

Strategic Evaluation on Innovation and the Knowledge Based Economy in relation to the Structural and Cohesion Funds, for the programming period 2007-2013

Contract n° 2005 CE.16.0.AT.015

A report to:

**The European Commission
Directorate-General Regional Policy
Evaluation and additionality**

Country Report: BELGIUM

Version: Final

**Report produced by:
Claire NAUWELAERS
MERIT – University of Maastricht**

TECHNOPOLIS



In association with



ISMERI EUROPA



**LACAVE, ALLEMAND
& ASSOCIES
CONSULTANTS**



7 July 2006

Legal Notice

Neither the European Commission, nor any person action on behalf of the Commission is responsible for the use which might be made of the following information.

The views of this study are those of the authors and do not necessarily reflect the policies of the European Commission.

CONTENTS

Executive Summary	i
1 Introduction	1
2 Investing in innovation and knowledge: a comparative overview of regional performance	3
2.1 Country overview: innovation and the knowledge economy	3
2.2 Regional disparities and recent trends	6
2.3 Conclusions: innovation and knowledge performance	9
3 Innovation and knowledge: institutional context and policy mix at national and regional levels	10
3.1 Institutional and legal framework for innovation and the knowledge economy	10
3.2 Policy mix assessment	14
3.3 Conclusions: the national innovation system and policy mix	18
4 Structural Funds interventions to boost innovation and create a knowledge economy: 2000-2006	20
4.1 Strategic framework for Structural Fund support to innovation and knowledge	20
4.1.1 Strategic approach to innovation & knowledge in Structural Fund programmes	20
4.1.2 Specific measures in favour of innovation and knowledge	24
4.2 Learning from experience: the Structural Funds and innovation since 2000	26
4.2.1 Management and coordination of innovation & knowledge measures	26
4.2.2 Effects and added value of Structural Fund support for innovation and knowledge	29
4.3 Conclusions: Structural Funds interventions in favour of innovation and knowledge	33
5 Regional potential for innovation: a prospective analysis	35
5.1 Factors influencing regional innovation potential	35
5.2 A prospective SWOT appraisal of regional innovation potential	37
5.3 Conclusions: regional innovation potential	40
6 Future priorities for Structural Fund support for innovation and knowledge: options for intervention	41
6.1 Strategic orientations for Structural Fund investments in innovation and knowledge	41
6.2 Operational guidelines to maximising effectiveness of Structural Fund interventions for innovation and knowledge	45

Executive Summary

Belgium holds many assets to develop as a knowledge-based economy: a core location in Europe, an open economy dominated by international functions, the presence of decision centres of multinational enterprises, a good availability of productive and well-educated workforce, good quality of life supported by an effective social security system. However, there are many opportunities still to be exploited to evolve along the path of a knowledge-based economy: linking its foreign-owned enterprises to industrial fabric, creating more connections between scientific and technological strengths, spreading R&D and innovation more widely in the productive fabric. The intensity of these challenges varies between the three regions, and the decentralised governance system means that policy responses need to be developed at a regional level.

Wallonia, a “local science and service centre”, is a region with multiple assets but its development has been insufficiently based on the exploitation of the knowledge economy as a “high road” for development. This situation is slowly changing, however to evolve towards economic activities with higher value-added, it would be necessary to implement a better strategic framework for the exploitation of the knowledge base. This strategy should ensure not only a better diffusion of existing competences, but also increased absorptive capacities in regional companies. Well-thought out and selective choices, effective incentives, and avoidance of counter-productive sub-regional approaches, are all necessary to ensure greater effectiveness of the regional innovation stimulation tools. The main orientations of the Walloon Single Programming Documents (SPDs) during the 2000-2006 period correspond to the key challenges of restructuring an ageing productive fabric towards more knowledge-based activities: they include measures to reinforce the availability and diffusion of new technologies in the productive sector, measures to stimulate the development of innovative projects in companies, and actions to increase adaptation of the workforce to new, knowledge-based activities. However, their implementation has led to disappointing results. Across all measures, a weak strategic orientation of regional innovation policy is a factor hampering the effective intervention of the Structural Funds.

Flanders, a “central technology” region, enjoys a very favourable economic situation, and its development rests in large part on the existence of high-tech activities, supported by strong competence centres. However, this success is fragile, as recent delocalisations and decreasing trends in business R&D show. Endogenous dynamics might not be sufficient to compensate for these adverse globalisation trends, and in particular entrepreneurship would need reinforcement to ensure regional value-added creation. A strategic innovation policy approach is being developed, aiming at ensuring networking and synergies between assets in public and private sectors. Somewhat surprisingly in this context, only two of the four Flemish SPDs have included knowledge and innovation actions in their mix of measures. Even in these two cases, the interventions are of sub-critical size and failed to deliver meaningful effects as they were not incorporated into the regional innovation strategy and managed at regional level. As in Wallonia, the mechanism of direct R&D subsidies to

companies is not seen as efficient as it only reaches companies with a high-tech profile, and not traditional SMEs that are in need of innovation stimulation.

The weak status of the region of **Brussels-Capital, a “science and service centre”** region, in the complex federal system of Belgium, acted until now as a barrier to develop fully-fledged innovation policies. This stands in contrast with the potential of the region with respect to its location, its international role and the availability of key assets for the knowledge-based economy. The fight against pressing social dualisation problems, which need to be tackled in the short term, is overshadowing opportunities for longer-term opportunities to develop the region as a major innovation centre in Europe. Accordingly, the SPDs in Brussels do not incorporate an innovation dimension. A change of perspective is needed, and a smart constitution of alliances with the other Belgian and neighbouring regions to develop this region as a knowledge-based international city. The challenge is large, but so are the assets of the region.

The analysis of regional contexts and Structural Funds interventions delivers six recommendations for future investments of the Structural Funds in Belgium.

Recommendation 1: Concentrate interventions on “systemic” instruments. Belgium is well endowed with innovation and knowledge resources but the main bottleneck lies in absorptive capacity of businesses for new technologies and lack of innovation-orientation of too many SMEs. Future Structural Funds investments should therefore give priority to “systemic” instruments, i.e. instruments that are targeting joint developments of business, research and training actors in specific sectors, with a view to enhance innovation. Such strategies are likely to bring the expected value-added from Structural Funds interventions, which today is not ensured due to: a) uncertainty in terms of the need-orientation of knowledge centres funded in current programmes; and b) inability of individual innovation aids to reach smaller companies which are not necessarily involved in technology creation.

Recommendation 2: Integrate Structural Funds interventions in the core of a strategic and integrated regional innovation policy. Developing strategic approaches to regional innovation policy is a prerequisite for the decisions on future Structural Funds interventions in Belgium. This implies notably a clear vision of missions, duties, outcomes and complementarities between members of the innovation support infrastructure, and monitoring at regional level. Structural Funds interventions should be integrated into these better-articulated systems. A combination should be found between exploratory approaches – in which EU-funded operations serve as a testing ground for innovative actions with an expected leverage effect – and a streamlining of EU-funded actions into the core of regional innovation policy. In the former case, it is important to avoid one-off funds injections (especially in the case of projects with a large size) without making sure that further necessary public support will be available under regional public funds.

Recommendation 3: Design interventions and projects with sufficient critical size. Future interventions of Structural Funds should be articulated in programmes of a size adapted to the challenges ahead: dispersed interventions managed at the micro level of projects should be abandoned and replaced by a concentration of funds in a limited number of well-selected initiatives with high expected value-added and

leverage effects. This recommendation has implications on the number of Operational Programmes that can be supported. Especially in the case of Flanders, under the hypothesis of unchanged budget, a reconduction of four programmes of a relatively small size is likely to lead to ineffective results.

Recommendation 4: Combine regional drive with sub-regional targeting/implementation. Rigid sub-regional zoning definition is not efficient for innovation and knowledge promotion. Regional authorities should be in the driving seat for strategic definition and main decisions of the Structural Funds Programmes. This will imply a change in particular for Flanders, with a decrease of the role of Provincial authorities in favour of a stronger involvement of the regional authority. Such a main role for regional authorities is not contradictory to a focus of interventions on particular zones facing more challenging development problems. With careful selection of projects, clear missions including geographical targeting, use of preferential or reinforced instruments for the particular zones, and monitoring of these aspects, a more flexible approach to geographic definition could be adopted without putting prejudice to effectiveness of actions. Both in Flanders and Wallonia, strategic sectors and technologies have been defined as priority of action of the regional governments. Some of these “poles” are more likely to bring benefits to disadvantaged zones of the regions, due to the particular location of their node or to an over-representation of the sector in certain zones: these poles could be preferentially supported with Structural Funds in order to combine localised effects and overall regional strategy.

Recommendation 5: Establish well-equipped monitoring and strategic analysis systems at regional level, based on robust indicators and follow-up systems. Future interventions of Structural Funds in Belgium should be supported by reliable monitoring systems, oriented towards the measurement of goals achievements, i.e. encompassing both results and impacts measurement. These systems should be developed with a view to ensure adherence and strict compliance by project managers. Incentives for proper use of the systems need to be installed, notably by making funding conditional to the achievement of goals.

Recommendation 6: Establish transparent and efficient selection systems for projects to be retained for funding under the Structural Funds. While procedures involving open calls for projects and selection committees are used in the majority of cases, the reality is however that sub-standard projects are still able to emerge. In preparation of the next programming period, the Belgian regions should establish transparent, neutral and professional systems for selection of projects under the measures that will be retained in the Operational Programmes. The best available expertise, also found outside of the region, should be made available at this crucial selection stage. Clear criteria for projects selection should be used and communicated, and these should incorporate a strong accent on expected impact on regional development. Another key criterion for project selection is the survival capacity of projects after EU funding period, either through incorporation in the regional funding system or through self-financing strategies when appropriate.

1 Introduction

In March 2000, the EU Heads of State and government launched an ambitious political initiative for the European Union to become “the most competitive, dynamic, knowledge-based economy by year 2010”. The agenda, which has become known as the ‘Lisbon Strategy’, has included a broad range of policies and regulatory measures to achieve this goal.

At the 2005 Spring Council of European Union, Heads of State and government concluded that all appropriate national and Community resources, including those of Cohesion Policy, should be mobilised in order to renew the basis of Europe’s competitiveness, increase its growth potential and its productivity and strengthen social cohesion, placing the main emphasis on knowledge, innovation and the optimisation of human capital. In short, the Council recognised that while some progress has been made since 2000 in moving towards the goals enshrined in the Lisbon Strategy there remains a need to create “a new partnership for growth and jobs”¹.

In launching the discussion on the priorities for the new generation of cohesion policy programmes, the Commission published on 6 July 2005 draft Community Strategic Guidelines entitled “Cohesion Policy in Support of Growth and Jobs: Community Strategic Guidelines, 2007-2013”. One of the specific guideline is to improve the knowledge and innovation for growth. More specific areas of interventions, which are proposed by the Commission, include: improve and increase investment in RTD, facilitate innovation and promote entrepreneurship, promote the information society for all, and improve access to finance.²

Innovation is an important factor in releasing the potential of the Lisbon agenda. The knowledge captured in new technologies and processes can drive growth and competitiveness and create new jobs. But knowledge must be treated as part of a wider framework in which business grow and operate. Developing knowledge-based economy requires adequate levels of investment in R&D, education, and ICT as well as creating a favourable environment for innovation.

Less developed areas of the Union are also confronted with this new competitiveness challenge. Increasing cohesion leads to improvements in living standards and the reduction of economic and social disparities, which depend to an important extent on increases in productivity. Increasing competitiveness implies economic change through the introduction of new technologies and new methods of production as well as the development of new skills. Innovation is at the heart of this process. Technological and organisational change and new demands generated by rising income levels and factors which create new economic opportunities and therefore, contribute to the growth potential of these countries.

¹ Communication to the Spring European Council (2005) “Working together for growth and jobs: A new start for the Lisbon Strategy”, COM(2005) 141. Available at: http://www.europa.eu.int/growthandjobs/key/index_en.htm.

² Communication from the Commission (2005) “Cohesion Policy in Support of Growth and Jobs: Community Strategic Guidelines, 2007-2013”, COM(2005) 0299. Available at: http://www.europa.eu.int/comm/regional_policy/sources/docoffic/2007/osc/index_en.htm.

Structural Funds are the main Community instruments to promote economic and social cohesion. In the past and current programmes, they have contributed to enhance the research potential and innovation in businesses and to develop the information society, particularly in the less developed areas. Cohesion policy has also promoted the development of regional innovation strategies and other similar initiatives in the field of the information society.

The overall objective of the strategic evaluation study, as set out in the terms of reference, is to provide conclusions and recommendations for the future of Structural Fund and Cohesion policy. In particular, the Strategic Evaluation will be used to prepare the negotiations with the Member States for 2007-13, to prepare the next operational programmes and to provide input into the 4th Economic and Social Cohesion Report.

In line with the tender specifications, this country report addresses the following issues:

- An analysis of the current situation in the field of innovation and the knowledge-based economy at national and regional level. For the national level, performance is compared to the average performance for the EU25 Member States plus Romania and Bulgaria; and at regional level, where possible given available statistics, compared to a typology of EU regions;
- Lessons from the past and current experience of implementing innovation and knowledge economy measures in the Structural Funds, both in terms of priorities and strategic approaches; as well as in terms of operational implementation;
- Main needs and potential for innovation in the eligible regions drawing on available studies, strategy development and future and foresight studies; and
- Recommendations on main investment priorities for Structural Funds over the programming period 2007-2013 and their implications for regional development.

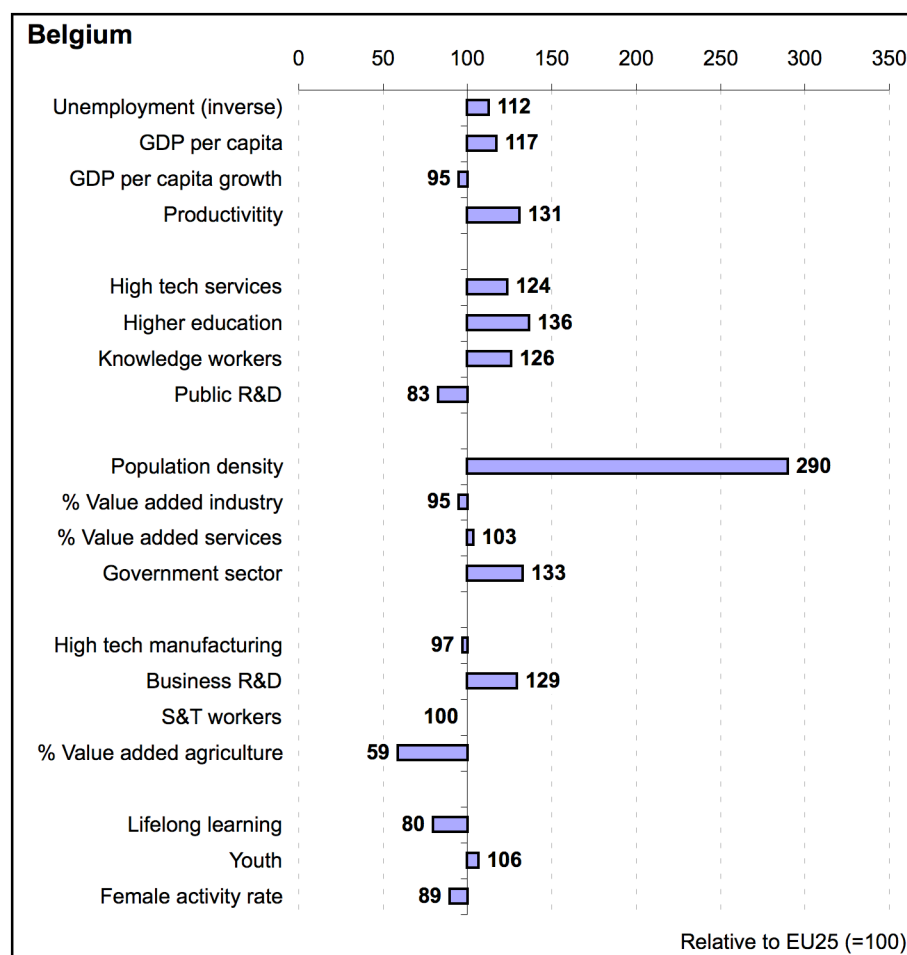
2 Investing in innovation and knowledge: a comparative overview of regional performance

This section provides a synthetic overview of the relative performance of the country, and its main regions, with respect to the EU25 average, for a number of selected key structural indicators of innovation and knowledge. The analysis aims to identify **main disparities and needs** at national and regional level with a view to supporting the definition of priorities for future Structural Funds interventions (see sections 5 and 6 of this report).

2.1 Country overview: innovation and the knowledge economy

Exhibit 1 below provides a snapshot picture of the relative position of Belgium compared to the EU-25 average for a series of key knowledge economy indicators.

Exhibit 1: Relative country performance for key knowledge economy indicators



Source: calculations of MERIT based on available Eurostat and national data from 2002-2003 depending on indicator. Detailed definitions and data for each indicator are provided in Appendix B.

The data presented in Exhibit 1 gives a broad and objective impression of the main characteristic features of the Belgian Innovation System.

Belgium is a wealthy, service-oriented and densely populated country with high labour productivity rates. This latter element is often presented as justification for its attractiveness from a business point of view. It is also an extremely open economy, with export shares exceeding 70% of GDP, and a domination of its economy by multinational companies. A generous social security system is linked to high salary costs, and this creates extremely tough competitiveness pressures.

A hot debate took place recently in the country, to address the problem of a low activity rate of the population (notably of the older age group, due to a policy of attractive early retirement schemes leading to business strategies favouring dismissal of older workers). While some measures have finally been adopted to address this key issue, it is likely that the problem will persist, and as long as employment prospects remain dull, there is a danger that a rise in activity rate of older workers will worsen already high youth unemployment levels. This debate is linked to that of strategies to raise innovation potential in the country: while in the past high productivity rates have been often achieved through rationalisations (with adverse employment consequences), today the challenge is rather to move in the direction of innovation-driven strategies able to raise productivity levels and maintain competitiveness in a high-wage country.

Belgian R&D expenditures accounted for 1.92% of GDP in 2003, placing the country still substantially below the 3% Barcelona objective (see Annex B.3). Furthermore, the trend is negative in the last 3 years. Econometric projections show that, if current trends are maintained, it will be impossible for the country to reach the target of 3% by 2010.

Looking in more detail at the nature of R&D investments (see Annex B3), it appears that public investments in R&D are clearly and significantly lagging behind mean investment efforts in the EU25. On the other hand, business R&D expenditures are remarkably important though not growing as fast as in competitor countries. A worrying fact is the decreasing trend in private R&D expenditures since 2002. More specifically, the total number of R&D-active firms in Belgium is estimated to be 1385. While important in aggregate quantitative terms, the largest volume of business R&D expenditures is concentrated in a dozen larger firms and is also highly geographically concentrated. The narrow firm basis of business R&D investments in Belgium represents a significant point of vulnerability. A decrease in R&D efforts in Belgium of one of these companies is likely to reduce significantly the formally measured aggregate R&D intensity level of the Belgian economy. Given that the large majority of these R&D-intensive companies are foreign-owned, this risk is even more severe.

A strong relative performance can be observed for Belgium with respect to human resources: the population is generally well educated, investments in higher education are superior to EU average, and the number science and technology workers is also relatively high and growing. However, new science and engineering graduates are less numerous, though high growth rates for these graduates in the last years are more reassuring. Clearly, human research capital is a main asset of Belgium, to such an

extent that there is a significant outgoing brain drain. While the scarcity of lifelong learning activities can partly be explained by a good education infrastructure and performance, this is also a weakness in the rapidly evolving knowledge-driven society. Neither companies nor individuals have a strong inclination to take part to adult education and retraining schemes in Belgium.

Measured in academic terms, Belgian public research is quite productive, however low degrees of exploitation of research in the form of patents shows that Belgium has difficulty to use scientific advances for possible commercial exploitation. Linking the strengths and weaknesses in technological areas (as measured by shares in patenting activities) to economic activity (as measured by shares in export markets) reveals an important mismatch in Belgium. Most of the Belgian patent activity is situated within industries where no comparative economic advantage is to be observed, while most of the sectors where Belgium does hold a comparative advantage in economic terms (exports), are not characterized by strong technological advantages (as measured by patents). This tends to suggest that Belgium's economic competitive position is not fully built on its comparative technological strength.

