.consilium.eu.int/pdf/en/05/st09/st09449.en05.pdf  European Social and Economic Committee: Opinion on CIP (Dec. 2005): http://eescopinions.esc.eu.int/eescopiniondocument.aspx?language=en&docnr=1485&year=2005	EURAB Report and Recommendations on "Stimulating the regional potential for research and innovation" (November 2005): http://ec.europa.eu/research/eurab/pdf/eurab05041 wg3 finalreport-nov05 en.pdf EURAB Report and Recommendations on The Structural Funds and The Research Component (May 2004): http://ec.europa.eu/research/eurab/pdf/eurab04037 struct funds research compreport.pdf: Committee of the Regions: Opinion of 12 October 2005 on the Communication from the Commission Third progress report on cohesion: Towards a new partnership for growth, jobs and cohesion, COM(2005) 192 final, http://www.cor.europa.eu/cms/pages/documents/coter/cdr141-2005 fin ac en.doc Committee of the Regions: Opinion of 13 April 2005 on the Proposal for a Regulation on the Cohesion Fund (COM(2004) 494 final - 2004/0166 (AVC), http://www.cor.europa.eu/cms/pages/documents/coter/cdr234-2004 fin ac en.doc European Economic and Social Committee: Opinion for a Council Regulation laying down general provisions on the European Regional Development Fund, the European Social Fund and the Cohesion Fund (COM(2004) 492 final —

	http://ec.europa.eu/research/eurab/pdf/recommend ations9.pdf CEN (European Committee for Standardization)/STAR Recommendations for ERA and the 7 <sup>th</sup> FP: http://cordis.europa.eu/fetch?ACTION=D&SESSI ON=&DOC=1&LAN=EN&RCN=6826&CALLE R=FP7_LIB		2004/0163 (AVC)) http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:C:2005:255:0079:0087:EN:PDF
UNICE (Union of Industrial and Employer's Confederations of Europe): Press release: Two key programmes for competitiveness (April 2005): http://212.3.246.117/Common/GetFile.asp?DocID=14581&logonname=guest&mfd=off Assembly of European Regions: Position on the EU research and development policy: ftp://ftp.cordis.europa.eu/pub/fp7/docs/aer_position.pdf European Regions Research and Innovation Network (ERRIN): Statement on the EU Budget and Research spending: http://www.errin-brussels.org/TOOL_72_mod/uploads/statement %20(final-cardiff)~003.doc	NORFACE (New Opportunities for Research Funding Co-operation in Europe), Position paper on FP7 and a European Research Council: ftp://ftp.cordis.europa.eu/pub/fp7/docs/norface_fp7.pdf  EUREKA: EUREKA – A cornerstone of the European research and innovation area: http://www.belspo.be/belspo/eureka/news/2006/Report2006.pdf  EUREKA- Policy makers target greater synergy between framework programme and Eureka: http://cordis.europa.eu/fetch?CALLER=EN_NEW S&ACTION=D&SESSION=&RCN=23884	Innovation Relay Centre Network, A European Commission Network for supporting Competitiveness and Innovation in Europe, http://www.help-forward.gr/en/doclib/IRCsInCIP.pdf, Benchmarking: the Search for Innovation Relay Centres' Effective Marketing Practices: http://irc.cordis.lu/library/request_doc.cfm?doc_id=2607  European Community Business and Innovation Centre, Contribution to the Stakeholder consultation on the CIP, Feb.2005 http://ec.europa.eu/enterprise/enterprise_policy/cip/docs/contributions/ebn.pdf  Euro Info Centre BE009, Consultation document on the CIP, Feb.2005, http://ec.europa.eu/enterprise/enterprise_policy/cip/docs/contributions/eicbe009.pdf  Innovation Relay Centres, UK and Ireland's IRC Network's Response To The CIP Consultation, http://ec.europa.eu/enterprise/enterprise_policy/cip/docs/contributions/ircscotland.pdf  UNICE response on the Commission consultation on CIP (Feb. 2005): http://europa.eu.int/comm/enterprise/enterprise_policy/cip/docs/contributions/unice.pdf  UEAPME (European Association of Craft, Small and Medium-sized Enterprises): Position paper on the Framework Programme for Competitiveness and Innovation (Feb. 2005): http://www.ueapme.com/docs/pos_papers/2005/PP_FCIP.doc  Eurochambres: Position on the Framework Programme for Competitiveness and Innovation (Feb. 2005): http://www.ueapme.com/docs/pos_papers/2005/PP_ECIP.doc  Eurochambres: Position on the Framework Programme for Competitiveness and Innovation (Feb. 2005): http://www.eurochambers.be/PDF/pdf_position_2005/PP_External_dimension_of_Lisbon.pdf  SME Union: SME Circle Resolution on CIP, (Feb. 2006): http://www.sme-union.org/viewdoc.php?LAN=en&FILE=doctext&ID=180  EEB (European Environmental Bureau)-UEAPME-EUCETSA(European Committee of Environmental  Technology Suppliers Associations): Press release "Business and environment federations jointly call upon Commission to maintain substantial funding for eco-innovation", (4 April 2006): http://www.eeb.org/press/CCC-press-release-040306.pdf	European Regional Information Society Association (ERISA): http://www.ianis.net/downloadables/reposit ory/eris@-Opinion- Lisbon and the Regions_en.pdf International Network for sustainable Energy (INFORSE-Europe), position on Structural Funds, Dec.2004: http://www.inforse.dk/europe/EU_SF_INF ORSE.htm