Belgium is at a disadvantage with respect to its industrial structure, which appears strongly oriented towards medium-and low-tech industries. Absorptive capacities of these branches towards new knowledge is likely to be much lower than in the case of high-tech industries. The small number of large, heavily R&D investing firms, explaining the relatively high, aggregate business R&D intensity figure for Belgium (referred to above), appear like "islands" of high-tech activity in Belgium's industrial landscape. Furthermore, Belgium is like many other European countries increasingly becoming a service economy whereas much of its R&D pertains to manufacturing. R&D in service (insurance, banking systems, transport...) is small, despite some high-skilled labs, universities and high schools departments. Low figures for high-tech exports illustrate the problem of having failed so far to translate relative business R&D strength in international competitiveness. There are some signs of catching-up here, but such structural changes take time.

Beyond R&D figures, there are some bottlenecks in terms of innovation performance in a broader sense. The hampering factors for the development of a well-performing innovation system lie primarily in elements outside the R&D system itself. From the evidence brought together in numerous analyses, the following appear of particular importance. Low entrepreneurship dynamics in the country is one barrier to the transformation of new knowledge in economic gains. This phenomenon is documented in many studies of the Belgian situation. Regulations and bureaucracy are consistently reported as important barriers, but the effective social protection system plays also a role here. While Belgium is quite successful in producing academic spin-offs, there is however a weakness in intrapreneurship: Belgian enterprises have no tradition to stimulate industrial spin-offs. Another barrier consists of firms' deficiencies in strategic and commercial management: too many Belgian SMEs lack absorption capacities to profit from external knowledge, and a change of mentality from "owning" a firm towards "managing" it and taking risks for innovation is needed. Large domestic firms are hesitant to engage in strategic partnerships, which create impediments to their developments.

2.2 Regional disparities and recent trends

In order to analyse and describe the knowledge economies at regional level in the EU, the approach adopted was to reduce and condense all relevant statistical information available for a majority of regions (see details in Appendix A.1). The approach involved firstly reducing the information from a list of selected variables into a small number of factors by means of factor analysis. These factors are:

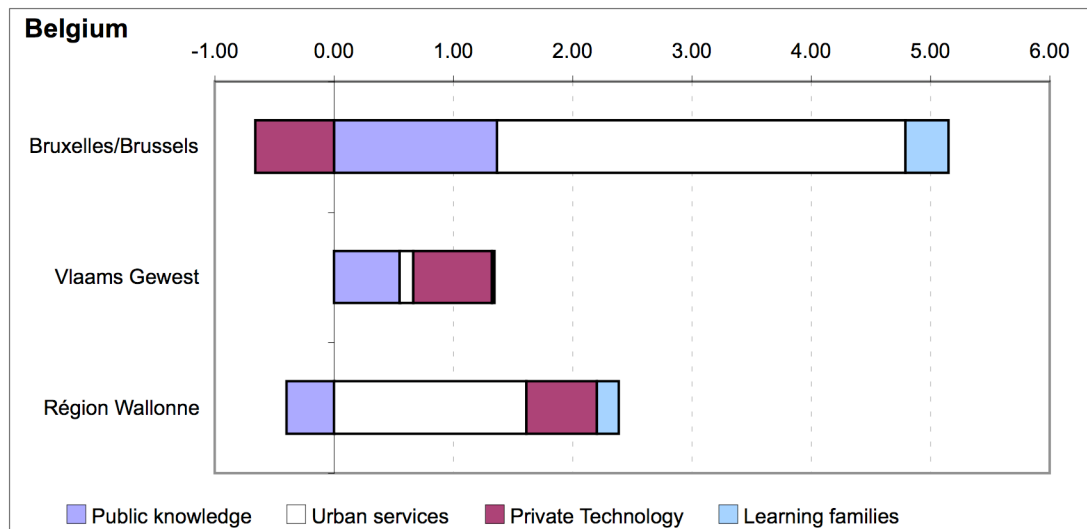
- **Public Knowledge (F1):** human resources in science and technology combined with public R&D expenditures and employment in knowledge intensive services are the most important or common variables in this factor. Regions with large universities rank high on this factor.
- **Urban Services (F2):** the most important variables for this factor are value-added share of services, employment in government administrations and population density. A key observation is that academic centres do not necessary co-locate with administration centres.
- **Private Technology (F3):** this factor is most strongly influenced by business R&D, occupation in S&T activities, and employment in high- and medium-high-tech manufacturing industries.
- **Learning Families (F4):** the most important variable in this factor is the share of the population below the age of 10. The Learning Families factor could also be interpreted as an institutional factor indicating a child-, learning- and participation- friendly environment, or even a ‘knowledge-society-life-style’ based on behavioural norms and values that are beneficial to a knowledge economy.

In a second step, the 206 EU27 regions were grouped into 11 types of regions (see list in Appendix A.1) displaying similar characteristics by means of a cluster analysis. Not unexpectedly for a federal country, the three Belgian regions belong to three different clusters (see Exhibit 2):

- **Brussels-Capital** falls into the “**Science and Service Centres**” cluster. This cluster includes wealthy capital regions with extremely high population density and high GDP/capita and productivity. These regions score high on all factors, with the exception of the Private Technology factor, due to their high tertiarisation grade. Public and private R&D activities are well represented in these regions, and the population is well qualified;
- **Flanders** belongs, together with many German and French regions, to the “**Central Technology regions**” cluster. This cluster gathers a large number of regions with an average performance across all four dimensions of the knowledge economy. They tend to be more oriented towards private technology activities than public R&D. The share of employment in high or medium-tech activities is high, but higher education and knowledge workers presence are not particularly impressive;
- **Wallonia** is member of the “**Local Science and Services**” cluster, a group of regions also including second tier capital cities notably from Southern Europe, less wealthy than those in the “Science and Service Centres” cluster. They score very high on the Urban Services factor due to an important presence of government sector, and a dominance of services in the economy. Public R&D resources are also high, and a highly educated workforce is present. Overall performance of these regions, as measured by GDP per capita, productivity and

unemployment levels, is rather weak, but growth rates of GDP are the highest of all EU regions, if we except the group of Spanish and Portuguese Southern Cohesion regions.

Exhibit 2: Regional factor scores per region



Source: MERIT. The bars are stapled factor-scores showing the deviation (1=standard deviation) per factor from the average of 215 EU regions (0.00). The longer the bar, the bigger is deviation. Detailed regional scorecards can be found in Appendix B.

As a “Science and Services Centre”³, **Brussels-Capital** occupies a position which differs in many respects from the two other Belgian regions. Due to its metropolitan status and the extremely high population density concentrated in a small territory, it outperforms the other Belgian regions on the factor “Urban Services”. Even when compared to the average of its cluster, Brussels appears more developed on this factor. This is mainly due to its population density, the importance of the government sector, and to a lesser extent the share of services in the regional value-added (reaching almost 90% of regional value-added). The international position of the region plays a key role here. However, comparing with its cluster average, one notices that the region is in reality much more a “services” than a “science” centre: investments in public R&D in the region are low for a region of this kind. As shown in Exhibit 3 below, R&D intensity remains stagnant in the region. The region has obviously a higher share of high-tech services than the average EU25 region, but not if compared to regions in the same cluster: together with low relative investments in public R&D, this explains why Brussels-Capital scores rather poorly (compared to cluster average) on the “public knowledge” factor, which is supposed to be a key strength of this type of region. “Private technology” is not strong in the region: either business R&D activities are markedly weaker than the average of the value for regions in the same cluster, and high-tech manufacturing activities and the quantity of science and technology workers do not reach two-thirds of cluster average. A young and well-educated population is an asset, but activity rates are particularly low, and unemployment rates reach values of more than double of cluster average, indicating serious economic and social regional problems. GDP per capita is extremely high,

³ For detailed regional data supporting this discussion, see Appendix B.

however there are measurement problems with this value since a large share of activity is performed in the region by workers commuting from the neighbouring two regions, and thus not included in the denominator of the GDP/capita figure.

Flanders is on the top of the league of “Central Techno Regions”. Seen from a European perspective, this type of region is mainly characterised by *good performances on the “Private Technology” dimension*: in this respect, Flanders scores higher than its clusters peers, since private R&D investments are well above cluster average, and share of employment in medium and high-tech industries and number of S&T workers are also above cluster mean. Similarly, on the “Public Knowledge” dimension, Flanders outperforms its peers on all components (public R&D, knowledge workers, higher education and high tech services). Seen from a national or EU perspective, public spending on R&D are however low. Flanders is less dependent on government sector than the rest of Belgium (and other regions in this cluster) and the share of value-added coming from industry is higher. Flanders is also the Belgian region where the share of high-tech industry is highest, reflecting the capacity of the region to generate new technology-based ventures and industries. On human capital development indicators (higher education rates, lifelong learning activities), Flanders scores better than Wallonia but worse than Brussels-Capital. Female activity rates are deficient, both compared to cluster and EU averages. Flanders is a wealthy region with low unemployment rate, but it includes local areas which are not performing so well, which are those targeted by Structural Funds.

The data and results of the cluster analysis, as well as trends pictured in Exhibit 3, confirm the difficulties for **Wallonia** to restructure its economy towards a knowledge-oriented economy. GDP/capita and unemployment rates are much less favourable than in the other “Local Science and Services” regions and in Flanders. The Walloon tradition of production in heavy industries is still curbing technology performance, with rates of high tech manufacturing well below country and EU averages: this is an unfavourable characteristic shared by the other “local science and service centres”. However, business R&D activities are much more dynamic in Wallonia, both from a cluster and EU perspective. Even more than in the rest of the country and in the other regions in the cluster, lifelong learning in Wallonia is scarce, and female employment rates minimal. There are zones in the region that perform much better on the four factors but, contrary to Flanders, these account for a much restricted part of the regional economy. By and large, the zones supported by Structural Funds (see section 3), which include 70% of the Walloon population, are representative of the development problems of the region.

Exhibit 3: Recent trends per region in key indicators

	Unemployment	GDP/capita	Industry share	Agriculture share	Population density	Tertiary education	R&D intensity
	1996-2003	1996-2002	1996-2002	1996-2002	1996-2002	1999-2002	1996-2002
	%-pnt ch.	% growth	%-pnt ch.	%-pnt ch.	%-pnt ch.	%-pnt ch.	%-pnt ch.
EU25	--	--	--	--	--	--	--
Belgium	-1,30	4,52	-2,20	-0,39	1,74	2,38	0,37
Bruxelles/Brussels BE1	1,40	4,09	-1,17	-0,03	3,78	3,86	0,03
Vlaams Gewest BE2	-1,50	4,77	-3,04	-0,36	1,61	2,63	0,56
Région Wallonne BE3	-2,40	4,13	-1,32	-0,75	1,37	1,41	0,16

Source : MERIT based on Eurostat data for period indicated

2.3 Conclusions: innovation and knowledge performance

Belgium holds many assets to develop as a knowledge-based economy: a core location in Europe, an open economy dominated by international functions, the presence of decision centres of multinational enterprises, a good availability of productive and well-educated workforce, good quality of life supported by an effective social security system. However, there are many opportunities still to be exploited to evolve along the path of a knowledge-based economy: linking its foreign-owned enterprises to the domestic base, creating more connections between scientific and technological strengths, spreading R&D and innovation more widely in the productive fabric. An immediate threat for this country lies in its poor investments in public knowledge. Creation of new, knowledge-based, activities is necessary in order to address unemployment and low activity rates of the population and secure competitiveness. Such new activities should help transform the economy towards more value-added activities and build competitiveness more firmly on knowledge assets. This involves the creation of high-tech ventures but also more largely an improvement of entrepreneurship and innovation conditions and attitudes throughout the country.

The three regions present contrasting challenges in terms of knowledge and innovation performance, as summarised in Exhibit 4 below.

Exhibit 4: Summary of key disparities and needs per region

Region	Key factors explaining disparity of performance (weaknesses)	Key needs in terms of innovation and the knowledge economy
Brussels-Capital	<ul style="list-style-type: none"> • lack of dynamism of the region regarding investments in and exploitation of knowledge • dual society despite overall high economic performance indicators – severe poverty and unemployment problems 	<ul style="list-style-type: none"> • add the “science” component to the “service” dimension in regional development • exploit important S&T and resources base in an international perspective
Flanders	<ul style="list-style-type: none"> • shift in trajectory towards knowledge-based, high-tech activities, still to be reinforced • R&D and innovative activities concentrated in few actors and places • Public R&D investments low in EU comparison 	<ul style="list-style-type: none"> • enlarge innovation and RDT activities in economy • engage population into learning activities • increase public R&D investments with leverage effects • improve entrepreneurship
Wallonia	<ul style="list-style-type: none"> • Unfavourable sectoral composition including traditional industries with low value-added • Strong dependence from government sector • Good high education but few lifelong learning and large share of under-qualified population • Low public R&D investments 	<ul style="list-style-type: none"> • Stimulate new, more knowledge-based, activities creation • increase public R&D investments with leverage effects • upgrade innovation and research orientation in companies • counter under-qualification

3 Innovation and knowledge: institutional context and policy mix at national and regional levels

Structural Fund support for innovation and knowledge is contingent on and seeks to strengthen the existing national (and/or regional) innovation system⁴ in each Member State. In particular, institutional, legal and financial factors in the innovation system can limit the potential for certain types of intervention. Moreover, within the framework of the EU's "Lisbon objectives", Structural Fund interventions are expected to complement and provide added value to national (or regional) policy framework. In some Member States, Structural Fund interventions in favour of innovation and knowledge are marginal with respect to the national investment and policy effort, in others Structural Funds provide a main source of funding for such interventions. In both cases, there is a need to identify relevant national and EU policies which can have an impact on decisions on funding priorities.

3.1 Institutional and legal framework for innovation and the knowledge economy

This section of the report appraises two broad factors that condition the potential for coordinated intervention of EU and national (regional) policies in favour of innovation and knowledge:

- The first concerns the organisational structures of public and semi-public bodies responsible for the design, implementation and monitoring of innovation and knowledge economy policies. In particular, the analysis considers the responsibilities for funding or managing specific types of measures liable to be considered for support under the Structural Funds;
- The second concerns the institutional, legal and financial frameworks, which condition the linkage of national (regional) financing with EU financing.

Belgium shows a unique feature amongst all EU Member States, namely that it is the only country where research, technological development and innovation (RTDI) policies are fully decentralised across several governments enjoying complete autonomy of decision making in these matters. This institutional context has a profound influence on the governance of innovation policy, since several governmental entities design and implement their own policies independently and with own budgetary resources. It is important to acknowledge that there is no hierarchy of powers between the federal government and other authorities.

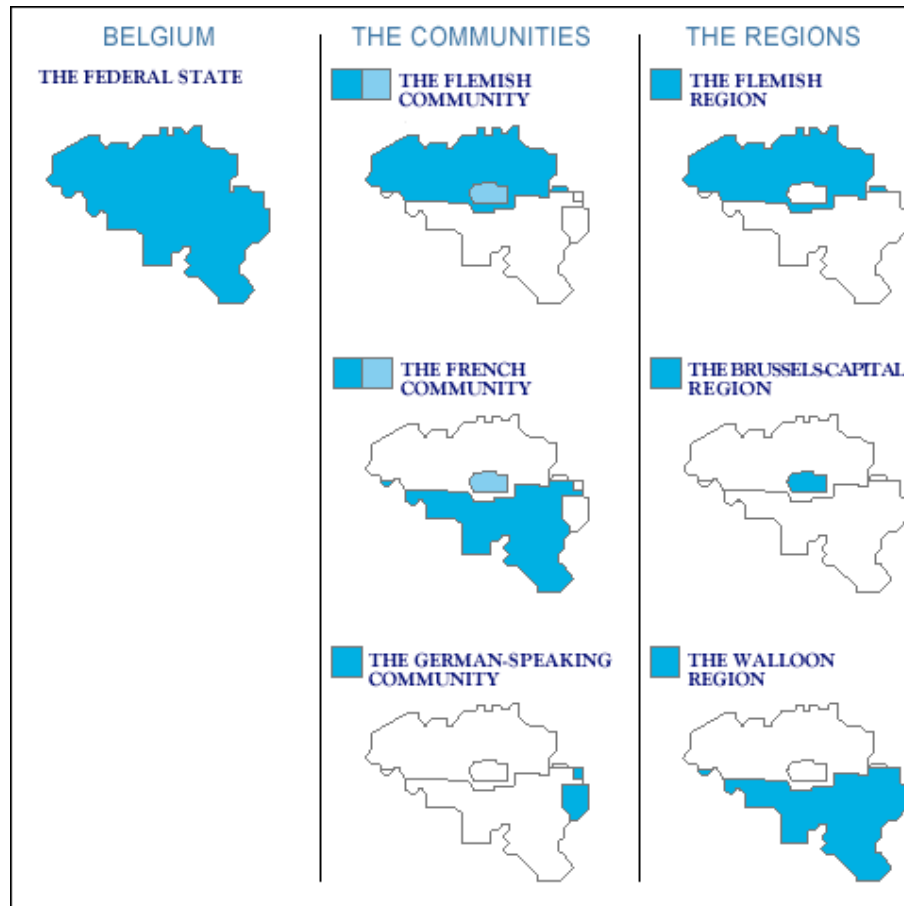
Governmental responsibilities are arranged as follows:

- the Regions (Flanders, Wallonia, Brussels-Capital) have authority on research policy for economic development purposes, thus encompassing technological development and innovation;

⁴ The network of organisations, individuals and institutions, located within or active within national or regional boundaries, that determine and shape the generation, diffusion and use of technology and other knowledge, which, in turn, explain the pattern, pace and rate of innovation and the economic success of innovation.

- the Communities⁵ (French-, Flemish-, and German-speaking) are responsible for education and research at universities and Higher Education Establishments;
- The Federal State retains responsibility for research areas requiring homogenous execution at the country level, and research in execution of international agreements (e.g. space research).

Picture 1 : Belgium institutional structure



Source: Federal Service for Science Policy.

Picture 2 below provides an overall picture of all the actors involved in STI policy and their connections, as well as the portfolio of instruments (the latter is discussed in section 3.2). Exhibit 5 categorises the main actors according to the policy objectives list used in this study. From these tables and exhibits, it can be concluded that all policy objectives are covered by public agencies and non-profit and private actors. Most of the areas are under the responsibility of Region- or Community-specific agencies, which allows policy to be fine-tuned to the specific needs of each region and eases the co-funding decisions with regard to Structural Funds. The drawback of this situation is a high degree of fragmentation in the governance system, which can create difficulty to achieve effectiveness of the policies on a small territory.

⁵ The Flemish Community and Flanders Region have merged their government into one entity, the Flemish Community.