			European Business Angel Network, Position on the CIP, http://ec.europa.eu/enterprise/enterprise_policy/cip/docs/contributions/eban.pdf	
Sectoral associations	Information, Communications and Consumer Electronics Industry Technology Association): Position on guidelines for future European Union policy to support Research: fttp://ftp.cordis.europa.eu /pub/era/docs/eicta_posit ion.pdf	European Science Social Network: Amendments proposed: http://www.essfnetwork.org/index.html European Automotive Research Partners Association: Position paper for FP7: ftp://ftp.cordis.europa.eu/pub/fp7/docs/earpa_posit ion_fp7.pdf EUREC FP7 research priorities for the Renewable Energy Research: ftp://ftp.cordis.europa.eu/pub/fp7/docs/eurec_fp7.p df	European Association of Development Agencies, Position on the CIP, http://ec.europa.eu/enterprise/enterprise_policy/cip/docs/contributions/eurada.pdf European Association of Cooperative Groups, Position on the CIP, Feb.2005, http://ec.europa.eu/enterprise/enterprise_policy/cip/docs/contributions/ecg.pdf EUROCOMMERCE, Position on the CIP, Feb.2005 http://ec.europa.eu/enterprise/enterprise_policy/cip/docs/contributions/eurocommerce.pdf European Federation of Regional Energy and Environment Agencies, Opinion on the CIP, Feb.2005, http://ec.europa.eu/enterprise/enterprise_policy/cip/docs/contributions/federane.pdf European Renewable Energies Federation, Belgium, http://ec.europa.eu/enterprise/enterprise_policy/cip/docs/contributions/erec.pdf European Renewable Energy Council, Belgium, http://ec.europa.eu/enterprise/enterprise_policy/cip/docs/contributions/erec.pdf Network of European Financial Institutions for Small and Medium Sized Enterprises, Comments and suggestions on the CIP, http://ec.europa.eu/enterprise/enterprise_policy/cip/docs/contributions/nefi.pdf Association européenne du cautionnement mutuel, Comments on the CIP, Jan.2005, http://ec.europa.eu/enterprise/enterprise_policy/cip/docs/contributions/aecm_en.pdf Association of European Cooperative and Mutual Insurers, Comments on the CIP, Feb.2005 http://ec.europa.eu/enterprise/enterprise_policy/cip/docs/contributions/aecm_en.pdf	EPHA's (European Public Health Alliance), Comments to the Consultation on Cohesion Policy in Support of Growth and Jobs, Community Strategic Guidelines, 2007-2013: http://www.epha.org/IMG/pdf/EPHA_response_consultation_Cohesion_Funds_20050 928-2.pdf
Funding agencies, consultancies, research institutes	Fraunhofer- Gesellschaft: Comments on the Commission's Communication "Science and technology, the key to Europe's future –	EFPConsulting's informal response to the "Proposed rules of participation in FP7 - COM(2005) 705 final"  ftp://ftp.cordis.europa.eu/pub/fp7/docs/efpc.pdf INRA: Contribution on the instruments of the 7 <sup>th</sup> FP:  http://www.eurosfaire.prd.fr/bibliotheque/pdf/avis_organismes/INRA_7PCRD_v21_06-2004.pdf	Erasmus University, the Netherlands, http://ec.europa.eu/enterprise/enterprise policy/cip/docs/contributi ons/erasmuscontribution.pdf University College Dublin, Ireland, http://ec.europa.eu/enterprise/enterprise_policy/cip/docs/contributi ons/dublinuniversity.pdf Wuppertal Institute for Climate, Environment and Energy, Germany,	Technopolis, MERIT, Logotech, Lacave, Allemand&Associes, Ismeri Europa: Strategic Evaluation on Innovation and the knowledge based economy in relation to the Structural and Cohesion Funds, for the programming period 2007-2013: <a href="http://ec.europa.eu/regional_policy/sources/docgener/evaluation/pdf/strategic_innov.p">http://ec.europa.eu/regional_policy/sources/docgener/evaluation/pdf/strategic_innov.p</a>