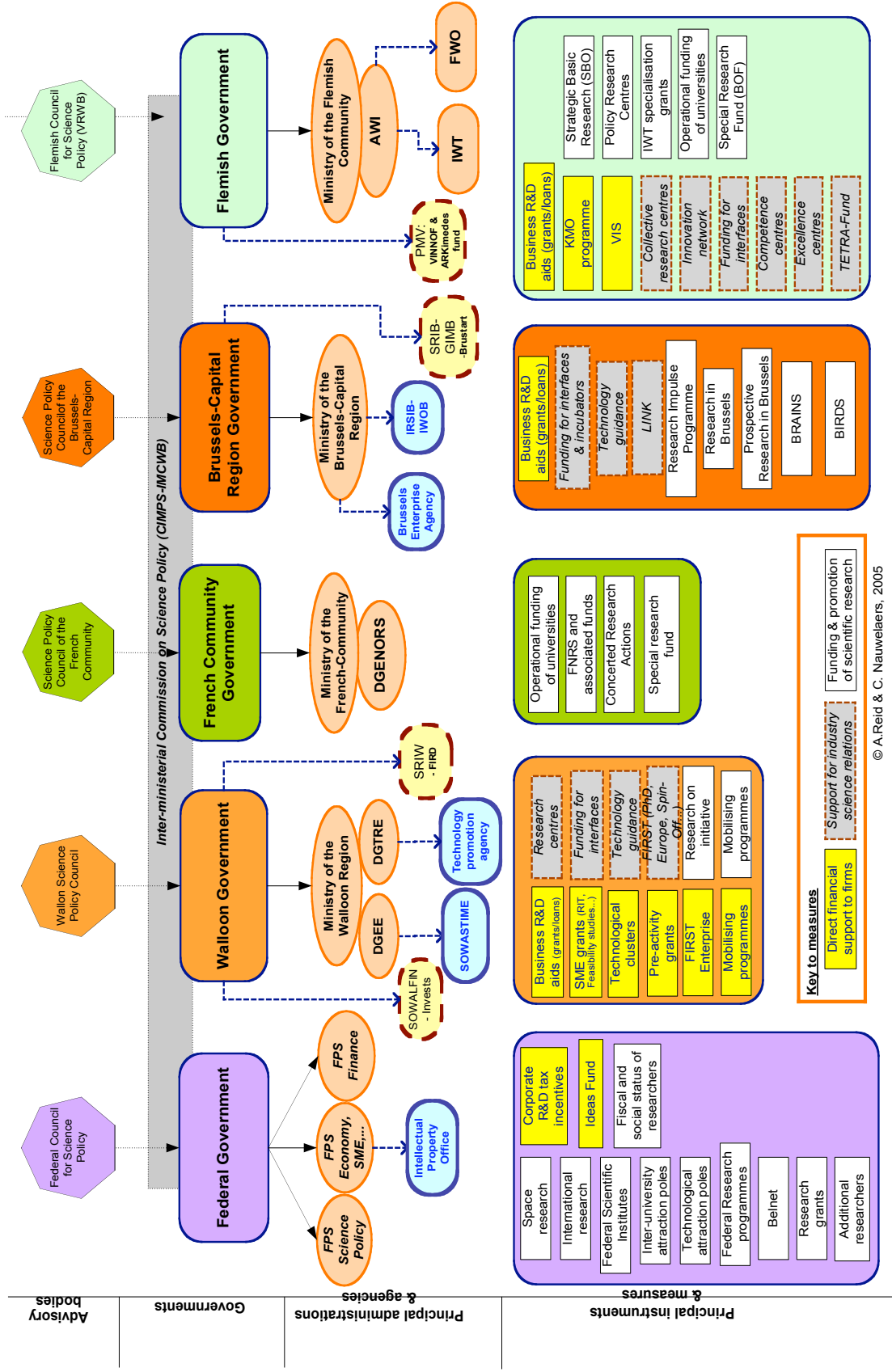


Exhibit 5: Main organisations per policy area

Policy objectives	National (&/or regional) public authorities and agencies	Key private or non-profit organisations
Improving governance of innovation and knowledge policies	<ul style="list-style-type: none"> • Federal: Federal Science Policy Office, Federal Council for Science Policy • Brussels-Capital: Science Policy Council • Flanders: AWI (Science and Innovation Department), Flemish Science Policy Council, Institute for the Promotion of Innovation by Science and Technology (IWT) • Wallonia: Walloon Council of Science Policy • French Community: Fundamental Research Department (DGENORS), French Community Science Policy Council. 	<ul style="list-style-type: none"> • Flanders: Flemish Institute for Science and Technology Assessment, policy research centres at universities • All entities: consultants and academic experts are used in support for RTDI policy design and evaluation
Innovation friendly environment	<ul style="list-style-type: none"> • Federal: Federal Public Service Finance (tax incentives), Federal Public Service Economy (IPR) • Brussels-Capital: Brussels Enterprise Agency, SRIB • Flanders: GIMV, Institute for the Promotion of Innovation by Science and Technology (IWT) • Wallonia: Sowalfin, SRIW, Directorate General for Technologies, Research and Energy (DGTRE) 	<ul style="list-style-type: none"> • All communities: universities and high schools organise training courses for human capital development and entrepreneurship promotion
Knowledge transfer and technology diffusion to enterprises	<ul style="list-style-type: none"> • Brussels-Capital: Institute for the Support of Scientific Research and Innovation of Brussels (IRSIB-IWOB) • Flanders: Institute for the Promotion of Innovation by Science and Technology (IWT) • Wallonia: Directorate General for Technologies, Research and Energy (DGTRE), Directorate General Economy and Employment (DGEE) 	<ul style="list-style-type: none"> • All regions: collective and private research centres, technology parks and incubators, business innovation centres, excellence poles • All communities: university liaison offices • Brussels-Capital: INDUTEC (High Schools association) • Flanders: VLHORA (High Schools association) • Wallonia: ADISIF (High Schools association)
Innovation poles and clusters	<ul style="list-style-type: none"> • Federal: Federal Science Policy Office • Brussels-Capital: Brussels Enterprise Agency • Flanders: Institute for the Promotion of Innovation by Science and Technology (IWT) • Wallonia: Directorate General Economy and Employment (DGEE) and Directorate General for Technologies, Research and Energy (DGTRE) 	<ul style="list-style-type: none"> • All regions: sectoral federations and employers associations, dedicated cluster structures and emerging competitiveness poles

<p>Support to creation and growth of innovative enterprises</p>	<ul style="list-style-type: none"> • Brussels-Capital: Institute for the Support of Scientific Research and Innovation of Brussels (IRSIB-IWOB) • Flanders: Institute for the Promotion of Innovation by Science and Technology (IWT) • Wallonia: Directorate General for Technologies, Research and Energy (DGTRE), Directorate General Economy and Employment (DGEE) 	<ul style="list-style-type: none"> • All regions: collective and private research centres, centres of excellence, technology parks and incubators, business innovation centres
<p>Boosting applied research and product development</p>	<ul style="list-style-type: none"> • Brussels-Capital: Institute for the Support of Scientific Research and Innovation of Brussels (IRSIB-IWOB) • Flanders: Institute for the Promotion of Innovation by Science and Technology (IWT) • Wallonia: Directorate General for Technologies, Research and Energy (DGTRE), 	<ul style="list-style-type: none"> • All regions and communities: collective and private research centres, centres of excellence, university research laboratories
<p>Investment in basic research capacities</p>	<ul style="list-style-type: none"> • Federal: Federal Science Policy Office • Flanders: Fund for Scientific Research (FWO) • French Community Fund for Scientific Research (FNRS) 	<ul style="list-style-type: none"> • All communities: universities • Federal: federal scientific institutes

Source: study team based on national/regional policy documents, TrendChart reports, OECD reports, etc.. See appendix C for a detailed definition of the policy categories.

3.2 Policy mix assessment

This section provides a summary overview and analysis of the national and regional policy mix in favour of innovation and knowledge in which the Structural Fund interventions take place. The analysis is conducted with respect to seven broad categories of objectives of innovation and knowledge policies (see appendix C for an explanation of each category).

Measures identified per category of the policy objectives are then further sub-divided in terms of the direct beneficiaries of funding (or legislative) action. To simplify, the report adopts three broad types of organisation as targets of policy intervention:

- Policies supporting academic and non-profit knowledge creating institutions;
- Policies supporting intermediary/bridging organisations involved in innovation support, technology transfer, innovation finance, etc.;
- Policies supporting directly innovation activities in private sector.

The matrix (Exhibit 6) below summarises the current policy mix in Belgium. According to the institutional structure explained above, this policy mix should be viewed through regional lenses as the concept of a “national” policy mix does not fit institutional reality in this country. A simplified system is used with intensity of support (financial or political priority) for different policy areas and targets indicated by a colour coding system.

Exhibit 6: Policy mix for innovation and knowledge

Policy objectives	Target of policy action		
	Academic /non-profit knowledge institutions	Intermediaries/bridging organisations	Private enterprises
Improving governance of innovation and knowledge policies	<ul style="list-style-type: none"> Federal: High Level Group 3%, study series of Federal Science Policy Office, ad hoc use of consultants and academics for policy evaluation, participation in policy learning circles (OECD) Brussels-Capital: ad hoc use of consultants and academics for policy evaluation Flanders: programme for policy research at Flemish universities, ad hoc use of consultants and academics for programme evaluation, monitoring and assessment unit at IWT, Flemish Institute for Technology Assessment, participation in ERA-NETs and other policy learning activities (EU, OECD), Indicators for S&T in Vlaanderen Wallonia: RIS Prométhée, ad hoc use of consultants and academics for policy evaluation, Walloon Prospective Analysis Institute French Community: peer reviews for funds allocations 		
Innovation friendly environment	<ul style="list-style-type: none"> Federal: social security deductions for researchers Flanders: Research mandates, e-government programme Wallonia: FIRST mobility programmes 	<ul style="list-style-type: none"> Federal: Ideas Fund, administrative simplification for company creation Brussels-Capital: SRIB, BRUSTART, business angels network, BEA as one-stop shop for company support Flanders: GIMV and VINNOF (venture capital), Business angels network, risk capital guarantees, administrative simplification Wallonia: SRIW, FIRD, SOWALFIN, business angels network 	<ul style="list-style-type: none"> Federal: R&D tax incentives and social security tax deductions Flanders: support for patenting, action plan lifelong learning Wallonia: support for patenting, FIRST mobility programmes
Knowledge transfer and technology diffusion to enterprises	<ul style="list-style-type: none"> Brussels-Capital: interfaces at universities, BRAINS Flanders: TETRA programme, research mandates, interfaces at universities Wallonia: interfaces at universities and high schools, FIRST programme 	<ul style="list-style-type: none"> Federal: collective research centres, technological attraction poles Brussels-Capital: collective research centres, technology guidance programme Flanders: collective research centres, technological centres, excellence poles, VIS programme, technology advisers Wallonia: collective research centres, technology centres, excellence poles, technology guidance programme 	<ul style="list-style-type: none"> Federal: R&D tax incentives and social security tax deductions for cooperative R&D Flanders: KMO programme Wallonia: FIRST programme, RIT, RENTIC, SME-specific aids schemes
Innovation poles and clusters	<ul style="list-style-type: none"> Flanders: large research institutions Wallonia: excellence poles 	<ul style="list-style-type: none"> Federal: Technological Attraction Poles Brussels-Capital: poles promoted by BEA 	

		<ul style="list-style-type: none"> • Flanders: VIS programmes, excellence poles, PLATO • Wallonia: clusters and technological clusters programmes, competitiveness poles in preparation 	
Support to creation and growth of innovative enterprises	<ul style="list-style-type: none"> • Brussels-Capital: LINK, university interfaces • Flanders: research mandates, university interfaces • Wallonia: FIRST spin-off, university interfaces 	<ul style="list-style-type: none"> • Brussels-Capital: BICs, incubators • Flanders: bio-incubators, BICs, thematic and territorial VIS • Wallonia: BICs, science parks 	<ul style="list-style-type: none"> • Federal: tax status for young innovative enterprise, Ideas Fund • Brussels-Capital: pre-activity grants • Flanders: VINNOF, entrepreneurship programme • Wallonia: «4x4 entreprendre» integrated entrepreneurship programme, pre-activity grants, FIRST spin-out
Boosting applied research and product development	<ul style="list-style-type: none"> • Federal: R&D tax incentives and social security tax deductions • Brussels-Capital: research centres • Flanders: 3 major thematic research centres, Industrial Research fund • Wallonia: Mobilising programmes, 'Initiative Research' programme, excellence poles, research grants 	<ul style="list-style-type: none"> • Federal: collective research centres, technological attraction poles • Flanders: Strategic Basic Research Programme, collective research centres • Wallonia: Mobilising programmes, collective research centres 	<ul style="list-style-type: none"> • Federal: R&D tax incentives social security tax deductions • Brussels-Capital: industrial R&D subsidies and loans • Flanders: KMO programme, R&D and innovation grants and loans IWT • Wallonia: subsidies and loans to enterprises (DGTRE)

Legend

Top policy priority	Secondary priority	Low priority
---------------------	--------------------	--------------

Source: study team based on national/regional policy documents, TrendChart reports, OECD reports, etc.

The need for **improving governance of innovation and knowledge policies** is slowly growing on the policy agenda, at a different pace though according to various entities. Flanders is better equipped than other regions: it has put in place a system of policy research support points at universities, and owns a number of structural mechanisms and activities (within IWT, e.g.) to offer strategic support to policy-makers. In Wallonia, strategic thinking for RTDI policy has started to develop since the undertaking of the RIS programme Prométhée (funded by Article 10 of the ERDF during the period 97-99 and continued with regional funds and Innovative Action funds since 2000) but at a slow pace: policy evaluations are not yet institutionalised but are becoming more frequent; monitoring and analytical systems for policies are to be improved. The Federal level has become more active in supporting strategic policy thinking for knowledge and innovation in recent times, through the activities of its science, technology and innovation (STI) indicators unit and the launch of studies

notably in the framework of the achievement of the Barcelona 3% objective for Belgium. The question of innovation policy governance is not yet on the agenda in Brussels – Capital: despite recent efforts to restructure the delivery system in recent years, the Region that has not yet developed an explicit strategic policy framework for its innovation policy.

Establishing **an innovation-friendly environment** is becoming an important policy subject, most notably from a financial angle: the topic of tax incentives and social security deductions for researchers (both private and public) is a major focus at federal level, and actually its main angle to act towards its mission of contributing to the 3% objective for Belgium. In the Regions, it is rather through the establishment of venture capital funds that such an environment is being improved. Administrative simplification for company creation is another important point of action, at federal level and in Flanders. Science-Industry mobility programmes are a main driving force in Wallonia’s policy portfolio.

Knowledge transfer and technology diffusion to enterprises is the main driving force behind STI policies in Belgian Regions, in line with their institutional competence (research policy for economic development purposes). Hence, this area gathers a very important share of regional budgets, devoted to the funding of infrastructures and programmes with the view of diffusing technologies from research institutions into the business sector: collective research centres, technological centres, excellence poles, university liaison offices, etc. are funded in the three Regions. In Flanders these activities are gathered into a broad multi-facet programme called VIS, while in Wallonia the system is more decentralised. Direct support is also offered by the Regions to companies for R&D and innovation projects in cooperation, and some tax incentives and social security deductions run at federal level also prioritise R&D projects in cooperation between scientific and business actors. A whole set of support organizations with a sectoral or geographic focus is also funded to support enterprises’ access to knowledge.

A more recent policy area under the broad RTDI policy framework refers to the **promotion of innovation poles and clusters**, as well as innovative company networks. This is a dominant issue in current policy papers, including the programming documents for the Structural Funds. Therefore, it is highlighted in the above table as a top priority, even if in budgetary terms, this priority accounts for far lower amounts than the preceding one. Supporting clusters of companies in connection with research and training institutes in order to foster innovation-enhancing interactions, is a new policy route followed clearly in Wallonia and Flanders. Those policies are not yet stabilised, pilot initiatives are still in operation. Recently, the Flemish government has provided a framework for its “excellence poles” strategy. In Wallonia, the same wording covers rather concentrations of research activities, even though the ambition is that those poles become innovation-driven too: this is more likely to be achieved with the emerging competitiveness poles strategy, another witness of this attention to innovation poles and clusters in policy design.

Support to the creation and growth of innovative enterprises falls also under the realm of regional policies and constitute an important priority. The three regions have developed direct support schemes for would-be entrepreneurs or for researchers in

academia considering starting spin-off activities. Public funding to interface structures at universities also pursues this aim to facilitate the start-up of knowledge-based enterprises, as public support to venture and seed capital funds, mentioned above. Incubators and advisory structures for new companies exist throughout the country and benefit from regional funding. In addition, Flanders and Wallonia have both set up integrated programmes in support to entrepreneurship, integrating notably training activities: these programmes have enjoyed various degrees of policy priority over time.

All three Belgian regions are **boosting applied research and product development** with the help of traditional direct support instruments in the form of grants and loans to companies for industrial R&D projects. At Federal level, this takes the form of R&D tax incentives and social security deductions to lower the cost of hiring researchers. Research centres of various kinds in all regions are also receiving structural and project funding to carry out applied research relevant to the needs of companies. Given the importance of those public programmes in budgetary terms, this policy line should be classified as a top priority.

3.3 Conclusions: the national innovation system and policy mix

The policy framework for innovation in Belgium instruments to target all relevant policy objectives in order to move the country closer to a knowledge-based development trajectory. The need for enlargement of the innovation base in the country and activation of the knowledge base, arising from the analysis in section 2, is addressed by a large variety of instruments. The assessment of main policy priorities in the preceding section suggests a system dominated by a linear (research leading to innovative product) vision of innovation, but with a tendency to evolve towards a more interactive view. Such an evolution would involve the coherent combination of instruments acting in synergy towards the goal of promoting innovation more broadly amongst a larger number of enterprises. However, the fragmentation of the policy system, due to the institutional context, is not conducive to the building up of such an integrated policy mix. This constitutes a hurdle for the development of an effective policy mix for innovation at national, but also at regional levels.

Furthermore, the effectiveness of the policy mix can only be assessed with the help of information on implementation results and impacts of the various policy instruments. This dimension of monitoring and evaluation is however still weakly developed and would need to be strengthened to ensure that this policy mix responds to the National Innovation System challenges identified in section 2.

Exhibit 7 provides examples of possible opportunities for actions to be funded under the European Structural Funds, in order to support these necessary evolutions. This point will be fully elaborated in section 6.

Exhibit 7: Key opportunities and constraints for investment by the Structural Funds

Policy objectives	Opportunities for Community funding (national priorities)	Constraints or bottlenecks (factors limiting Community funding)
Improving governance of innovation and knowledge policies	<ul style="list-style-type: none"> • Development of integrated monitoring and evaluation systems within and across various State entities • Strategic review exercises on policy mixes 	<ul style="list-style-type: none"> • Institutional fragmentation and centrifugal tendencies prevent horizontal exercises across institutional borders • Weak, but improving, evaluation culture
Innovation friendly environment	<ul style="list-style-type: none"> • Innovative measures on knowledge workers mobility • Opportunities for lifelong learning 	<ul style="list-style-type: none"> • Important context conditions are given, e.g. high salary costs • High degree of openness puts limits on local actions
Knowledge transfer and technology diffusion to enterprises	<ul style="list-style-type: none"> • Networks of technology diffusion providers • Fostering openness to foreign technology sources 	<ul style="list-style-type: none"> • Funding needs to be subject to impact assessment of the networks • Territorial definitions might induce too autarchic approaches
Innovation poles and clusters	<ul style="list-style-type: none"> • Supporting nodes of innovation poles, seed money for poles 	<ul style="list-style-type: none"> • Need for continuity of funding, danger of one-off injections
Support to creation and growth of innovative enterprises	<ul style="list-style-type: none"> • Supporting programmes on entrepreneurship • Introduction of new management and coaching methods 	<ul style="list-style-type: none"> • Necessity to rely on professionals to conduct these programmes • Danger of one-off funds injections
Boosting applied research and product development	<ul style="list-style-type: none"> • Support to applied research structures • Supporting large technology projects 	<ul style="list-style-type: none"> • Need to ensure good connection with business needs • Lack of industrial demand might limit opportunities • Risk of under-critical size of Community interventions

4 Structural Funds interventions to boost innovation and create a knowledge economy: 2000-2006

This section of the report provides an analysis the patterns of Structural Fund expenditures in the fields of innovation and knowledge-based economy during the current programming period (2000-2006 for EU-15 or 2004-2006 for the new Member States). It examines the patterns from both a strategic point of view (the policy mix pursued by the Structural Funds programmes) and at an operational level (consumption of funds, management of innovation measures, indications of relative effectiveness of measures).

4.1 Strategic framework for Structural Fund support to innovation and knowledge

4.1.1 Strategic approach to innovation & knowledge in Structural Fund programmes

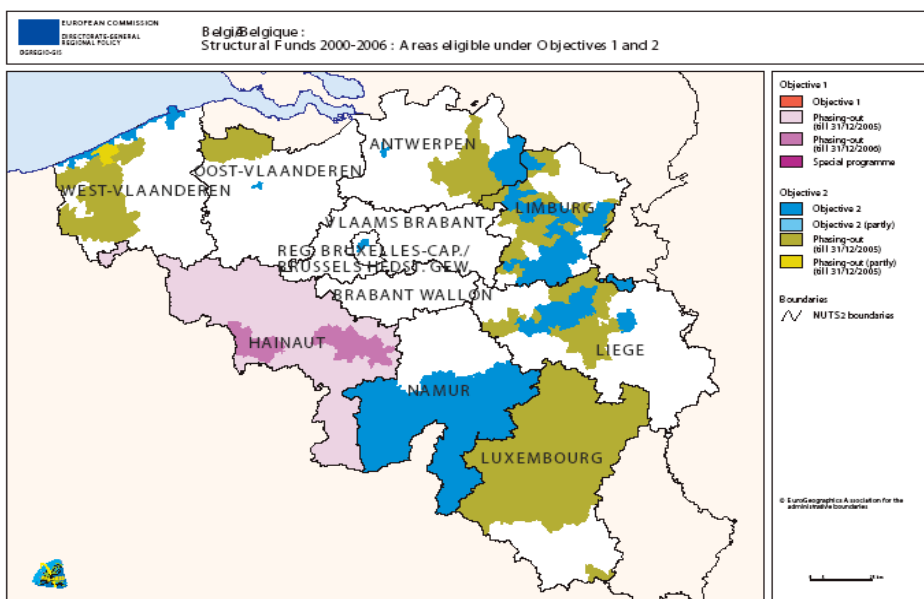
Structural Funds are available for all three Belgian regions. As can be seen from Exhibit 8, Structural Funds' allocations are highly concentrated in Wallonia, absorbing 80% of allocations to Belgium. Flanders receives 16% of the Funds, and Brussels-Capital only 4%. Within Wallonia, the Objective 1 programme (phasing-out), with 60% of the Belgian allocation, is by far the largest one. This distribution reflects the different performances of the regions, as discussed in section 2.