Education, the Netherlands, http://ee.curopa.cu/enterprise/enterprise_policy/cip/docs/contributions/bbr and concl.pdf	Guidelines for future European Union policy to support research" (Oct.2004): ftp://ftp.cordis.europa.eu /pub/fp7/docs/fhg_fp7.p	European Fisheries and Aquaculture Research Organisation (EFARO): Recommendations for the future FP 7 programs to be implemented at the EU level in the field of fisheries and aquaculture: <a href="mailto:ttp://ftp.cordis.europa.eu/pub/fp7/docs/efaro_views_fp7.pdf">ttp://ftp.cordis.europa.eu/pub/fp7/docs/efaro_views_fp7.pdf</a>	http://ec.europa.eu/enterprise/enterprise_policy/cip/docs/contributions/wuppertalinstitute.pdf University of Abertay Dundee, UK, http://ec.europa.eu/enterprise/enterprise_policy/cip/docs/contributions/abertaydundee.pdf Netherlands Association of Universities of Professional	df Public Policy and Management Institute, Impact assessment for Lirhuania of the draft 2007- 2013 EU structural funds Regulations, www.euro.lt/old/Pov_tyrimai/041215%20
Philips' comments on Commission's proposal for FP7:   ftp://ftp.cordis.europa.eu/pub/fp7/docs/philipscomments/p7proposal.doc   Philips' suggestions for "Sense and Simplicity" in FP7:   ftp://ftp.cordis.europa.eu/pub/fp7/docs/philipscomments/p7proposal.doc   Philips' suggestions for "Sense and Simplicity" in FP7:   ftp://ftp.cordis.europa.eu/pub/fp7/docs/philipscomments/p7proposal.doc   Philips' suggestions for "Sense and Simplicity" in FP7:   ftp://ftp.cordis.europa.eu/pub/fp7/docs/philipscomments/p7proposal.doc   Philips' suggestion for "Sense and Simplicity" in FP7:   ftp://ftp.cordis.europa.eu/pub/fp7/docs/philipscomments/proposal.doc   Philips' suggestion for "Guidelines for future European Union policy to support research":   ftp://ftp.cordis.europa.eu/pub/fp7/docs/philipscomments/proposal.doc   Private organizations   ftp://ftp.cordis.europa.eu/pub/fp7/docs/philipscomments/proposal.doc   f	<u>uı</u>		http://ec.europa.eu/enterprise/enterprise_policy/cip/docs/contributions/hbo_raad_concl.pdf  Trinity College, Ireland, http://ec.europa.eu/enterprise/enterprise_policy/cip/docs/contributions/trinitycollege.pdf OSEO, France, http://ec.europa.eu/enterprise/enterprise_policy/cip/docs/contributions/oseo.pdf  Italian Business Angels Network, Italy,	santr.EN.pdf  Danish Technological Institute, Thematic Evaluation of the Structural Funds' Contributions to the Lisbon Strategy, February 2005, http://ec.europa.eu/regional_policy/sources