Exhibit 8 : Structural Fund programmes 2000-2006

Programme title	Territory covered ⁶	Structural Fund(s)	Total SF allocation	% total Belgium
SPD Objective 1 Hainaut	Province of Hainaut	ERDF/ESF	672.6 MEUR	60%
SPD Objective 2 Meuse-Vesdre	1 district and 9 municipalities in Province of Liège	ERDF/ESF	164.4 MEUR	15%
SPD Objective 2 Namur-Luxembourg	5 districts and 1 municipality in the Provinces of Namur and Luxembourg	ERDF/ESF	60.5 MEUR	5%
SPD Objective 2 Limburg	20 municipalities in Province Limburg	ERDF/ESF	96.6 MEUR	8%
SPD Objective 2 Antwerpen	3 neighbourhoods of city Antwerpen and 13 municipalities in Province Antwerpen (Kempen area)	ERDF/ESF	47.0 MEUR	4%
SPD Objective 2 Kustgebied Westhoek ⁷	14 municipalities in Province West-Vlaanderen	ERDF/ESF (ERDF only Westhoek)	34.4 MEUR	3%
SPD Objective 2 Oost-Vlaanderen	16 neighbourhoods of city Gent and 5 municipalities in Province Oost-Vlaanderen	ERDF	14.1 MEUR	1%
SPD Objective 2 Brussels-Capital	88 neighbourhoods, parts of 8 municipalities	ERDF	43.9 MEUR	4%
TOTAL BELGIUM			1 133.5 MEUR	100%

⁶ In some cases, only parts of municipalities are eligible for Structural Funds support.

⁷ Also referred to as the West Vlaanderen SPD.



Three zones are eligible to the Structural Funds in **Wallonia**: the province of Hainaut under Objective 1, and for Objective 2 parts of the provinces of Liège, on the one hand, and Namur and Luxembourg, on the other hand. The first two zones correspond to the old industrialised regions in the south of the country, responsible for the industrial wealth of the nation in the first half of the past century, now in decline and on a difficult path towards economic restructuring. The last zone is a rural zone.

The province of Hainaut's economic performance lags behind due to a vicious circle of under-development. The main cause of this situation is to be found in the concentration of activities in traditional, low-value-added activities. Major deficiencies are found in the area in terms of entrepreneurial dynamics, private R&D activities (at an index of 45 compared to 100 for Belgium)⁸ and education levels of the population. Accordingly, creating and diffusing knowledge is at the core of the strategy for the Structural Funds programme in Hainaut: *"the shift towards a knowledge-based economy is a fundamental challenge that must guide the implementation of the overall development programme"*⁹. The SPD aims at obtaining a qualitative shift in the province's development path.

The main strategic priority of the Meuse-Vesdre SPD is the strengthening of the metropolitan status of the zone: *"the metropolitan character of the eligible zone allows a concentration of functions (research, high education, productive clusters, ...) favourable to the emergence of a true innovative milieu, able to initiate economic restructuring based on endogenous resources"*¹⁰. Accordingly, the development of a knowledge economy represents a main objective, this includes both the reinforcement of the existing knowledge infrastructure with the view to valorise it into productive activities in the zone, and an attention to the qualifications of the population and its

⁸ Figures presented in the quantified objectives of the SPD, p.116.

⁹ SPD Hainaut 2000-2006, p.95.

¹⁰ SPD Meuse-Vesdre, p.133.

ability to integrate new technologies. The SPD places an accent on the exploitation of existing RDT resources rather than the creation of new poles.

The SPD for Namur-Luxembourg is a small programme in funding terms. The main orientation of the SPD relates to the diversification and densification of productive fabric, in an endogenous development perspective. Another important orientation is the preservation of the natural environment. Innovation and knowledge constitute a marginal element in the strategy developed for the zone. These dimensions appear indirectly in measures targeting human capital or the exploitation of natural resources for new energy sources, but not as main driving forces.

In contrast with the situation in Wallonia (and particularly with the Objective 1 programme), areas eligible to Structural Funds support in **Flanders** are relatively small territories with specific problems, mostly of a localised nature. The Structural Funds aim to provide targeted support to address these weaker spots of the otherwise wealthy Flemish territory. Looking at all four programmes, it appears that only the orientations for Limburg show some degree of integration within the overall regional policy: the choice of the priority spearhead sectors (automobile and multimedia) is in line with overall regional choices (e.g. Flanders Drive excellence pole, Digital Action Plan); and with the Flemish innovation policy priority on SMEs (with notably the specific SME support programme). While Flanders is increasingly placing a priority on knowledge and innovation for regional development, the majority of the SPDs are guided by other, mostly local, priorities. The small scale of funding and the project-oriented strategies pursued, result in a minor contribution of EU Structural Funds under Objective 2¹¹ to the overall innovation and knowledge policies in Flanders.

The **Brussels-Capital** region's SPD is of modest size and scope. Its main ambitions relate to promotion of economic activity from an endogenous perspective, with a focus on small-scale enterprise projects, employment of low-qualified, development of social economy, and the improvement of urban environment. Access to ICT for the population is also included in the actions. This SPD is not articulated around the promotion of a knowledge economy: the Structural Funds are targeting small zones of the capital region with particular social and economic problems (extremely high unemployment up to 50% can be found in some neighbourhoods).

The calculations presented in the two exhibits below and in the rest of this chapter are based on the allocation of Structural Fund budgets based on the intervention code classification. For practical purposes and to ensure comparability across regions, the calculation of financial resources allocated to innovation and knowledge has been based on data supplied by the European Commission and limited to the RTDI codes:

- 181 Research projects based in universities and research institutes
- 182 Innovation and technology transfers, establishment of networks and partnerships between businesses and/or research institutes
- 183 RTDI Infrastructure

¹¹ However, an important remark should be made here, regarding the availability of other regional funding of EU origin, through Interreg, Innovative Actions, Urban or EQUAL programmes. If those programmes would have been taken into account in the analysis, it is likely that the picture would have been different, with notably a sizeable contribution of Interreg in innovation-oriented actions.

- 184 Training for researchers.

Additional calculations based on broader definitions of innovation are presented in Appendix D. According to the discussion with programme managers the “strict definition” used in this section seems in the majority of cases the most appropriate to reflect the RTDI component in both strategy and implementation of the Structural Funds programmes in Belgium. However, it has to be taken in mind that it somewhat underestimates the “knowledge economy” dimension of these programmes.

Exhibit 9: Overall allocation of resources at objective 1 and 2 levels (planned figures in Euro)

Objectives	Total cost	Structural funds			National funds	
		Total	ERDF	ESF	Public	Private
RTDI INTERVENTIONS						
Objective 1	250.406.163,00	101.330.936,00	101.330.936,00	-	101.330.936,00	47.744.291,00
Objective 2	138.551.833,38	52.319.192,25	52.319.192,25	-	76.426.289,09	9.806.352,04
TOTAL COHESION POLICY						
Objective 1	2.283.476.909,00	672.629.363,00	427.589.200,00	200.203.797,00	688.016.253,00	922.831.293,00
Objective 2	1.461.972.219,00	461.046.755,00	412.154.933,00	48.891.822,00	672.083.266,00	328.842.198,00

Source: programming documents and financial data provided by DG REGIO

Exhibit 9 indicates that the share of RTDI measures in total Structural Funds allocations is larger for the Objective 1 programme (15%) than for the seven Objective 2 programmes taken together (11%). The figures rise to, respectively 27% and 30% when a broader definition of RTDI is adopted (see Annex D), but these figures are likely to provide overestimations since they incorporate business support in a very broad sense, also capturing non-innovative activities.

Looking at individual SPDs in Exhibit 10, it appears that Limburg and Meuse-Vesdre, with respectively 17% and 16% of Structural Funds allocated to RTDI actions, are the most “RTDI-oriented” programmes in financial terms.

Exhibit 10: Regional allocation of resources (Euro)

Programmes	RTDI INTERVENTIONS			TOTAL		
	Total SF	ERDF	ESF	Total SF	ERDF	ESF
Hainaut	101.330.936,00	101.330.936,00	-	672.629.363,00	427.589.200,00	200.203.797,00
TOTAL OBJECTIVE 1	101.330.936,00	101.330.936,00	0,00	672.629.363,00	427.589.200,00	200.203.797,00
Namur-Luxembourg	4.298.195,00	4.298.195,00	-	60.484.781,00	54.852.960,00	5.631.821,00
Bruxelles Capitale	-	-	-	43.930.000,00	43.930.000,00	-
Limburg	16.815.657,70	16.815.657,70	-	96.592.554,00	85.966.554,00	10.626.000,00
Meuse-Vesdre	26.967.512,00	26.967.512,00	-	164.445.783,00	138.715.040,00	25.730.743,00
Kustgebied-Westhoek	815.858,72	815.858,72	-	34.414.929,00	32.957.285,00	1.457.644,00
Oost-Vlaanderen	-	-	-	14.141.708,00	14.141.708,00	-
Antwerpen	3.421.968,83	3.421.968,83	-	47.037.000,00	41.591.386,00	5.445.614,00
TOTAL OBJECTIVE 2	52.319.192,25	52.319.192,25	0,00	461.046.755,00	412.154.933,00	48.891.822,00

Source: programming documents and financial data provided by DG REGIO

With an enlarged definition (see Annex D), these figures rise to 28% and 30% respectively. The use of a broader definition also allows other SPD to emerge:

Namur-Luxembourg, Brussels-Capital and Antwerpen include a share of, respectively, 41%, 40% and 27% of “innovative” actions, compared to the null or negligible share they present with the strict definition. Based on the strict definition of RTDI, the following comments emerge when comparing the content of the various Belgian SPDs.

In Limburg, the unique measure covering “technology and innovation” is one of the largest measures of the SPD, and this explains why this SPD places a high priority, in financial terms, on RTDI. Similarly the “Knowledge society” axes found in the two major Walloon programmes (Hainaut and Meuse-Vesdre) result in relatively high proportions (15% and 16%) of RTDI-oriented funds. The proximity of such proportions between the two Walloon programmes is a result of the similarity in strategies followed, within the framework of regional policy

In the lower league, Namur-Luxembourg and Antwerpen SPDs devote minor proportions of Structural Funds to RTD (7%), and Kustgebied Westhoek a minimalist 2%. At the extreme, neither Brussels-Capital nor Oost-Vlaanderen’s SPDs include funds allocated to RTDI, which is a good reflection of the absence of such a priority in their strategies.

These relative figures match absolute figures: the SPDs with highest proportion of funds allocated to RTDI are also those with the highest absolute values of such funds. Hence, it is reasonable to expect significant impact from EU support to Belgium from the actions supported in Hainaut (attracting two-thirds of total RTDI-oriented funds in Belgium), Meuse-Vesdre and Limburg. The impact of the other five Belgian programmes will be minimal in terms of the development of knowledge society and RDT-based innovation. This raises the question of the necessary critical mass of funds to undertake meaningful policy action in the RTDI area.

4.1.2 Specific measures in favour of innovation and knowledge

Exhibit 11 below provides a rough allocation of funding according to the policy objectives list already used in section 3, based on measures retained in the above analysis (i.e. based on “pure” RTDI intervention codes).

All Belgian SPDs place a priority (measured in budgetary terms) on boosting applied research and development. This objective attracts two-thirds of the EU Structural funds and is present in all the programmes with an RTDI component. Measures to implement this objective are principally (65%) devoted to the funding of research infrastructures, equipment and projects in excellence poles, research centres or technical centres. In all programmes, the funding of supply side infrastructure is conditional to the demonstration of a real benefit and close interactions with regional companies: in Wallonia the approach is labelled “valorisation of excellence poles”, while in Flanders the funded initiatives tend to originate from industrial sectors (Centre of the Graphic Industry or Automotive Centre). In many programmes, an accent is placed on the networking of the supply infrastructure and on the exploitation of existing resources (often funded in previous programming periods) rather than on creation of new infrastructure. The other component of this priority consists in direct funding of companies for their R&D or technology development projects: in Wallonia the (effective) target group is mainly large companies while in Flanders funding is

reserved for SMEs. In both cases, the ERDF money is devoted to the topping up of existing funding schemes through an increase of public intervention rate.

One quarter of all RTDI funding is used for the development of training centres (“competence centres”) in Wallonia, implemented in cooperation between various actors and targeting a wide public of workers, unemployed and students. A single measure (in Objective 1) targets activities of a science “adventure park”.

Exhibit 11: Key innovation & knowledge measures

Policy area	Number of identified measures (all programmes)	Approximate share of total funding for innovation & knowledge measures	Types of measures funded (possibly indicating importance)
Improving governance of innovation and knowledge policies	None	0%	none
Innovation friendly environment	4	25%	Mainly training centres Science popularisation centre
Knowledge transfer and technology diffusion to enterprises	3	10%	Technology transfer and research valorisation activities in universities and research centres
Innovation poles and clusters	None under codes 181, 182,183,184		
Support to creation and growth of innovative enterprises	None under codes 181, 182,183,184		
Boosting applied research and product development	8	65%, divided into: <ul style="list-style-type: none"> • one-third direct aides to companies • two-thirds supply infrastructure 	Applied Research infrastructure Direct subsidies for RDT projects in companies Applied research/technology projects in public centres

Nb: this table is a summary of the table in appendix D2.

A minor part of the funding (10%) is used specifically to fund technology diffusion actions: activities of university interfaces or diffusion actions of the research centres are ranked in this category. However, this objective is also partly covered by the measures and actions under the first category mentioned above “boosting applied research and product development” since such activities need to be directed to enterprises’ needs, as explained above. This exhibit should be taken with caution since the coding system does not allow to properly capturing the innovation support action in a broader sense (with either over- or under-estimation problems).

The nature of measures funded does not differ very much within regions. The two¹² main SPDs in Wallonia include the same measures, with the only difference being the addition of a “science popularization” measure in Objective 1. This is due to the fact that the instruments used are an integral part of the regional policy mix. The two Flemish SPDS with significant RTDI measures (Limburg and Antwerpen) also use two main identical instruments: the funding of “excellence” poles in relation to industry needs, and a regional SME aid scheme. There is however a crucial difference between the two regions, in the sense that EU Structural Funds represent a sizeable portion of RTDI policy in Wallonia (particularly through Objective 1 money) while in Flanders those amounts are negligible compared to the overall regional budget for RTDI policy¹³.

4.2 Learning from experience: the Structural Funds and innovation since 2000

4.2.1 Management and coordination of innovation & knowledge measures

This section reviews the overall management of Structural Fund interventions in favour of innovation and knowledge during the current period. It examines the coherence of the role of key organisations or partnerships in implementing Structural Funds measures for innovation and knowledge, the linkages between Structural Fund interventions and other Community policies (e.g. the RTD Framework Programme) and the financial absorption and additionality of the funds allocated to innovation and knowledge.

Given the institutional context of Belgium (see section 3), there is no coordination between the three regions for the design and the implementation of their respective Structural Funds programmes. This is reflected in separated processes for programmes design, implementation and management across the three regions. The Federal government does not have responsibilities with regard to Structural Funds programming or management in Belgium. The management structure differs between Flanders and Wallonia: while the management and payment authority is at Ministry level in both regions, an additional layer is in charge in Flanders, the provincial level.

In **Wallonia**, the management of the Structural Funds programmes is the responsibility of the Directorate-General of Economy and Employment of the Ministry of the Walloon Region, which has created a special unit in charge of European Programmes. It covers all three SPDs in the region. The “functional” administrations, i.e. the administrations in charge of the respective instruments used in the SPDs are in charge of the daily monitoring of the programme and the support to project leaders. For the RTDI measures, this is the DGTRE, which administers the EU-funded actions along the same lines as regionally funded actions. As an improvement over the previous programming periods, a special task force has been

¹² The Namur-Luxembourg SPD includes only one measure, also found in the two other Walloon programmes, the funding for competence centres.

¹³ The previous caveat on the existence of other EU regional funding from other sources such as Interreg should be reminded here.

created to ensure more transparency in projects selection, and monitoring indicators have been introduced.

The four programmes in **Flanders** are designed, implemented and managed at provincial level, while the Region retains the final administrative authority and ensures representation with the European Commission. Programmes secretariats have been established in each province and are the key actors of the programmes. However, this level of authority is weak in the Belgian context of strong regions, and consequently, coordination and mainstreaming with the strong regional policies is not always ensured. For some actions, like the provision of RDT aids to SMEs, the central role of IWT is recognised and the creation of parallel financial circuits at provincial level has been avoided. However, difficulties to ensure regional co-financing have been reported, notably in Limburg. The participation of the regional government in programmes is viewed as too limited to ensure mainstreaming of the various provincial projects into the regional policy. The evaluator of the Flemish Objective 2 programmes advises to further strengthen exchanges between the various provincial programmes, and to establish a monitoring system of all programmes at the level of the Flemish government.

Although some actors receive funding both from mainstream Structural Funds and other EU programmes (including e.g. Interreg programmes), there are no general mechanisms in place to organise systematic synergies between these various EU funding sources.

According to figures provided by DG Regio, financial absorption capacity is higher for the Objective 1 programme than for all Objective 2 programmes taken together (Exhibit 12). This can probably be explained in a first instance by a clearer priority placed on RTDI in the former programme and a consequent greater attention to programme execution in this area from the managers of the large Objective 1 programme. The general governance system can also be judged as more effective in the former case, since the size of the operations justify the installation of structured units for the follow-up of programmes in regions benefiting from larger interventions. A contrario, in the case of **Brussels-Capital** for example, the small size of the programme does not justify large resources for the management of the programmes, and a lack of management resources has been reported as a problem in this region. In this case, as in the case of the small Flemish SPDS, a (small) project-oriented approach can be another factor acting against the efficiency of programmes, in terms of expenditure capacities.

Exhibit 12: Absorption capacity of RTDI interventions

Objectives	Allocated SF	Disbursed total SF	Expenditure capacity
Objective 1	101.330.936,00	56.240.566,79	55,5%
Objective 2	52.319.192,25	23.957.350,5799	45,8%

Source: DG REGIO, calculations ISMERI Europa

Exhibit 12a: Absorption capacity of RTDI funds per intervention code (end 2004)

Codes	Allocated	Disbursed	EXPENDITURE CAPACITY
OBJECTIVE 1			
182 - Innovation and technology transfers, establishment of networks and partnerships between businesses and/or research institutes	55.073.584,00	31.338.987,41	56,9%
183 - RTDI infrastructure	46.257.352,00	24.901.579,38	53,8%
TOTAL OBJ. 1	101.330.936,00	56.240.566,79	55,5%
OBJECTIVE 2			
181 - Research projects based in universities and research institutes	1.835.223,30	768.291,48	41,9%
182 - Innovation and technology transfers, establishment of networks and partnerships between businesses and/or research institutes	31.122.677,40	15.763.980,06	50,7%
183 - RTDI infrastructure	19.361.291,55	7.425.079,03	38,4%
TOTAL OBJ. 2	52.319.192,25	23.957.350,58	45,8%

Source: DG REGIO, calculations ISMERI Europa

There are also differences in absorption capacity according to the types of measures considered (see Exhibit 12a).

In Objective 1 (Hainaut), the lowest execution rate relates to the measure 2.1 (support to technological development in companies through direct aids). The evaluation in 2005 considers that the execution of the “Knowledge” priority was satisfactory. For the major measures related to the funding of excellence poles, the evaluation does not expect absorption problems by the end of the programming period. A similar diagnosis is presented by the evaluators of the other large Walloon programme (Objective 2 Meuse-Vesdre): RDT aids also show commitment lags, while all the other measures are fully committed and expenditure should meet forecasts.

In Flanders, in several SPDs, shifts of budgets have led to a re-allocation away from “technology and innovation” measures, showing a difficulty to implement such measures at the local level. A weak point in the implementation of the “technology and innovation” part of the SPD in Limburg, concerns networking practices between companies and between research institutions. On both aspects, implementation lags far behind expectations. The commitment rates also differ across types of activities: for technology centres and technology and innovation projects in companies, commitments lie well-above the objectives, while neither the creation of innovation networks between companies nor the linkages between knowledge centres have raised sufficient interest. Lack of absorption capacity from SMEs acted as a bottleneck for the consumption of RTD aids in the smaller Flemish SPD. Difficulties to meet the n+2 rule for enterprises projects (which are often of a longer duration) are reported.

4.2.2 Effects and added value of Structural Fund support for innovation and knowledge

This section of the report analyses the effects and added value of the Structural Fund interventions in favour of innovation and knowledge during the current programming period. The analysis is based on four main sources, namely: a) available evaluation reports or studies concerning Structural Fund interventions; b) interviews and additional research carried out for this study c) results of the focus group discussions (see Appendix G for stakeholders consulted) and d) case study (see Appendix E). Accordingly, this section does not pretend to provide an exhaustive overview of the effects or added value¹⁴ of Structural Fund interventions but rather is based on the examination of existing information and debates with well-informed participants in these programmes.

The evaluators of the two main programmes in **Wallonia** (Hainaut and Meuse-Vesdre, and here it should be stressed that together these account for three-quarters of total EU funding to Belgium) agree on a mixed diagnosis of the efficiency of the programmes to address the key challenge of the two zones: accelerate the diversification towards more value-added activities, with a view of creating more good quality and sustainable job opportunities. The summary of the key points of the evaluations presented below can in fact be enlarged to a diagnosis of regional innovation policy in general. A lack of strategic orientation of public investments in RTDI support is still hampering efficiency of policies.

None of the evaluations were able to provide evidence of strong positive effects of the Structural Funds actions in RTDI, with respect to the key goal of raising the knowledge intensity of the zones. This is partly due to the long-term nature of such impacts, but also to a deficient monitoring system.

Another important general point for the Walloon experience with Structural Funds is the need to escape the limited sub-regional perspective fostered by the definition of different zones in the region: the establishment of excellence poles or competence centres, and actions to diffuse technologies in the productive sector, should rather be envisaged at a regional than at sub-regional level. This is especially true for the broad-scale actions such as the creation of high-tech poles, but also with respect to the need for a more integrated network of innovation support services. This calls for more integrated and strategic policy directions at the regional level.

More specifically, the evaluation of the implementation of the *Objective 1 SPD* in Hainaut indicates a slightly positive evolution of the main indicators of regional restructuring: employment creation, investments, exports, enterprises creation and research activities are all evolving favorably during the current period, albeit at a rather slow pace. However, those positive effects are considered fragile and reversible by the evaluator. Overall, it cannot be said that the expected qualitative shift in regional development trajectory targeted by the programme has been obtained: *“it is today not likely that, considering the width of the gap, Hainaut will be able to bridge*

¹⁴ A good definition is “The economic and non-economic benefit derived from conducting interventions at the Community level rather than at the regional and/or national level”. See Evaluation of the Added Value and Costs of the European Structural Funds in the UK. December 2003. (Available at : www.dti.gov.uk/europe/structural.html)

*this gap (in GDP/habitant) with respect to the EU average in the medium term*¹⁵. Provisions in terms of R&D expenses are more positive, with an expected growth rate of R&D expenses of 7.3% between 2000 and 2006. The evaluator considers that the quality of the strategic approach is evolving positively but that the implementation of the SPD still suffers from disconnections between various axes, measures, projects, and from a fragmented view on territorial development.

The evolution of excellence poles, which are large beneficiaries of the programme and a major action of this Objective 1 SPD, appears as favorable, however the evaluation notes a difficulty for these poles to really serve the need of economic transformation of the region (see case study in Appendix E). There is a risk for a number of poles that their strategic choices remain too heavily dependent on the specific interests of universities from which they emerge, rather than inspired by a mission related to territorial development. Notably, it still proves difficult to ensure sufficient private funding for these centres, which would ensure increased relevance of their activities for the economic sector. The visibility of these poles towards the enterprises still needs to be strengthened, and their funding structure more firmly established. Most of the poles are still heavily dependent on European funding, and their future is at risk with the foreseen decline of EU funds. The cost-benefit analysis of the real contribution of the poles to the economic development of Hainaut still needs to be done. To sum up, *“it is important to avoid that the excellence poles policy is restricted to the creation of scientific and technological research centres disconnected from economic and technological reality of the enterprises in the province, and without direct and indirect spillovers in terms of employment creation”*¹⁶.

The measure devoted to the stimulation of technological development in enterprises is not considered as efficient by the evaluator of the SPD Hainaut, since most of the funding is allocated to large enterprises already involved in RTD activities, rather than to SMEs. Its impact in terms of raising the innovation potential of the province is dubious, as the leverage effect on research potential is not demonstrated. The measure had notably the objective to “initiate a continuous innovation practice in SMEs”: its implementation will not contribute to such an objective.

In *Objective 2 Meuse-Vesdre*, the economic evolution of the zone has deteriorated during the programming period: employment figures have decreased, and the share of technological industries has shrunk. Despite the positive employment figures registered in the monitoring data of the SPD¹⁷, this will not be sufficient to compensate for the negative economic evolution, and therefore the broad growth and employment objectives of the programme will not be reached.

The evaluation of impacts of the Meuse-Vesdre SPD actions under the “knowledge economy” heading is hampered by structural deficiencies in the use of indicators for programme management: an extended analysis of this problem has been carried out during the updated mid-term evaluation of the SPD: lack of consistency in indicators’ definition, systematic under-estimation of objectives, absence of meaningful indicators (such as private participation in funding of technology centres or extent of

¹⁵ Update of the mid-term evaluation of SPD Objective 1 Hainaut, October 2005, p.24.

¹⁶ Id. p.30

¹⁷ See however important caveats from the evaluator on the reliability of such figures.

networking between centres), additonality, lack of clarity in targets (differences in temporal, geographical scopes), different interpretations across project promoters, etc. This led the evaluator to conclude that *“all the indicators used for this measure 2.2...(excellence poles) are completely deficient and do not allow to form a sound opinion on the real implementation of the measure. They carry the risk, when used, to draw erroneous conclusions, like that of a measure that fully reached its objectives, while the latter are under-estimated in many cases”*¹⁸.

Thus, the question mark with regard to the real contribution of the technological excellence poles to economic restructuring of the zone, expressed by the evaluator of the SPD Hainaut, is also present for the Objective 2 Meuse-Vesdre (see also case study in Appendix E). Nevertheless, the Objective 2 evaluation is positive with regard to the priority placed on economic contribution and networking of competences in the selection of projects, but the monitoring system needs improvements if the reality of these effects is to be checked. Another problem lies in the strict definition of the eligible zone, which is inconsistent with the natural area of action of RTDI-based initiatives, which should extend well beyond the zone, and the region.

A similar negative diagnosis to the one proposed for Objective 1, is presented for the “demand-side” measure of the Objective 2 SPD, i.e. the measure to stimulate technology absorption in companies, which suffers from the same deficit as mentioned above. The system is judged as inadequate and unable to reach the SMEs in need of stimulation towards more innovative practices.

With regard to the training measures, implemented through funding of competence centres as in Objective 1 area, the Objective 2 evaluation is less positive as it points out that for a majority of actions, training provided relates to low-level qualifications rather than qualifications needed to “stimulate an adaptation of the workforce towards high-level value-added market niches”¹⁹. The same diagnosis applies for the competence centres funded in the other Walloon SPD, Namur-Luxembourg.

In **Flanders**, the limited scope and RTDI-orientation of the Structural Funds programmes are responsible for a lack of relationship between the actions developed and the key challenges of the zones²⁰. As mentioned above, innovation policy is developed and centralised at the level of the region, and there is few room for local authorities to contribute to it through these small programmes. The only possible exception relates to the development of excellence poles (a different concept than in Wallonia), in Limburg. But even here, a positive effect cannot be obtained without strong involvement of the Region, both in financial and strategic terms (choice of the sector). In Limburg and Antwerpen a strong accent is indeed put on the establishment of “excellence poles”, typically formed of a research/technical centre and a business organisation (such as “Flanders Drive” around the Flemish Engineering and test Centrum for automobile, the “Graphics Industry Centre” and “Flanders Multimedia Valley”). If the public-partnership strategy pursued proves successful, such strategies might well contribute to the economic redeployment of the zones where the poles are located. Such analyses are not available though.

¹⁸ Update of the mid-term evaluation of SPD Meuse-Vesdre, annex 3, p.5.

¹⁹ Objective of the measure as proposed in the SPD.

²⁰ e.g. in Oost-Vlaanderen, the results of an enquiry done by evaluators mention that expected impact of the SPD implementation in the area of innovation and development is judged as null.

In Flanders too, the introduction of monitoring indicators for Structural Funds programme is a recent and immature process. Currently, disparity between indicators at project level and fragmentation of follow-up between provinces, hampers the development of a correct vision of results and impacts at aggregated level. Efforts are being deployed under the ESF programme, to develop self-audits for project promoters and a quality label system for project promoters.

The present study foresees the execution of case studies of good practices. However, the evaluations, analysis, interviews and focus group held in Belgium did not allow to detect practices or projects that could safely be qualified as good practices, either because of their known lack of success or because indication of positive impacts is missing. To comply with requirements, a case study on a key measure, present in the two main Walloon programmes (Objective 1 and Objective 2 Meuse-Vesdre), the “Valorisation of technological excellence poles”, has been carried out. This measure aims at improving the capacity of existing excellence poles, including those created under previous programming periods, to reach their aim of irrigating the regional tissue with new knowledge, with the view of helping the diversification of the economy towards higher value-added activities. It accounts for important part, in budgetary terms, of the “Knowledge economy” axis in the two programmes. The full case study appears in Appendix E, and the main results have been provided above.

Despite a relevant definition of this measure and of the projects selection criteria, well in line with the needs of the regional fabric, the absence of correct measurement of its impacts prevents its consideration as a good practice. The main condition towards effectiveness of such a measure would be for the region to develop a sound monitoring and indicators system, which would enable to evolve towards a performance-based selection system. This system should be region-wide and not specific to the European interventions. In the future, the necessity to promote an area of action of the poles spanning to the whole region, as well as to the international scale, is an obvious option.

4.3 Conclusions: Structural Funds interventions in favour of innovation and knowledge

The main orientations of the Walloon SPDs correspond to the key challenges of restructuring an ageing productive fabric towards more knowledge-based activities: they include measures to reinforce the availability and diffusion of new technologies in the productive sector, measures to stimulate the development of innovative projects in companies, and actions to increase adaptation of the workforce to new, knowledge-based activities. However, their implementation reveals disappointing results (see Exhibit 12a). Across all measures, a deficiency in strategic orientation of regional RTDI policy is a general hampering factor for Structural Funds' effectiveness.

In Flanders the situation is different, since only two of the four SPDs have included knowledge and innovation actions in their mix of measures. Even in these two cases, the interventions are of sub-critical size and can be expected to deliver meaningful effects only if better incorporated into the regional RTDI strategy and managed at regional level. As in Wallonia, the mechanism of direct R&D subsidies to companies is not seen as efficient as it only reaches companies with a high-tech profile, and not those traditional SMEs that are in need of innovation stimulation.

A common thread in Belgian SPDs, including innovative policy approaches, is the promotion of innovation-oriented networks and synergies, among companies, among knowledge and competence centres, and between the research and technology base and companies. This is indeed a relevant orientation, in view of the mismatch is Belgium's S&T capacities and competitiveness sources (see section 2). It seems however very difficult to demonstrate positive achievements in this area. Arguably, Flanders is more advanced on a number of these issues (with e.g. the creation of an innovation intermediary network, the recent formalisation of the excellence poles policy) but real effectiveness based on serious impact analyses still needs to be demonstrated.

Finally, the analysis of this section points towards the limitation of the current "zones" approach, even in the case of the Objective 1 programme covering an entire Province. Knowledge-related investments are in many cases at odds with the strict zoning imposed, and adverse effects have been noted of Structural Funds investments reinforcing detrimental "sub-regionalism" behaviour. In a small-size country with strong autonomous powers in the hands of the Regions to conduct their own RTDI policy, such a sub-regional approach is counter-productive.

Implications of these conclusions in terms of options for future Structural Funds interventions will be discussed in section 6.

Exhibit 13: Main outcomes of innovation and knowledge measures

Programme or measure	Capability	Added value
WALLONIA		
Excellence poles (Hainaut and Meuse-Vesdre)	Reinforce technological potential, research valorization, and industry-research relationships	Demand-orientation of the majority of poles still uncertain, need for better monitoring of economic impacts, need to stabilize funding and to promote networking
RDT aids (Hainaut and Meuse-Vesdre)	Facilitate adoption and application of R&D results in companies	Support for R&D intensive companies but lack of innovation stimulation in the broader productive fabric – value added is dubious – possible displacement effects
Competence centres (all)	Improve manpower qualifications to accelerate the shift towards value-added economic niches	Valuable partnership approach and search for synergies, but need for more forward-looking orientation
FLANDERS		
Excellence poles (Limburg, Antwerpen)	Diversify economic structure towards future-oriented activities	Impact to be assessed at the level of regional policy, ERDF contribution is marginal
RDT Aids to SMEs - KMO-Plus plan by IWT (Limburg, Antwerpen, Kustgebied-Westhoek)	Increase success rate of innovative projects	Expected impact only in high-tech zones, not really adapted for most Objective 2 areas
SMEs networks (Limburg, Antwerpen)	Reinforce SMEs' innovation orientation	Unsuccessful measure

Main source: Structural Fund programming documents and evaluations, interviews and focus group.

5 Regional potential for innovation: a prospective analysis

This section of the report seeks to summarise and draw conclusions from the analysis of the preceding sections, available studies and interviews and focus group carried out for this study in order to provide an analysis of the regional innovation potential. In doing so, the aim is to provide a framework for orientations in terms of future Structural Fund investments in innovation and knowledge.

The first sub-section presents key assets for knowledge-based growth in Belgian regions, based on a review of existing prospective studies, while the next sub-section provides a full SWOT analysis of regional innovation potential.

5.1 Factors influencing regional innovation potential

In Belgium, in contrast with more centralised countries like France, foresight or prospective studies and analyses of innovation-based development potential, are usually carried out at the regional level. A number of such studies have been initiated by the regional governments themselves, or been connected closely to the policy-making sphere. Good examples of the first type are the EU-funded RIS programme Prométhée and the recent strategic studies leading to the definition of the competitiveness poles strategy in Wallonia, or the work carried out by the High-Level Group 3% established at federal level. Examples of the second type are the work of VIWTA, the Flemish Institute for Research on Scientific and Technology Aspects (linked to the Flemish Parliament), or the analyses provided by the large federation of technology industries Agoria (with a Walloon and a Flemish branch). In addition, a multiplicity of studies on specific aspects of research, innovation or information society potential in Belgium are carried out by academics, consultants or various organizations, and also feed into a diagnosis of the factors for knowledge-driven growth in Belgian regions.

In **Wallonia**, prospective studies carried out in 1998-2000 within the framework of the RIS project Prométhée, as well as other more recent studies²¹, concluded on the large growth potential of a number of sectors using technologies in which Wallonia has developed a certain degree of specialisation or expertise:

- ◆ Life science and health – extending to agro-food;
- ◆ Information and communication technologies ;
- ◆ Space and aeronautics;
- ◆ New materials applications and applications of nanotechnologies;
- ◆ Products and process with high environment value.

Important public funds have been invested into public and private research in these sectors, particularly the first one, often with the participation of Structural Funds. A positive dynamics of spin-offs creation in biotech and life science is also visible, and

²¹ This includes recent consultant studies executed on behalf of the government, in view of preparing the new regional development plan “Marshall Plan” and for the identification of competitiveness poles.

a concentration around a few research poles notably in Liège. Linked with this specialization, an important potential is also present with the large agro-food Walloon industry, the second industrial sector in terms of jobs: along with small, traditional, firms, the sector also hosts very innovative businesses with good connection to technology developments.

In geographic terms, proximity with Brussels-Capital advantages the wealthy Walloon Brabant province, concentrating R&D- and innovation-active companies, highly qualified population and benefiting from the influence of the large University of Louvain-la-Neuve.

In **Flanders**, the “Monitoring and Analysis” section of IWT is an important source of information on the various aspects of the Flemish Innovation system. The Flemish Advisory Council for Science Policy (VRWB) and the various support points for policy at universities, also regularly contribute to a better understanding of the weak and strong points and evolution paths of this system. Recent studies identify the following strongholds of this system:

- ◆ Chemical industry is responsible for the highest concentration in research activities;
- ◆ ICT industry is the second industry in terms of private R&D. The presence of the worldwide center of excellence in micro-electronics research in the region, IMEC, is a key asset;
- ◆ A diversified economy is characteristic of the region: Flanders mostly escapes the burden of having to restructure heavy industries inherited from the industrial revolution as in Wallonia.

Geographically speaking, there are no big imbalances on the Flemish territory, all parts of the region are host to innovation activities (as shown by the Innovation enquiry). Concentration of R&D activities takes place in cities and university locations of Leuven, Gent, and to a lower extent Hasselt in Limburg.

In **Brussels-Capital**, regional authorities are concentrating their attention to the problems of urban space management, mobility and fight against poverty and exclusion. Indeed the paradoxical situation of this region is that it combines the highest rate of activity creation and highest rates of unemployment. Because more than half of the activity creation is the result of work from Belgians living in the other two regions, this prosperity does not benefit the region itself. There is no particular effort on the side of regional authorities to study the R&D and innovation potential in this region. From available figures and studies, the following two sectors seem to present the largest potential for knowledge-based activities in an urban context:

- ◆ ICT-related activities, which can rest on availability of highly qualified population, a dense service economy, and large local, national and international demand;
- ◆ Health sector with the availability of major university hospitals.

Currently, regional authorities are considering the sector of environment as a possible spearhead sector for the region too.

The exiguity of the regional territory is such that its development is closely interlinked with development in the two other regions, for which it acts as a “service” centre (but not a “science” centre, as mentioned in section 2).

Exhibit 14: Factors influencing innovation potential by type of region

Region / type of region	Main factors influencing future innovation potential
Flanders (Central Techno Region)	<ul style="list-style-type: none"> • Availability of top research centres in a.o. microelectronics and biology • Growth areas around business-led excellence poles in automotive, materials, multimedia • Innovation Pact indicates government and key actors commitment to innovation • Concentration of private R&D in ICT and Chemistry
Wallonia (Local science and service centre region)	<ul style="list-style-type: none"> • Presence of active research poles, notably in life science and health • Upgrading of traditional SMEs’ approaches to innovation • Presence of highly qualified workforce
Brussels-Capital (Science and service centre region)	<ul style="list-style-type: none"> • Strong growth in firms creation in ICT-related activities • Research potential in universities, high schools and university hospitals • Attractiveness as EU capital city and international centre

5.2 A prospective SWOT appraisal of regional innovation potential

This section complements the preceding one by highlighting bottlenecks in development of regional innovation potential, and summarizing the strengths, weaknesses, opportunities and threats of each region on its path towards knowledge-based development.

Wallonia

Many studies put in evidence the fact that numerous Walloon SMEs still face too many barriers with regard to innovation: outdated management practices, lack of openness to innovation, difficulties to access financial sources, etc. hamper the development of a knowledge-based economy in the region. Deficiency in entrepreneurship is also pointed out as a possible cause for a lack of dynamic evolution of the industrial fabric.

In 2002-2003, a wide prospective exercise was carried out with large participation of citizens and regional organisations, to define the big challenges for “Wallonia 2020”. It is striking to see that the “innovation and knowledge” dimension does not really emerge from the conclusions of this exercise, indicating a general lack of awareness of the Walloon society about the importance of this component of regional development. One important and relevant outcome of this exercise though, refers to

the need to improve the education system on two fronts: opening the school system to business world, and promoting opportunities for life long learning practices. Those two points address an important weakness of the innovation system in Wallonia, as mentioned in section 2 above. Interestingly, a foresight study conducted in 2002 for the federal science policy department, also delivered the message of a need to reform the education system.

Flanders

In addition to the strong concentration of private R&D activities in Flanders within a few large companies and sectors (chemical industry being at the forefront) there is also an observed tendency from companies to shift their R&D activities towards shorter-term developments at the expense of more longer-term research activities able to sustain future developments. The extremely high rate of foreign control on Flemish R&D activities (reaching 90%) presents a danger in case of decisions to delocalise R&D activities of only a few of these large firms. These elements constitute an important vulnerability factor of the Flemish private R&D sector: indeed recent figures point towards a decrease in private R&D investments in this region.

Brussels-Capital

Apart from some ICT activities, economic activities in Brussels-Capital are generally of low technological content. The region does not host many private R&D laboratories and is not sufficiently attractive for high-tech firms, despite its excellent geographic location and the presence of public R&D centres in the region or in close proximity in the neighbouring regions.

This seems to be the Belgian region with the highest under-used potential for establishment of knowledge-based development strategies. The small geographical size of the region, and the limited budgetary means of the regional institution are two important limiting factors to develop such strategies. However it seems worthwhile to engage in a strategic exercise, on the model of RIS exercises, to progress along this road.