FP7: ftp://ftp.cordis.europa.eu/pub/fp7/docs/philipscom mentsfp7proposal.doc Philips' suggestions for "Sense and Simplicity" in FP7: ftp://ftp.cordis.europa.eu/pub/fp7/docs/philipssens e.simplicityfp7.doc Microsoft position on the "Guidelines for future European Union policy to support research": ftp://ftp.cordis.europa.eu/pub/fp7/docs/microsoft f p7.pdf  Private organizations  FP7:  thtp://ec.europa.eu/enterprise_policy/cip/docs/contributi ons/madi.pdf Fondazione Fiera Milano, Position paper on the CIP, Feb.2005 http://ec.europa.eu/enterprise_policy/cip/docs/contributi ons/fiera.pdf Senternovem, Response to the consultation on the CIP, Feb.2005 http://ec.europa.eu/enterprise_policy/cip/docs/contributi ons/senternovem, AEA Technology Environment, Comments on the CIP, Feb.2005, http://ec.europa.eu/enterprise/enterprise_policy/cip/docs/contributi ons/senternovem, pdf AEA Technology Environment, Comments on the CIP, Feb.2005, http://ec.europa.eu/enterprise/enterprise_policy/cip/docs/contributi ons/senternovem, pdf AEA Technology Environment, Comments on the CIP, Feb.2005, http://ec.europa.eu/enterprise/enterprise_policy/cip/docs/contributi ons/senternovem, pdf AEA Technology Environment, Comments on the CIP, Feb.2005, http://ec.europa.eu/enterprise/enterprise_policy/cip/docs/contributi			ons/iban.pdf National Technology Agency, Finland, http://ec.europa.eu/enterprise/enterprise_policy/cip/docs/contributi ons/tekes.pdf Czech-Moravian Guarantee and Development Bank, Czech Republic, http://ec.europa.eu/enterprise/enterprise_policy/cip/docs/contributi	
NEN Construction, Comments on the CIP, Feb.2005,		FP7: ftp://ftp.cordis.europa.eu/pub/fp7/docs/philipscom mentsfp7proposal.doc Philips' suggestions for "Sense and Simplicity" in FP7: ftp://ftp.cordis.europa.eu/pub/fp7/docs/philipssens e_simplicityfp7.doc Microsoft position on the "Guidelines for future European Union policy to support research": ftp://ftp.cordis.europa.eu/pub/fp7/docs/microsoft_f	on the CIP, Feb.2005, http://ec.europa.eu/enterprise/enterprise_policy/cip/docs/contributi ons/escc.pdf  MADI Group, Comments on the CIP, Feb. 2005 http://ec.europa.eu/enterprise/enterprise_policy/cip/docs/contributi ons/madi.pdf  Fondazione Fiera Milano, Position paper on the CIP, Feb.2005 http://ec.europa.eu/enterprise/enterprise_policy/cip/docs/contributi ons/fiera.pdf Senternovem, Response to the consultation on the CIP, Feb.2005 http://ec.europa.eu/enterprise/enterprise_policy/cip/docs/contributi ons/senternovem.pdf AEA Technology Environment, Comments on the CIP, Feb.2005, http://ec.europa.eu/enterprise/enterprise_policy/cip/docs/contributi ons/sea.pdf	

**Annex 5: Overview of thematic focus of the three programmes** 

POLICY OBJECTIVES	Structural Funds	FP7	СІР	OTHER EU POLICY
Coordination of RTD & Innovation Policies Objectives and Means	what: seeks to coordinate policy choices of regions and local authorities towards more investment and better interaction between RTD players within and beyond activities funded under the structural funds seeks to stimulate RTD developments in convergence regions support for more concentration of capacities around poles of excellence initiatives in favour of university-industry links, SME participation and availability of private funding how: earmark of 60 to 75% of structural funds for Lisbon objectives	what:  Supports integration of European research area by supporting small and large scale collaboration between RTD and knowledge producers around themes relevant to EU or contributing o its competitiveness on a world scale. supports the transnational or EU wide policy coordination exchanges between member states (ms), regions or other public authorities and exchanges between these and RTD players on specific topics or around structuring initiatives.  how: 4 programmes + JRC & Euratom covering research themes, research capacities, research practices and organisational, legal and governance dimensions	strategies, smes competitiveness and innovation potential how support to the networking of intermediaries, to collaboration between experts & analysts at EU level on key issues informing policy measures to gear public sector investments towards innovative	Programmes focusing on the upgrade of the means towards a knowledge society (education & training, communication and transport networks, are directly related as are ongoing EU level initiatives to reshape the regulatory environment towards stimulating research and innovation.
Transnational, Cross Border Cooperation	between regions indirectly between RTD players through regional authorities how use of existing networking instruments to bring together regional authorities around exchanging best practice funds policy tools and information gathering for EU wide benchmarking purposes	between RTD players – particularly universities, industrial firms and individual researchers between policy-makers and experts how: Transnational research projects throughout FP7 but especially under FP7 Cooperation Support of permanent transnational cooperation on a large scale: joint	intermediaries providing expertise advice and assistance	Community:Lisbon Programme

POLICY OBJECTIVES	Structural Funds	FP7	CIP	OTHER EU POLICY
		technology initiatives; technology platforms joint technology initiatives		
		larger cooperation between a variety of actors from policy to researcher and user		
		funds trans-European networks of intermediaries supporting specific stakeholders or a particular phase of RTD to product		
		funds policy tools and information gathering for EU wide benchmarking purposes		
		Reinforcing the network of National Contact Points (NCP) for the Seventh Framework Programme under "Research Potential", by promoting trans-national co-operation		
Increase Investment: In RTD: Increase Availability of Risk Capital	Cohesion strategic guidelines: aim to encourage regions and member states to support non-grant instruments such as loans, secured debt financing for		measures to inform and help investors and private sector lenders evaluate risks	EU policy initiatives on state aid for research and innovation (aiming at adequate
Particularly to SMEs	subordinate debt, convertible instruments (mezzanine debt) and risk capital (e.g. seed capital and venture	priorities through ETP to be made permanent fixtures through Joint	SME Finance instrument to be managed by the EIB and EIF and allocated on the basis of private sector funding decisions.	regulatory environment)  public procurement (aiming at identifying and encouraging the use of public procurement to stimulate innovation
	JEREMIE and JESSICA schemes guarantee and mutual guarantee mechanisms to facilitate access to micro-credit by SMEs with support the EIB (EIF)			
	JASPERS facility providing backing from EIB to public private partnerships (not exclusively for RTD related activities			