Exhibit 15: Innovation and Knowledge SWOT

Wallonia (Local Science and Service Centre)	
Strengths	<ul style="list-style-type: none"> ▪ Niches in life science (both public and private R&D activities) ▪ Growth poles and spin-offs around universities ▪ Well-educated population
Weaknesses	<ul style="list-style-type: none"> ▪ Unfavourable sectoral specialisation ▪ Dependency from public sector ▪ Sub-regional approach to knowledge (and other) investments ▪ Limited lifelong learning practices ▪ Weak regional identity ▪ Lack of strategic regional innovation policy
Opportunities	<ul style="list-style-type: none"> ▪ Research concentration, notably in life science to be developed into “competitiveness poles” ▪ Connection to international technology platforms and networks
Threats	<ul style="list-style-type: none"> ▪ Delocalisation or take-over of R&D departments in Walloon (foreign-owned) companies

Flanders (Central Technology region)	
Strengths	<ul style="list-style-type: none"> ▪ Presence of R&D-intensive companies, of high-tech companies, and of strong basic research centres ▪ Well-educated population ▪ IWT as one-stop-shop for R&D and technology support, and organization of network between technology providers ▪ Explicit innovation policy including modern concepts of “open” and “horizontal” innovation
Weaknesses	<ul style="list-style-type: none"> ▪ Mismatch between scientific and economic specializations ▪ Recent negative trend in private R&D investments ▪ Concentration of R&D activities in few companies ▪ Lack of cooperation culture amongst businesses ▪ Weak entrepreneurship dynamics ▪ Limited availability of risk capital (despite recent efforts) ▪ Limited attractiveness of S&T studies
Opportunities	<ul style="list-style-type: none"> ▪ Further diffusion of knowledge through excellence poles ▪ Further diversification into medium- and high-tech activities
Threats	<ul style="list-style-type: none"> ▪ Shift from research to development in companies might undermine the long-term innovativeness of the region ▪ Delocalisation of R&D activities of foreign-owned companies ▪ Brain drain (towards USA notably)

Brussels-Capital (Science and Service Centre)	
Strengths	<ul style="list-style-type: none"> ▪ Favourable location and density of services ▪ International orientation – multi-cultural assets ▪ Large presence of universities, public and private research centres ▪ Availability of very qualified and international population
Weaknesses	<ul style="list-style-type: none"> ▪ Dual society, high unemployment, large share of population left out of knowledge society ▪ Dominance of administrative functions, non-market services and trade ▪ Weak attractiveness for high tech activities ▪ Urban congestion problems ▪ No strategic regional policy framework for knowledge and innovation ▪ Weak institutional position of bilingual Brussels-Capital Region in federal context, straightjacket of regional government and budget
Opportunities	<ul style="list-style-type: none"> ▪ Exploitation of central position and attractiveness for innovation-based investments ▪ Signs of growth in business services could lead to a new knowledge-based activities ▪ Potential for creative industry development ▪ A major RIS-type exercise could open ways for a strategic regional RTDI policy
Threats	<ul style="list-style-type: none"> ▪ Evolution towards a pure “service” and public centre with high dependence on government sector ▪ Social problems overshadowing opportunities in terms of development towards a knowledge region

5.3 Conclusions: regional innovation potential

Policy headline 1: Wallonia needs to develop a strategic approach to innovation

- Wallonia is a region with multiple assets but its development has insufficiently been based on the exploitation of the knowledge economy as a “high road” for development. This situation is slowly changing with the recent Marshall Plan and the previous “Future Contract”, in which R&D and innovation are given an important status. However, to evolve into economic activities with higher value-added, it would be necessary to implement a better strategic framework for the exploitation of the knowledge base, ensuring not only a better diffusion of existing competences, but also increased absorptive capacities by regional companies. Voluntary choices, effective incentives, and avoidance of counter-productive sub-regional approaches, are all necessary to ensure more effectiveness of the regional innovation stimulation tools. Introduction of improved monitoring and evaluation practices are also part of the key challenges.

Policy headline 2: Flanders should reinforce its attractiveness for high value-added activities

- Flanders enjoys a very favourable economic situation, and its development rests in large part on the existence of high-tech activities, supported by strong competence centres. However, this success is fragile, as recent delocalisation and decreasing trends in business R&D show. Endogenous dynamics might not be sufficient to compensate for these globalisation trends, and in particular entrepreneurship would need reinforcement to ensure regional value-added creation. A strategic innovation policy approach is being developed, aiming at ensuring networking and synergies between assets in public and private sectors. Such synergetic approaches need to be pursued and opened more towards international partnerships.

Policy headline 3: Brussels-Capital should not miss the opportunity of developing into a knowledge-driven city-region

- The weak status of the region of Brussels-Capital in the complex federal system of Belgium, acted until now as a barrier to develop fully-fledged RTDI policies. The regional development plans do not include this dimension, and the regional government remains passive with regard to developments in RTD and innovation on its territory. This stands in contrast with the potential of the region with respect to its location, its international role and the availability of key assets for the knowledge-based economy. The fight against pressing dualisation problems, which need to be tackled in the short term, should not overshadow opportunities for longer-term opportunities to develop the region as a major innovation centre in Europe. This will request a change of perspective, new approaches and new competences in the regional agencies, and a smart constitution of alliances with the other Belgian and neighbouring regions. The challenge is vast, but so are the assets of the region.

6 Future priorities for Structural Fund support for innovation and knowledge: options for intervention

This section concludes the analysis with a number of recommendations for future investment priorities for Structural Funds in Belgium. It summarises the key lessons from the analysis and translates them into strategic (sub-section 6.1) and operational (sub-section 6.2) options for interventions of Structural Funds in Belgium during the next programming period.

Given the non-availability of drafts of National Strategic Reference Framework and Operational Programmes for Belgium at the time of preparing this report, this section rests on the present analysis rather than on a critical overview of such draft strategies.

Preparation of the National Strategic Reference Framework for Belgium was indeed still at early stage at the time of preparing this report. Working meetings involving the federal government, the Regions and the Communities were taking place, and focused on the sensitive question of budgetary allocations between the various State entities. Decisions on the number of Operational Programmes in the country had not yet been finalised, and this is partly dependent on the overall agreement on budgets. Work on the substance of the various operational programmes is being pursued independently in each region, based on consultations with stakeholders, external studies and discussions amongst policy-makers from the various ministries concerned.

For these reasons, no discussion of financial expenditures for the next programming period is included in this chapter.

6.1 Strategic orientations for Structural Fund investments in innovation and knowledge

Key conclusion 1: Belgium is well endowed with RDT resources but the main bottleneck lies in absorptive capacity of businesses for new technologies and lack of innovation-orientation of too many SMEs

All Belgian regions have developed an infrastructure of research and technology centres, university laboratories and interfaces services, various types of “excellence poles”, intermediaries and support organizations. This infrastructure has often been co-funded by EU Structural Funds in eligible zones.

However, there are limitations to this policy approach based on the “valorization” of knowledge from public research centres. Many companies, notably in more traditional sectors, face barriers to access this knowledge and engage in innovative practices based on market considerations rather than on availability of new technologies. Therefore the goal to broaden the innovation base by increasing the number of companies engaged in innovative practices, cannot be met by supply-side strategies only.

The demand side for innovation is addressed both in Flanders and in Wallonia with the instrument of direct RDT aids: the analysis has shown that such subsidies are not effective to reach the target group of technology-following SMEs or the large number of companies for which R&D is only a marginal ingredient of innovation. Furthermore, the extent of additionality of such aids, and more precisely of their “behavioural additionality”, is limited, at least in the Walloon programmes. Therefore this typical demand-side instrument is insufficient too, with regard to the objective of involvement of a larger number of companies in innovative practices.

Recommendation 1 : Concentrate interventions on “systemic” instruments

Future Structural Funds investments should give priority to “systemic” instruments, i.e. instruments that are targeting joint developments of business, research and training actors in specific sectors²² with a view to enhance innovation. This is the intention of the “Competitiveness poles” being currently established in Wallonia, and of the “Competence poles” in Flanders. Both types of instruments share a number of key properties, i.e. that there is a clear business drive behind them, that all relevant competences sources are brought together towards the goal of raising innovativeness in the sector, and that cooperation and networking between companies is at the heart of the initiative. Another important characteristic is, in principle, that innovation is also recognised in its non-technological dimensions. The latter focus has become more prominent lately in Flanders.

If such strategies are implemented according to these lines, they are likely to bring the expected value-added from Structural Funds interventions, which today is not ensured due to:

- ◆ uncertainty in terms of the need-orientation of knowledge centres funded in current programmes;
- ◆ lack of adequacy of individual RDT aids to reach smaller companies which are not necessarily involved in technology creation.

Key conclusion 2 : Effectiveness of EU-supported interventions depends on their articulation with the regional policy mix

Given the relatively favourable position of Belgian regions in our typology of European regions for the knowledge economy, the absolute size of Structural Funds interventions in Belgium will necessarily remain limited, and even marginal compared to regional budgets (this is already true for Brussels-Capital and Flanders, and will evolve in this direction for Wallonia). Therefore the most important factor for the effectiveness of EU-funded actions is their contribution to a coherent mix of policy instruments able to promote innovation in the regions.

This requires that a strategic approach to regional innovation policy is implemented at regional level: such an approach is indeed well developed on the Flemish side, is in a building phase in Wallonia, and not yet on the agenda in Brussels-Capital. It is very

²² “Sectors” should be understood in an open perspective, not limited to traditional definitions. Actually, experience shows that the most interesting innovations often come from joint activities from companies in different traditional sectors.

difficult to ensure a right choice of orientations and measures for the Structural Funds programmes, in the absence of a fully-fledged regional innovation policy with clear targets, operational goals and well-articulated means linked to these goals.

Recommendation 2 : Integrate Structural Funds interventions in the core of a strategic and integrated regional innovation policy

Developing strategic approaches to regional innovation policy is a prerequisite for the decisions on future Structural Funds interventions in Belgium. This implies notably that a clear vision of missions, duties, outcomes and complementarities between members of the innovation support infrastructure is present, and monitored at regional level. In Flanders, progress is being made on this front with the implementation of a coordinating role of IWT and the formalisation of VIS programme and a framework for financing excellence poles and strategic research centres. In Wallonia, the diagnosis of such a need has been made and the current regional development plan foresees the implementation of such a strategic approach. Linkages between instruments from technology and industrial policy toolboxes are also in development, but need further improvement. The situation today is still one of fragmentation of interventions between various ministries in charge (but the recent innovation policy frame in Flanders places a strong accent on a horizontal concept of innovation policy).

Structural Funds interventions should be integrated into these better-articulated systems. A combination should be found between exploratory approaches – in which EU-funded operations serve as a testing ground for innovative actions with an expected leverage effect – and a streamlining of EU-funded actions into the core of regional innovation policy. In the former case, it is important to avoid one-off funds injections (especially in the case of projects with a large size) without making sure that further necessary public support will be available under regional public funds.

Key conclusion 3 : Small-size programmes are ineffective to boost development of the knowledge-based economies

The analysis of the implementation of Structural Funds programmes in Belgium shows that, although knowledge and innovation are considered as the key ingredients of economic growth in all regions, only those zones covered by a programme of a minimal critical size could engage in meaningful actions to support the development of innovation and knowledge. With small programmes, it is not possible to obtain the necessary leverage effects and therefore such small interventions remain marginal to the mainstream policy. In addition, appropriate monitoring and follow-up structures cannot be financed under small programmes, because the relative costs of setting up such structures are too high. There is a risk then that a project-driven approach becomes the rule, hampering strategic management at regional level.

Recommendation 3 : Design interventions and projects with sufficient critical size

Future interventions of Structural Funds should be articulated in programmes of a size adapted to the challenges ahead: dispersed interventions managed at the micro level

of projects should be abandoned and replaced by a concentration of funds in a limited number of well-selected projects with high expected value-added and leverage effects.

This recommendation has implications on the number of Operational Programmes that can be supported. Especially in the case of Flanders, under the hypothesis of unchanged budget, a reconduction of four programmes of a relatively small size is likely to lead to ineffective results.

Key conclusion 4 : Rigid sub-regional zoning definition is not efficient for innovation and knowledge promotion

The current definition of relatively small intervention zones for the Objective 2 programmes is often at odds with the requirement for effectiveness of the instruments funded, in particular for the majority of measures including funding of research and technology or training infrastructure in various forms. By definition, the ambition of such centres extends beyond the limits of these administrative zones. The same is true for clusters or any kind of public-private networking initiatives, which are driven by content rather than by territorial boundaries. The definition of various eligible zones in Belgium is helpful in terms of targeting interventions on the most affected parts of the territory, but it proves often difficult to manage in practical terms at the level of projects. It also generates adverse effects in terms of duplication of investments or creation of unproductive competition between the various locations. Such a sub-regionalist approach is often blamed for the inefficiency of policies in Belgium, and should therefore be avoided.

Recommendation 4 : Combine regional drive with sub-regional targeting/implementation

To be coherent, definition of orientations for Structural Funds programmes should, as already proposed under the previous recommendation, take place within the overall framework of regional innovation policy. This means that regional authorities should be in the driving seat for strategic definition and main decisions of the Structural Funds Programmes. This will imply a change in particular for Flanders, with a decrease of the role of Provincial authorities in favour of a stronger involvement of the regional authority.

This main role for regional authorities is not contradictory to a focus of interventions on particular zones facing more challenging development problems. With careful selection of projects, clear missions including geographical targeting, use of preferential or reinforced instruments for the particular zones, and monitoring of these aspects, a more flexible approach to geographic definition could be adopted without putting prejudice to effectiveness of actions. Both in Flanders and Wallonia, strategic sectors and technologies have been defined as priority of action of the regional governments. Some of these “poles” are more likely to bring benefits to disadvantaged zones of the regions, due to the particular location of their node or to an over-representation of the sector in certain zones: these poles could be preferentially supported with Structural Funds in order to combine localised effects and overall regional strategy.

6.2 Operational guidelines to maximising effectiveness of Structural Fund interventions for innovation and knowledge

Key conclusion 5 : Monitoring practices need improvement

Analysis of current practices in Structural Funds implementation shows an obvious need for better monitoring systems. Effectiveness of programmes is difficult to assess in all cases, due to the deficiency in indicators used and poor implementation by project managers. Results and impact indicators are both seen as deficient, in all three regions. A discontinuity between monitoring work at provincial level and follow-up at regional level is identified in the evaluations in Flanders. Differences in monitoring practices between ESF and ERDF is another deficiency which needs attention.

Recommendation 5 : Establish well-equipped monitoring and strategic analysis cells at regional level as well as robust indicators and follow-up systems

Future interventions of Structural Funds in Belgium should be supported by reliable monitoring systems, oriented towards the measurement of goals achievements, i.e encompassing both results and impacts measurement. These systems should be developed with a view to ensure adherence and strict compliance by project managers. Incentives for proper use of the systems need to be installed, notably by making funding conditional to the achievement of goals. In the future, selection of projects (see below) will also need to be made dependent on examination of past achievements (when appropriate) on the basis of the indicator system.

In line with Recommendation 3, the monitoring and indicator system for Structural Funds intervention should be integrated in the regional monitoring system, in order to allow for an analysis of the contribution of these interventions to the regional policy mix as a whole. In order to combat fragmentation of policy-making, these systems should deliver results incorporating the assessments from all Operational Programmes at play in a region (rather than following a programme-by-programme approach).

Key conclusion 6 : Selection of the most relevant projects is key to success

The analysis in this report shows that the success of measures retained in Operational Programmes depends a lot on the right choice of projects. One clear example of a questionable choice is the funding for training in basic worker competences in traditional activities, under a measure aiming at adapting the workforce to new activities with high value-added potential. While the measure in itself is very relevant in a “knowledge economy development” policy mix, correspondence between aims and actual implementation is needed if it has to fulfil the intended goal. This places an important pressure on the selection phase at the start of programme implementation. While procedures involving open calls for projects are used in the majority of cases throughout Belgium, thus allowing in theory good level of competition and the possibility to give priority to the best projects, the reality is however that under-standard projects are able to emerge from the selection procedure. This could be due to:

- ◆ Restricted effective competition due to pre-determined choices;

- ◆ Lack of appropriate information on proposed projects to enable sound selection procedures;
- ◆ Weak competition due to restricted range of potential project proposers, notably when strict zoning is applied;
- ◆ Lack of independency in projects selection leading to biased choices.

Evaluations of current programmes indicate that the above problems are present to various degrees in the existing programmes. The establishment of an independent task force for projects selection in Wallonia is a progress over preceding periods as it establishes a more objective selection procedure, but it does not seem sufficient and still lacks transparency. One key problem is linked to the deficiency of monitoring mentioned in the preceding conclusion: project proposals are generally weak in terms of evaluation of past performance in similar activities, and in providing clear prospects for assessment of project's success.

Recommendation 6 : Establish transparent and efficient selection systems for projects to be retained for funding under the Structural Funds

In preparation of the next programming period, Belgian regions should establish transparent, neutral and professional systems for selection of projects under the measures that will be retained in the Operational Programmes. The best available expertise, also found outside of the region, should be made available at this crucial selection stage.

Clear selection criteria for projects selection should be used and communicated, and these should incorporate a strong accent on expected impact on regional development. Another key criterion for project selection is the survival capacity of projects after EU funding period, either through a natural incorporation in the regional funding sources or through self-financing strategies when appropriate. The problematic case of excellence poles financed under the Objective 1 programme in Wallonia should serve as a counter-example here.

Appendix A Methodological annex

A.1 Quantitative analysis of key knowledge economy indicators

A 1.1 Factor analysis

In order to analyse and describe the knowledge economies at regional level in the EU, the approach adopted was to reduce and condense all relevant statistical information available for a majority of regions. The approach involved firstly reducing the information from a list of selected variables (Table 1) into a small number of factors by means of factor analysis.

Table 1. Reduction of the dataset (215 EU-25 regions) into four factors by means of factor analysis

	The 4 factors			
	F1 'Public Knowledge'	F2 'Urban Services'	F3 'Private Technology'	F4 'Learning Families'
Higher education (HRSTE), 2003	.839	.151	.190	.184
Knowledge workers (HRSTC, core), 2003	.831	.164	.267	.327
High-tech services employment, 2003	.575	.367	.428	.323
Public R&D expenditures (HERD+GOVERD), 2002	.543	.431	.275	-.195
Value-added share services, 2002	.323	.869	.002	.121
Value-added share industry, 2002	-.265	-.814	.386	-.061
Employment government administration, 2003	-.217	.745	.124	-.175
Population density, 2002	.380	.402	.043	.038
High and Medium/high-tech manufacturing employment, 2003	-.073	-.331	.873	-.089
Value-added share agriculture, 2002	-.222	-.350	-.672	-.198
Business R&D expenditures, 2002	.335	-.050	.664	.267
S&T workers (HRSTO, occupation), 2003	.560	.178	.589	.382
Population share under 10 years of age, 2001	-.237	.060	-.015	.868
Life-long learning, 2003	.472	-.009	.165	.703
Activity rate females, 2003	.418	-.227	.281	.620

Note: Principal Component Analysis. Rotation Method: Equamax with Kaiser Normalization, a Rotation converged in 9 iterations. Main factor loadings are highlighted in bold. Source: MERIT, based on Eurostat data, mostly referring to 2002 or 2003

Based on the variable with the highest factor loadings we can characterise and interpret the four factors and give them a short symbolic name:

Public Knowledge (F1)

Human resources in Science and Technology (education as well as core) combined with public R&D expenditures and employment in knowledge intensive services is the most important or common factor hidden in the dataset. The most important variables in Public Knowledge are the education and human resource variables (HR S&T education and core). Cities with large universities will rank high on this factor.

One interesting conclusion is that public and private knowledge are two different factors (F1 and F3 respectively), which for instance has implications for policy issues regarding Science-Industry linkages. Public R&D and higher education seems especially related to high-tech services, whereas Business R&D especially serves high- and medium-high-tech manufacturing.

Urban Services (F2)

This second factor contains information on the structure of the economy. It is well known that industrial economies are quite different from services based economies. It is not a matter of development per se, because in the European regions the variety of economic structure is very large and for a large part based on endowments and path dependent developments like the extent to which government administration is located in a region or not. This factor takes into account the differences between an industrial area and a service based area including the public administration services of the government. Another observation is that there are two different 'urban' factors, indicating that academic centres not necessary co-locate with administration centres. What may not be surprising is that the Urban Services factor is not associated with R&D, since R&D is more relevant for innovation in manufacturing than for service industries.