POLICY OBJECTIVES	Structural Funds	FP7	CIP	OTHER EU POLICY
Increase Investment: In RTD: Increase Availability of Public Funds for RTD & Innovation	Earmarking concept and guidelines aim to direct the focus of public funding policies beyond the structural funds towards grants improving the structure and concentration of RTD & innovation such as science poles	increased overall RTD FP budget – particularly through the new 'idea' programme which supports research outside of all other policy considerations  fp7 capacities provide funding for 'soft-measures complementary to RTD-innovation funding from structural funds. It addresses regions specifically convergence and outermost regions	Funds support measures to increase participation of SMEs in FP7 projects	Revised state-aid regulation
Supporting Organisational & Spatial Structures Favourable to Public- Private Cooperation	Community Strategic Cohesion Guidelines: improving knowledge and innovation for growth encourages direct support for shared infrastructure and coordination of clusters	players at EU level on key strategic	Supports the development of expert knowledge on clusters  Around priority sectors funds the networking of clusters	European patent law still in progress Industry 'lead markets' policy
Support to Knowledge And Technology Transfers Mechanisms, Initiatives and Structures	Community Strategic Cohesion Guidelines: improving knowledge and innovation for growth Earmarking concept and guidelines aim to direct the focus of public funding policies beyond the structural funds towards grants in support of public research reaching out to the private sector	Addresses IPR within the context of its own funded collaborative research activities and supports coordinating activities supporting the exploitation of results generated by these projects European Technology Platforms (ETP)  FP7 - Euratom Research includes training and mobility of researchers	Funds advice and assistance network for the take up of scientific results by SME	European patent law still in progress Industry 'lead markets' policy (linked to ETP)

POLICY OBJECTIVES	Structural Funds	FP7	CIP	OTHER EU POLICY
	support to spin offs, incubators, sme participation in collaborative projects.	under supported activities		
Education towards S&T skills acquisition and support to scientific excellence	Guidelines recommend step up investment in human capital, particularly by training researchers at national level  ESF supports vocational training in convergence regions	European Institute of Technologies to be set up to offer high level training.		Education and Training programmes focusing on lifelong learning, university degrees and Researchers  Network of VET
Careers & Opportunities of researchers	Community Strategic Cohesion Guidelines invites regions to: create conditions to attract researchers trained abroad Invest in the quality of research infrastructures.	FP7 People programme aims at supporting the development of 'European' careers for researchers by expanding on FP6 Marie Curie  FP7 ideas supports scientific excellence by funding individuals and teams encouraging them to pursue their own research with up to 500 000 euros per researcher – no restrictions on topics		Researchers Charter and other initiatives aimed at improving the employment and working conditions
Supporting the networking of research institutions in Europe, supporting the mobility of researchers between public & private sector and across European institutions and third countries	Set up regional exchanges between researchers & institutions – link up centres of excellence, particularly in support of convergence regions researchers and research institutions	ERA-MORE network and European Researchers Mobility Portal  ERA-NET supports the set-up of permanent networks between institutions and teams achieving scientific excellence in several EU MS around strategic themes – it includes support to multidisciplinary exchanges via events  In direct support of Cohesion Policy: Regions of Knowledge exchange of		Other community funded programmes towards transnational collaborations between researchers COST EUREKA EUROCORES
		Regions of Knowledge exchange of staff between research centres		

POLICY OBJECTIVES	Structural Funds	FP7	СІР	OTHER EU POLICY
favour of mobility of researchers and interactions between private & Public	multiplying opportunities for	offers <i>de facto</i> an opportunity to conduct collaborative research	FP7 networks of excellence Encourage thematic networks between industrial clusters	Young Innovative Companies Framework for changes to fiscal policy in favour of employing researchers in young innovative companies proposed by the Commission to the Council