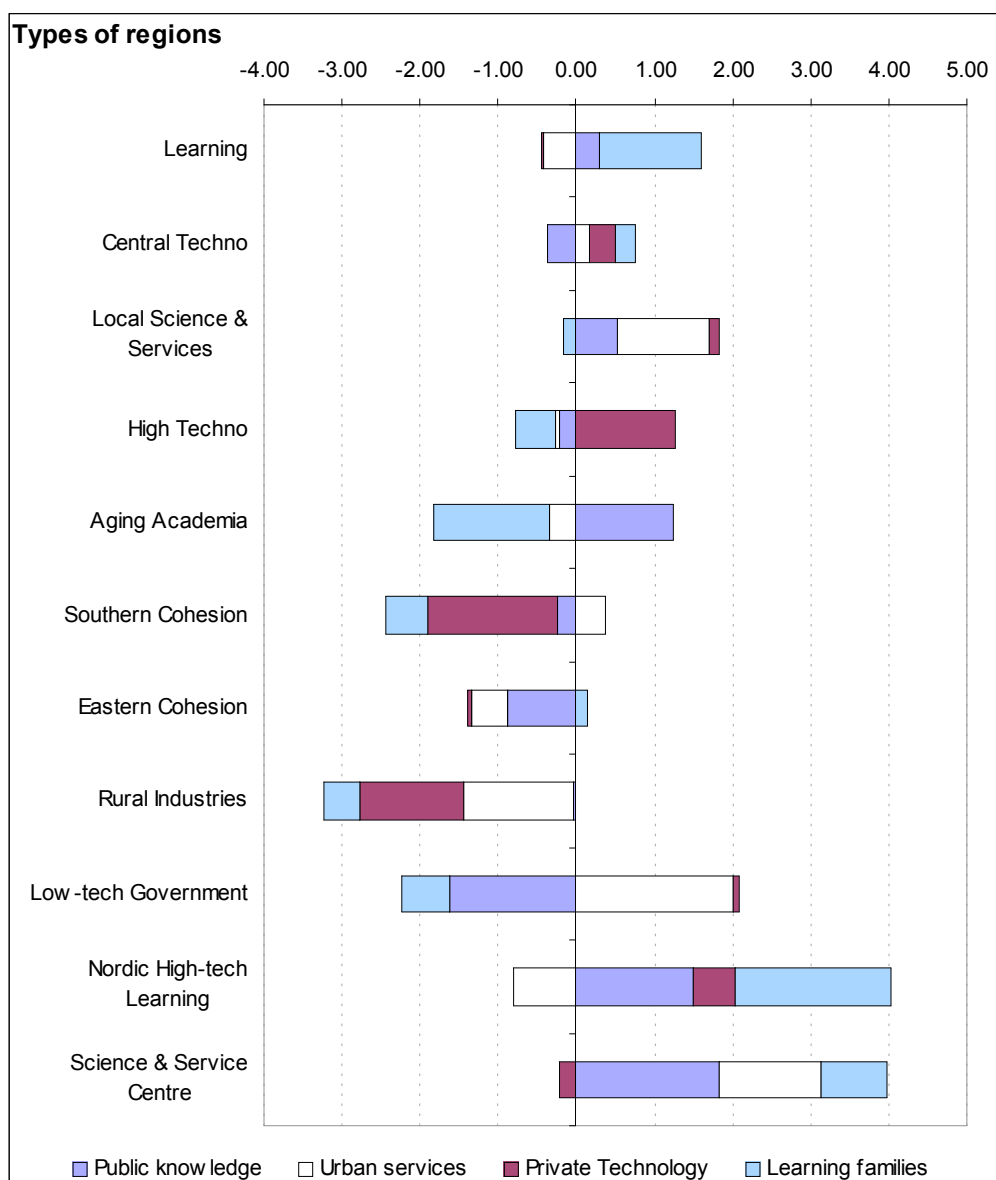
Private Technology (F3)

This factor contains business R&D, occupation in S&T activities, and employment in high- and medium-high-tech manufacturing industries. A countervailing power is the existence of agriculture in the region. One interpretation could be that agricultural land-use goes at the cost of possibilities of production sites. Another interpretation is that agriculture is not an R&D intensive sector.

Learning Families (F4)

The most important variable in this factor is the share of the population below the age of 10. Locations with relatively large shares of children are places that are attractive to start a family. Possibilities for Life Long Learning in a region seems associated with the lively labour participation of the mothers of these youngsters. The Learning Families factor could also be interpreted as an institutional factor indicating a child-, learning- and participation- friendly environment, or even a 'knowledge-society-life-style' based on behavioural norms and values that are beneficial to a knowledge economy.

A 1.2 Description of the 11 types of EU regions



1 Learning

The Learning regions are first of all characterised by the high score on the factor 'Learning Families', and the three main components of this factor: life-long-learning, youth and female activity rate. On the other factors the regions are close to the regional average. Unemployment is on average the lowest compared to the other EU regions. Employment in the government sector is limited. GDP per capita is rather high. The regions are located in Austria, Ireland, the Netherlands, Sweden and the UK. There are many similarities with the Nordic High-tech Learning regions, but the business sector in the Nordic version invests more in R&D.

2 Central Techno

This is a rather large group of regions located mostly in Germany and France with close to average characteristic, but the share of High-tech manufacturing is rather

high. The factor-scores as well as GDP-per head is slightly above the regional average, except for the Public Knowledge factor which is slightly lower.

3 Local Science & Services

This group of regions with diverse nationality consist mainly of capital cities, such as Madrid, Warsaw, Lisbon, Budapest and Athens. These urban area's serve as national centres for business services, government administration, public research institutes and universities. Urban Services and Public knowledge are therefore the strongest factors for this type of region. GDP per capita is on average slightly below the EU25 average, but growing. The low score on life-long-learning is a weakness in most Local Science & Services regions, especially compared to the more wealthy and advanced Science & Service Centres.

4 High Techno

The High Techno regions host many high-tech manufacturing industries. They are mostly located in Germany (e.g. Bayern and Baden-Wurtemberg), some in Italy (e.g. Lombardia and Veneto) and two French regions. This type is very strong in Private Technology and has a high level of GDP per capita. The factors Public Knowledge and especially the Learning Family factor shows a relative weakness, e.g. in life-long-learning. Growth in terms of GDP per capita has been low and unemployment didn't improve much in the previous years.

5 Aging Academia

This group of regions is mostly located in east-Germany and Spain and also includes the capital regions of Bulgaria and Romania. The strength in the Public Knowledge factor is mostly based on the high share of people with tertiary education. The low score on the Learning Family factor is due to little life-long-learning and hosting relatively few children. The unemployment situation has improved, but is still very high.

6 Services Cohesion

Services cohesion regions are located in Southern Europe, consisting of many Greek, some Spanish and two Portuguese regions. The low score on the Private Technology factor is striking. There is hardly any high-tech manufacturing nor business R&D. Services is the most important sector, but also agriculture is still a rather large sector. The share of manufacturing industry in value added is very limited. Population density is low, but on average it has been increasing.

7 Manufacturing Cohesion

Manufacturing industries is the dominant sector, whereas services and agriculture are rather small sectors. This type of region is mostly located in Poland, Czech Republic, Hungary and Slovak Republic. Two Portuguese regions are also included. The Public Knowledge factor is the main weakness of this type of regions. However, the score on the Private Technology factor is close to average, which means that it is much stronger in this respect than the Services Cohesion regions. Unemployment is high, even compared to Rural Industries and Services Cohesion regions.

8 Rural Industries

Besides a low per capita GDP, Rural Industries regions have in common a low score on both the factors Urban Services and Private Technology. Population density is

very low. The service sector is often very small. Especially agriculture but also manufacturing industries are relatively large sectors. Besides regions in Bulgaria and Romania

9 Low-tech Government

This type of region, mostly located in southern Italy is characterised by a very low score on Public Knowledge combined with a high share of employment in the Government sector. Unemployment is severe, on average comparable to Manufacturing cohesion regions. GDP per capita is however close to the regional average.

10 Nordic High-tech Learning

The Nordic version of the learning regions are typically strong in the Learning Family factor, but this type also has by far the highest business R&D intensity. In contrast with the popular characterisation of Nordic societies, the size of the government administration is the lowest of all the types. The low score on Urban Services is also due to the low population density. A rather unique feature of this type of regional knowledge economy is the combined strength in both the Public Knowledge and the Private Technology factor.

11 Science & Service Centre

The main characteristics of this urban group of regions are the high scores on the Public Knowledge and Urban Services factors. Population density is very high. This type also has the highest GDP per capita and productivity. The variables that are captured by the factor Learning Families also show a score above the regional average, but disappointing is the relatively low presence of high and medium-high-tech manufacturing and the business R&D intensity.

A.2 Qualitative analysis and preparation of country reports

In summary, the country reports were prepared in the following stages:

A first country document was prepared by the core study team in the form of a **template country report**. It contained overall guidance to the country experts and included a number of pre-filled tables, graphs and analysis sections based on information available at EU level.

Next, the core team members and the national experts who were involved in the pilot phase of the project commented completed elements of the templates. Drafted elements and templates were completed and compiled into **first country briefings (draft pilot reports)** by the national experts involved in the pilot phase of the project. These pilot country reports were prepared by experts for Belgium, Greece, Italy, France, and Poland.

Once the five first country briefings were completed, a **final set of guidelines** was prepared by the core team. These guidelines were agreed with the Commission services responsible for this evaluation. Prior to this, all first country briefings were reviewed during the January 2006 and presented to a first meeting of the scientific committee.

The work during the **country analysis phase** included:

- Undertaking a series of key interviews (KI) with policy decision makers;
- Organising a focus group (FG) with key national or regional RTDI stakeholders;
- Collecting additional information and finalising short case studies; and
- Preparing the synthesis notes of these various activities.

The above-mentioned work served as qualitative data and allowed the national experts to compile the draft **country reports**. All reports were subsequently reviewed, checked and finalised by the core team and the consortium members. Once this first check was completed, the core team organised a final peer reading of the document to verify its overall consistency and to ensure a final English language editing of the document. The core team then completed the final editing and layout of the document with a view to publication.

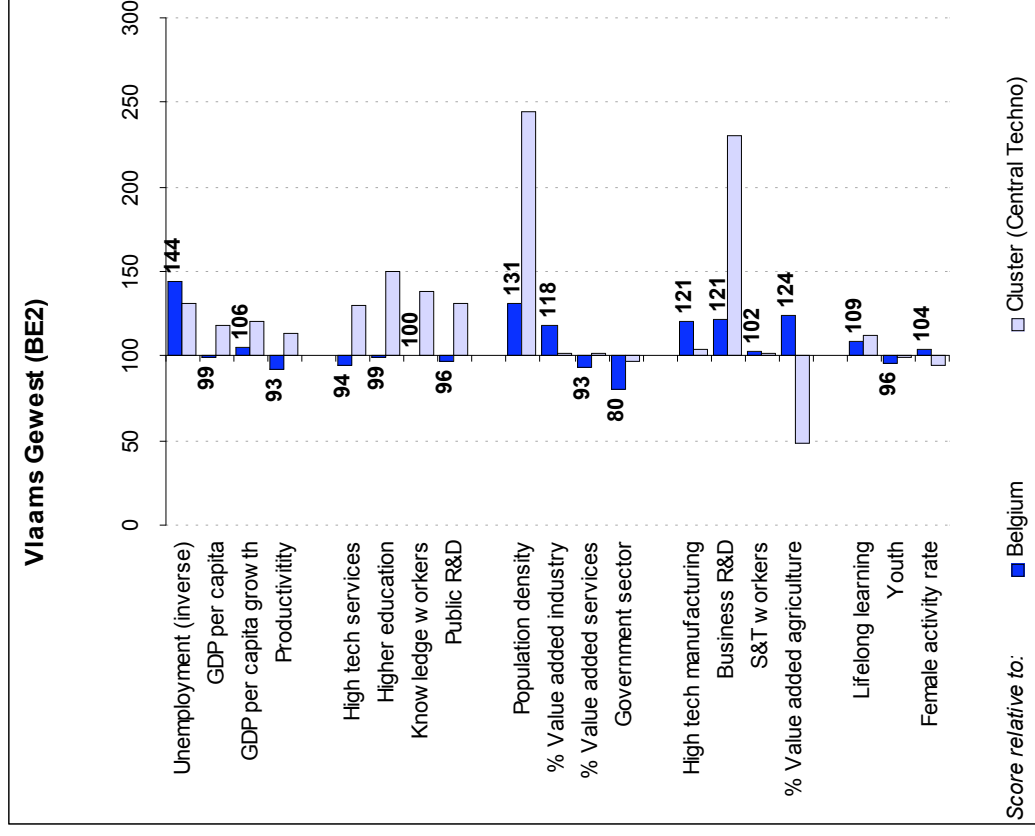
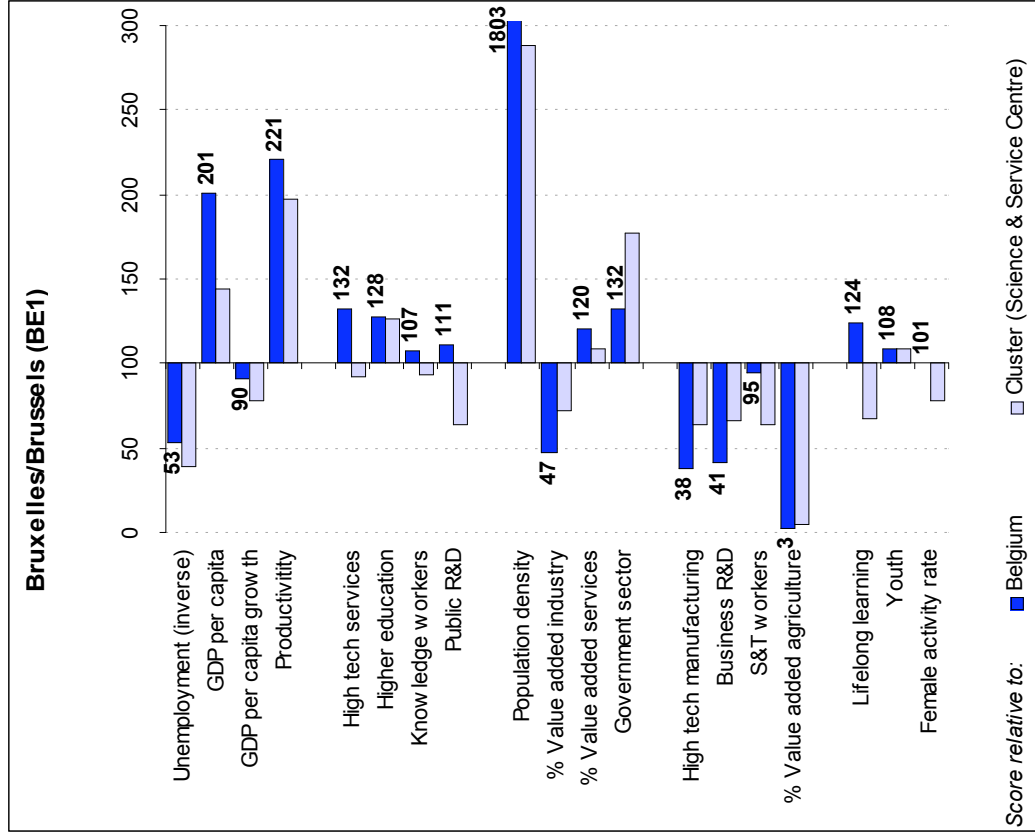
An overall synthesis report of all has been prepared and will be published by the European Commission providing an overview of the issues addressed in each of the 27 country reports produced by the evaluation team.

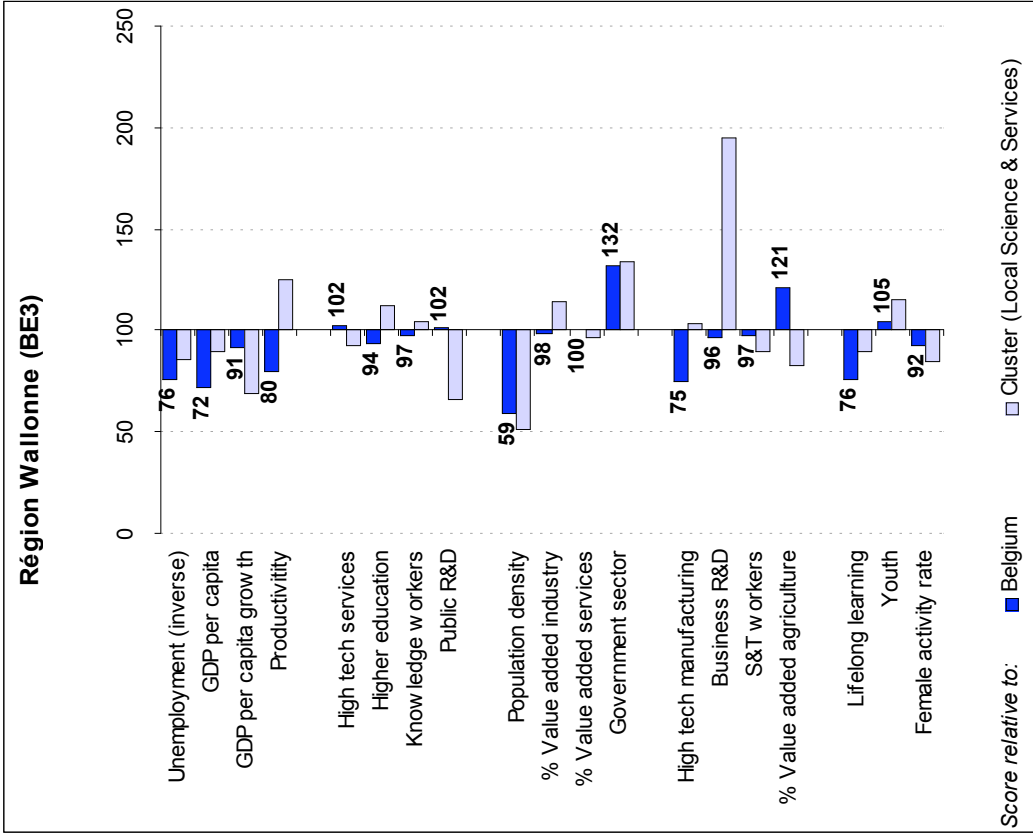
Appendix B Statistical tables and regional scorecards

B.1 Overall quantitative analysis per region

Cluster	Economic performance				Public knowledge				Urban services				Private technology				Learning families				Cluster factor scores			
	Unemp.	GDP / capita growth 2002	GDP / capita growth 2003	GDP / capita growth 1996-2002	High tech serv. activity	High tech educ. workers	Knowl. workers	Public R&D	Pop. Dens	% ind. serv.	% VA Gov. Sect.	High Tech man.	R&D Bus. man.	S&T workers	% agri. Learn	VA Lifel.	Youth rate	Fem. Activ.	Public Know.	Urban Serv.	Private Techno.	Learning Families	GDP/ Cap.	
																								2003
EU25	9,2	21170	4,8	4556	3,2	20,7	11,6	0,69	117	27,0	70,9	7,5	6,6	1,24	20,7	2,1	8,7	10,8	48,3					
Regional average	9,4	18882	4,8	3914	2,8	18,9	10,7	0,49	294	28,9	66,6	7,6	6,5	0,80	19,5	4,3	7,1	10,5	47,2					
Belgium	8,2	24717	4,5	5948	3,9	28,2	14,6	0,57	339	25,6	73,2	9,9	6,4	1,60	20,7	1,2	7,0	11,5	43,2	-0,60	0,01	-0,35	0,28	-1,22
Relative to EU25	112	117	95	131	124	136	126	83	290	95	103	133	97	129	100	59	80	106	89					
Bruxelles/Brussels	15,6	49645	4,1	13122	5,2	36,1	15,7	0,63	6104	12,1	87,9	13,1	2,4	0,66	19,6	0,0	8,6	12,5	43,5	1,37	3,42	-0,66	0,36	4,07
Vlaams Gewest	5,7	24478	4,8	5511	3,7	27,9	14,7	0,55	443	30,3	68,1	8,0	7,8	1,94	21,1	1,5	7,6	11,1	45,0	0,55	0,12	0,66	0,02	0,74
Région Wallonne	10,8	17842	4,1	4732	4,0	26,5	14,2	0,58	200	25,2	73,3	13,1	4,8	1,54	20,1	1,5	5,3	12,0	39,9	-0,40	1,61	0,59	0,18	-0,14
Learning	4,3	23139	4,7	4900	3,2	22,1	12,5	0,40	216	30,5	66,0	6,0	6,2	1,12	22,0	2,4	15,1	12,2	53,8	0,29	-0,41	-0,04	1,30	0,56
Central Techno	7,5	20700	4,0	4884	2,9	18,7	10,6	0,42	182	30,0	66,8	8,2	7,5	0,84	20,7	3,1	6,7	11,2	47,6	-0,38	0,16	0,36	0,25	0,24
Local Science & Services	9,2	19852	6,0	3780	4,3	23,6	13,7	0,88	389	22,0	76,2	9,8	4,6	0,79	22,4	1,8	5,9	10,4	46,9	0,52	1,19	0,12	-0,17	0,13
High Techno	6,1	25202	3,6	5591	3,1	17,5	10,3	0,58	288	31,7	66,7	7,3	11,9	1,31	22,8	1,6	5,6	9,7	46,4	-0,21	-0,05	1,27	-0,52	0,84
Aging Academia	13,3	17508	5,3	3649	2,5	27,4	13,2	0,67	185	30,1	66,9	7,6	6,7	0,57	18,8	3,0	4,8	7,4	46,0	1,24	-0,33	-0,02	-1,48	-0,18
Southern Cohesion	10,7	16213	6,3	3082	1,2	14,7	8,2	0,37	66	19,9	70,0	7,5	1,5	0,11	11,2	10,2	3,1	10,0	38,2	-0,25	0,36	-1,66	-0,54	-0,35
Eastern Cohesion	14,2	9776	5,3	1230	1,9	12,0	7,2	0,26	113	34,2	61,3	6,6	6,6	0,33	15,9	4,5	4,1	11,0	48,4	-0,88	-0,46	-0,06	0,15	-1,20
Rural Industries	10,3	8204	5,6	1120	1,6	14,8	7,8	0,17	62	33,6	52,0	6,0	4,5	0,18	12,9	14,5	2,6	10,1	45,3	-0,03	-1,40	-1,33	-0,46	-1,41
Low-tech Government	14,1	18553	4,1	4848	2,3	10,0	6,2	0,55	161	21,2	75,1	12,9	4,2	0,28	16,2	3,7	4,6	10,1	32,4	-1,62	2,00	0,08	-0,61	-0,04
Nordic High-tech Learning	6,4	23323	4,7	5202	4,5	28,5	18,7	0,41	67	29,9	67,9	5,4	7,6	3,05	30,2	2,3	25,0	11,9	58,2	1,49	-0,82	0,54	1,98	0,59
Science & Service Centre	6,1	34489	5,3	6663	5,6	28,5	16,8	0,98	2118	16,8	81,2	7,4	3,8	1,00	30,5	0,8	12,8	11,4	55,5	1,82	1,31	-0,22	0,85	2,06

B.2 Regional Scorecards





B.3 Evolution of Gross Domestic R&D expenditures/GDP: Belgium

	1995	1996	1997	1998	1999	2000	2001	2002	2003
GERD/ GDP	1,72	1,80	1,87	1,90	1,96	2,00	2,11	1,99	1,92
BERD/ GDP	1,22	1,29	1,34	1,35	1,40	1,45	1,54	1,40	1,34
GOVERNMENT /GDP	0,50	0,51	0,53	0,55	0,56	0,56	0,57	0,59	0,58

Source: CFS/Stat.