Annex 6: Complementarities on policy themes beyond the Lisbon agenda

POLICY OBJECTIVES	STRUCTURAL FUNDS	FP7	СІР
ENVIRONMENT/ CLIMATE CHANGE	Strategic cohesion policy Guidelines includes the full range of the Lisbon objectives on the issues under:  Making Europe and its regions more attractive places to invest and work  expand and improve transport infrastructures  strengthen the synergies between environmental protection and growth  address Europe s intensive use of traditional energy sources  20% of cohesion policy budget (approx 64Billion Euros) to  transport (TENs);  sustainable transport;  environment;  renewable energy	<ul> <li>Climate Change) priority</li> <li>Health</li> <li>Food, Agriculture and Fisheries, Biotechnology</li> <li>Information &amp; communication technologies</li> <li>Nanosciences, nanotechnologies, materials &amp; new production technologies</li> <li>Energy</li> </ul>	diversification supporting technological solutions to reduce greenhouse gas emissions caused by the transport sector

POLICY OBJECTIVES	STRUCTURAL FUNDS	FP7	CIP
ENERGY	Energy supply	FP7 - Euratom Research Nuclear Fission and Radiation Protection Activities supported within the context of this programme include:	
		- Management of radioactive waste	
		- Research to underpin the safety of reactor systems, taking into account new challenges and radioactive waste management challenges	
		- Radiation protection	
		- Research infrastructures	
		- Human resources, mobility and training.	
		JRC institute of Energy funded under FP7	
		FP7 Capacities include energy research (one of the 10 top priorities) as do a number of the ETP	
ICT	Funding ICT Infrastructures	ICT research is widely covered by its own topic under FP cooperation  ICT deployment is supported under the FP7 Capacities 2007 work-programme.  To enhance research and innovation capacity throughout Europe. The FP7 capacities programme aims to develop and fully exploit the EU's research capacities through large-scale infrastructures (including e-infrastructures such as GEANT, Grids, Supercomputing), regional (Regions of Knowledge) and cross-border cooperation and innovating SMEs  Several ETP cover issues related to ICT research priorities, 1 addresses network and access and 2 address content & software	investment and wide adoption, by providing a testing ground for pan-European electronic services in both the public and private sectors -reinforce cultural and linguistic identities by support for the production and distribution of

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# Glossary

CIP: Competitiveness and Innovation framework Programme 2007-2013

CP: Collaborative Projects CRAFT: Cooperative Research

CSA: Coordination and Support Action

DG REGIO: General Directorate for Regional Policy, European Commission

EGCC: European Grouping of Cross-border Cooperation

EIB: European Investment Bank EIF: European Investment Fund

EIP: Entrepreneurship and Innovation Programme ERDF: European Regional Development Fund

ESF: European Social Fund

ETF-SU: European Technology Facility Start-Up

EU: European Union

FP7: Seventh Research Framework Programme

GDP: Gross Domestic Product GNP: Gross National Product HEI: Higher Education Institution

ICT: Information and Communication Technologies

**IP: Integrating Project** 

IPR: Intellectual Property Rights IRC: Innovation Relay Centres IRE: Innovating Regions in Europe

JASPERS: Joint Assistance in Supporting Projects in European Regions JEREMIE: Joint European Resources for Micro-to-Medium Enterprises JESSICA: Joint European Support for Sustainable Investment in City Areas

JEV: Joint European Venture JRC: Joint research Centre

MAP: Multi-annual Programme for enterprise and entrepreneurship

MS: Member-States

NoE: Network of Excellence

NSRF: National Strategic Reference Framework Programme

OECD: Organisation for Economic Cooperation and Development

R&D: Research & Development

RFEC: Regions for Economic Change' RIS: Regional Innovation Strategy

RoK: Regions of Knowledge

**ROP:** Regional Operational Programme

RPIA: Regional Programme of Innovative Actions

RSFF: Risk-Sharing Finance Facility

RTDI: Research, Technology, Development and Innovation

SCA: Seed Capital Action

SF: Structural Funds

SME: Small- and Medium-sized Enterprises

SMEG: SME Guarantee Facility

STREP: Small or medium-scale focused research actions

VC: Venture Capital