Appendix C Categories used for policy-mix analysis

C.1 Classification of policy areas

Policy area	Short description
Improving governance capacities for innovation and knowledge policies	Technical assistance type funding used by public authorities, regional agencies and public-private partnerships in developing and improving policies and strategies in support of innovation and knowledge. This could include past ERDF innovative action programmes as well as support for instance for regional foresight, etc.
Innovation friendly environment;	This category covers a range of actions which seek to improve the overall environment in which enterprises innovate, and notably three sub groups: innovation financing (in terms of establishing financial engineering schemes, etc.); regulatory improvements and innovative approaches to public services and procurement (this category could notably capture certain e-government investments related to provision of services to enterprises) ; Developing human capital for the knowledge economy. This category will be limited to projects in higher education aimed at developing industry orientated courses and post-graduate courses; training of researchers in enterprises or research centres ²³ ;
Knowledge transfer and technology diffusion to enterprises	Direct or indirect support for knowledge and technology transfer: direct support: aid scheme for utilising technology-related services or for implementing technology transfer projects, notably environmentally friendly technologies and ITC; indirect support: delivered through funding of infrastructure and services of technology parks, innovation centres, university liaison and transfer offices, etc.
Innovation poles and clusters	Direct or indirect support for creation of poles (involving public and non-profit organisations as well as enterprises) and clusters of companies direct support: funding for enterprise level cluster activities, etc. indirect support through funding for regrouping R&D infrastructure in poles, infrastructure for clusters, etc.
Support to creation and growth of innovative enterprises	Direct or indirect support for creation and growth of innovative firms: direct support: specific financial schemes for spin-offs and innovative start-ups, grants to SMEs related to improving innovation management, marketing, industrial design, etc. ; indirect support through funding of incubators, training related to entrepreneurship, etc.
Boosting applied research and product development	Funding of “Pre-competitive development” and “Industrial research” projects and related infrastructure. Policy instruments include: aid schemes for single beneficiary or groups of beneficiaries (including IPR protection and exploitation); research infrastructures for non-profit/public organisations and higher education sector directly related to universities.

²³ This is part of the wider area of in-house training, but in the present study only the interventions targeted to researchers or research functions will be analysed.

C.2 Classification of Beneficiaries:

Beneficiaries	Short description
<i>Public sectors</i>	Universities National research institutions and other national and local public bodies (innovation agencies, BIC, Chambers of Commerce, etc..) Public companies
<i>Private sectors</i>	Enterprises Private research centres
<i>Networks</i>	cooperation between research, universities and businesses cooperation between businesses (<i>clusters of SMEs</i>) other forms of cooperation among different actors

C.3 Classification of instruments:

Instruments	Short description
<i>Infrastructures and facilities</i>	Building and equipment for laboratories or facilities for university or research centres, Telecommunication infrastructures, Building and equipment for incubators and parks for innovative enterprises
<i>Aid schemes</i>	Grants and loans for RTDI projects Innovative finance (venture capital, equity finance, special bonds, etc.) for innovative enterprises
<i>Education and training</i>	Graduate and post-graduate University courses Training of researchers

Appendix D Financial and policy measure tables

D.1 Additional financial tables

D 1.1 RTDI plus business (innovation technology) support

The following tables use a broader definition of RTDI than the one used in the report. Figures include:

Categories 181 to 184 plus :

- 152 Environment-friendly technologies, clean and economical energy technologies
- 153 Business organisation advisory services (including internationalisation, exporting and environmental management, purchase of technology)
- 155 Financial engineering
- 162 Environment-friendly technologies, clean and economical energy technologies
- 163 Enterprise advisory services (information, business planning, consultancy services, marketing, management, design, internationalisation, exporting, environmental management, purchase of technology)
- 164 Shared business services (business estates, incubator units, stimulation, promotional services, networking, conferences, trade fairs)
- 165 Financial engineering

Exhibit D.1.1.1: Overall allocation of resources at an objective 1 and 2 level (allocated Euro) : enlarged definition of RTDI

Objectives	Total cost	Structural funds			National funds	
		Total	ERDF	ESF	Public	Private
Objective 1	410.957.142,00	179.909.042,80	179.909.042,80	-	178.058.003,40	52.990.095,80
Objective 2	372.639.910,54	139.685.358,94	136.129.008,94	3.556.350,00	203.270.010,07	29.684.541,53
RTDI INTERVENTIONS						
Objective 1	2.283.476.909,00	672.629.363,00	427.589.200,00	200.203.797,00	688.016.253,00	922.831.293,00
Objective 2	1.461.972.219,00	461.046.755,00	412.154.933,00	48.891.822,00	672.083.266,00	328.842.198,00
TOTAL COHESION POLICY						

Exhibit D.1.1.2 : Regional allocation of resources (Euro): enlarged definition of RTDI

Programs	RTDI INTERVENTIONS			TOTAL		
	Total SF	ERDF	ESF	Total SF	ERDF	ESF
Hainaut	179.909.042,80	179.909.042,80	-	672.629.363,00	427.589.200,00	200.203.797,00
TOTAL OBJECTIVE 1	179.909.042,80	179.909.042,80	0,00	672.629.363,00	427.589.200,00	200.203.797,00
Namur-Luxembourg	24.817.580,40	24.817.580,40	-	60.484.781,00	54.852.960,00	5.631.821,00
Bruxelles Capitale	17.501.076,00	17.501.076,00	-	43.930.000,00	43.930.000,00	-
Limburg	26.972.007,70	23.415.657,70	3.556.350,00	96.592.554,00	85.966.554,00	10.626.000,00
Meuse-Vesdre	51.864.772,20	51.864.772,20	-	164.445.783,00	138.715.040,00	25.730.743,00
Kustgebied-Westhoek	3.825.742,11	3.825.742,11	-	34.414.929,00	32.957.285,00	1.457.644,00
Oost-Vlaanderen	1.668.282,88	1.668.282,88	-	14.141.708,00	14.141.708,00	-
Provincie Antwerpen	13.035.897,65	13.035.897,65	-	47.037.000,00	41.591.386,00	5.445.614,00
TOTAL OBJECTIVE 2	139.685.358,94	136.129.008,94	3.556.350,00	461.046.755,00	412.154.933,00	48.891.822,00

Exhibit D 1.1.3: Absorption capacity of RTDI interventions: enlarged definition of RTDI

Objectives	ALLOCATED SF	DISBURSED TOTAL SF	EXPENDITURE CAPACITY
Objective 1	179.909.042,80	97.580.504,63	54,2%
Objective 2	139.685.358,94	62.843.745,51	45,0%

D 1.2 Broad innovation and knowledge economy funding

This third calculation adds RTDI plus business (innovation & technology) support plus information society. Figures include the categories used in D.1.1 plus:

322 Information and Communication Technology (including security and safe transmission measures)

324 Services and applications for SMEs (electronic commerce and transactions, education and training, networking)

Exhibit D1.2.1.: Overall allocation of resources at an objective 1 and 2 level (allocated Euro): enlarged definition of RTDI and information society

Objectives	Total cost	Structural funds		National funds		
		Total	ERDF	ESF	Public	Private
RTDI INTERVENTIONS						
Objective 1	421.538.168,00	184.775.889,00	184.775.889,00	-	182.460.732,00	54.301.547,00
Objective 2	378.131.117,98	144.740.860,18	141.184.510,18	208.187.508,79	203.270.010,07	30.120.247,73
TOTAL COHESION POLICY						
Objective 1	2.283.476.909,00	672.629.363,00	427.589.200,00	200.203.797,00	688.016.253,00	922.831.293,00
Objective 2	1.461.972.219,00	461.046.755,00	412.154.933,00	48.891.822,00	672.083.266,00	328.842.198,00

Exhibit D.1.2.2: Regional allocation of resources (Euro): enlarged definition of RTDI and information society

Programs	Total SF	RTDI INTERVENTIONS		TOTAL	
		ERDF	ESF	ERDF	ESF
Hainaut	184.775.889,00	184.775.889,00	-	672.629.363,00	200.203.797,00
TOTAL OBJECTIVE 1	184.775.889,00	184.775.889,00	0,00	672.629.363,00	200.203.797,00
Namur - Luxembourg	25.709.997,00	25.709.997,00	-	60.484.781,00	5.631.821,00
Bruxelles Capitale	20.101.076,00	20.101.076,00	-	43.930.000,00	-
Limburg	26.972.007,70	23.415.657,70	3.556.350,00	96.592.554,00	10.626.000,00
Meuse-Vesdre	53.279.005,00	53.279.005,00	-	164.445.783,00	25.730.743,00
Kustgebied-Westhoek	3.974.593,95	3.974.593,95	-	34.414.929,00	1.457.644,00
Oost-Vlaanderen	1.668.282,88	1.668.282,88	-	14.141.708,00	-
Provincie Antwerpen	13.035.897,65	13.035.897,65	-	47.037.000,00	5.445.614,00
TOTAL OBJECTIVE 2	144.740.860,18	141.184.510,18	3.556.350,00	461.046.755,00	48.891.822,00

Exhibit D1.2.3.: Absorption capacity of RTDI interventions: enlarged definition of RTDI and information society

Objectives	ALLOCATED SF	DISBURSED TOTAL SF	EXPENDITURE CAPACITY
Objective 1	184.775.889,00	99.742.635,67	54,0%
Objective 2	144.740.860,18	64.315.573,84	44,4%

D.2 Summary of key policy measures per programme

The table below summarises the main innovation and knowledge measures in the Belgian SPDs. It lists for each measure: the focus of interventions, main beneficiaries and instruments used, according to the classification applied by this study (see Appendix C.1).

Exhibit 8: main measures in favour of innovation and knowledge

Identified RTDI measure or major project		Focus of intervention (policy areas classification)*	Main Instruments**	Main beneficiaries***
WALLONIA				
SPD Objective 1 Hainaut	2.1. Stimulation and valorization of technological potential	Boosting applied research and product development	Aid schemes	Private sector
	2.2. Assimilation of scientific and technical culture	Innovation friendly environment	Aid schemes	Public sector
	2.3. Valorization of excellence poles and networking of competences	Boosting applied research and product development	Infrastructures and facilities	Public sector
	2.4. Support infrastructures for the adequation of qualifications to new technologies	Innovation friendly environment	Infrastructures and facilities	Public sector
	2.5. Valorization and polarization of human resources in research	Knowledge transfer and technology diffusion to enterprises	Aid schemes (Education and training)	Public sector Networks
SPD Objective 2 Meuse-Vesdre	2.1. Stimulation and valorization of technological potential	Boosting applied research and product development	Aid schemes	Private sector
	2.2. Valorization of excellence poles	Boosting applied research and product development	Infrastructures and facilities	Public sector
	2.3. Valorization and polarization of human resources in research	Knowledge transfer and technology diffusion to enterprises	Aid schemes	Public sector
	2.4. Support infrastructures for the adequation of qualifications to new technologies	Innovation friendly environment	Infrastructures and facilities	Public sector
SPD Objective 2 Namur-Luxembourg	2.5 Support infrastructures aiming at access to knowledge	Innovation friendly environment	Aid schemes (Education and training)	Public sector

FLANDERS				
SPD Objective 2 Limburg	1.2. Technology and Innovation Action 1: RDT infrastructure	Boosting applied research and product development	Infrastructures and facilities	Public sector Networks
	1.2. Technology and Innovation Action 2: Contract research & services	Knowledge transfer and technology diffusion to enterprises	Aid schemes	Private sector
	1.2. Technology and Innovation Action 3: Innovation networks	Innovation poles and clusters	Aid schemes Infrastructures and facilities	Networks
	1.2. Technology and Innovation Action 4: Multimedia in culture	Knowledge transfer and technology diffusion to enterprises	Aid schemes	Private sector Public sector
	1.2. Technology and Innovation Action 5: RDT waste sector	Knowledge transfer and technology diffusion to enterprises	Aid schemes	Private sector Public sector
SPD Objective 2 Antwerpen	2. Technology and Innovation Action a: Innovation potential	Knowledge transfer and technology diffusion to enterprises		Private sector Public sector
	2. Technology and Innovation Action b: ICT	Innovation-friendly environment	Education and training Aid schemes	Private sector Public sector
	2. Technology and Innovation Action c: Kempen knowledge intensive region	Knowledge transfer and technology diffusion to enterprises Support to creation and growth of innovative enterprises	Infrastructures and facilities	Private sector Public sector Networks
	2. Technology and Innovation Action d: Technology transfer	Knowledge transfer and technology diffusion to enterprises	Infrastructures and facilities Aid schemes	Public sector
	2. Technology and Innovation Action e: Clusters and Networks	Innovation poles and clusters	Aid schemes	Private sector
SPD Objective 2 Kustgebied Westhoek	<i>2.2. Support to (innovative) entrepreneurial climate</i>	<i>Knowledge transfer and technology diffusion to enterprises</i>	<i>Aid schemes</i>	<i>Private sector Public sector Networks</i>
SPD Objective 2 Oost Vlaanderen	<i>1.a Reinforcement, stimulation and development of economic initiatives</i>	<i>Knowledge transfer and technology diffusion to enterprises</i>	<i>Aid schemes</i>	<i>Private sector</i>

BRUSSELS-CAPITAL				
SPD Objective 2 Brussels - Capital	No measure or projects could be classified as RTDI-oriented	Not relevant	Not relevant	Not relevant

Main source: Structural Fund programming documents, annual reports and evaluations

* Classification of RTDI interventions: Improving governance capacities for innovation and knowledge policies; Innovation friendly environment; Knowledge transfer and technology diffusion enterprises; Innovation poles and clusters; Support to creation and growth of innovative enterprises; Boosting applied research and product development (see appendix).

**Classification of instruments: Infrastructures and facilities; Aid schemes; Education and training.

***Classification of Beneficiaries: Public sectors; Private sectors; Networks

Note: measures indicated in italics contain RTDI actions only to a very limited extent.

Appendix E Case study

Name of Case (related policy measure or action)
<p>Title of measure: Valorisation of technological excellence poles (Valorisation des poles d'excellence technologique)</p> <p>Description: this measure is a key measure under the “Knowledge society” axis, present in the two major Walloon programmes, the Objective 1 Hainaut and the Objective 2 Meuse-Vesdre (which display similar structure and content). The measure aims at improving the capacity of existing excellence poles, including those created under previous programming periods, to reach their aim of irrigating the regional tissue with new knowledge, with the view of helping the diversification of the economy towards higher value-added activities. This takes the form of funding of projects and equipment in these centres.</p> <p>Zone: Objective 1 and Objective 2</p> <p>Budget: European contribution amounts to 46.3 MEUR in Objective 1 and 9.2 MEUR in Objective 2.</p> <p>Policy framework: the technological excellence poles are core elements of the Walloon research policy. A key orientation of this policy is the valorisation of existing scientific and technological competences present in the region, and the funding of infrastructures and projects in these centres is one main instrument to reach this policy goal.</p>
Brief history and main features
<p>History and regional context: Structural Funds devoted to the Objective 1 area have been instrumental to establish new centres based on university resources delocalised in the Hainaut province during the previous programming period. Given the large amounts of funding available, the decision was taken to establish knowledge centres in this province, which is weakly endowed in comparison with the other parts of the region. The strategy followed rested mainly on universities: the French-speaking universities were offered the possibility to establish specialised research centres in the province, either individually or combining different universities' laboratories and resources. These new excellence poles funded under Objective 1 have been added to an already existing network of research centres, the collective research centres. These centres dates back from the 50s, and were established in the major industrial sectors at the instigation of the sectoral federations. These were funded by compulsory industry contributions and co-financed by national and subsequently regional public funds. These research centres have evolved over time, modernising their activities to better adapt to a changing industrial landscape, and with a shift towards a regional governance structure. The creation of brand new excellence poles was seen as a way to quickly add knowledge resources in new technologies, crossing over the traditional sectors (like IT and biology). The funding of equipments, research projects and technology diffusion activities (the technology guiders programme) in regional research centres represents a central element of regional research and technology policy.</p> <p>Main characteristics of the measure (goals, instruments, beneficiaries): the “Valorisation of technological excellence poles” measure aims at helping the existing poles and centres to realise their missions with respect to the regional economy. This involves mainly the provision of contract research and services towards regional</p>

enterprises and the realisation of research activities with significant potential impact for the regional economy. Four overarching considerations underpin the implementation of this measure. First, investments should show a potential for industrial valorisation. Second, priority is given to the reinforcement of existing structures rather than to the creation of new ones. Third, networking between the various centres and competences needs to be present. And fourth, the investments should help the centres evolving towards a self-supported financial situation, with influx of private funding. The measure finances infrastructures, equipment, research projects and interface and technology diffusion activities in all knowledge centres located in Hainaut and Meuse-Vesdre Objective 1 and 2 areas. The beneficiaries belong to three types: in Meuse-Vesdre, the University of Liège is an important beneficiary, which benefits of roughly half of the funding (this includes funding of activities in its interface structure). In the two zones, the core of the funding goes to excellence poles (only present in Hainaut) and regional research centres. In addition an interface structure in charge of coordination and innovation stimulation, CERDT, is a beneficiary in Hainaut. As such, this measure is not an innovation in Structural Funding programmes in Wallonia, but the intention to valorise existing structures rather than funding new ones is a key new accent of this programming period.

Implementation of the measure: at the start of the programme, the Region has launched a call for tenders and established a detailed fiche for submission of proposals from the knowledge centres. This fiche reflects the four key priority considerations mentioned above. The proposals have been evaluated by an independent task force. Most of the projects have been decided in a first round of applications, and a second round allowed the allocation of the remaining funds to either existing projects selected in the first round or complementary projects. Part of the performance reserve has been allocated to this measure in the Objective 2 programme. The follow-up of the projects is the responsibility of the regional administration in charge of research and technology policy, DGTRE. The implementation is in line with previous programming periods, with however two procedural innovations: the establishment of an independent task force in charge of projects selection; and the creation of a system of indicators for measuring outputs, results and impacts of the projects.

Main results

Main outcomes and status of execution: in both operational programmes, all the allocated budgets have been committed at the end of 2004, and there were no problems of absorption of funds. This is not unexpected since the beneficiaries were clearly identified and are already regular clients of the Region and beneficiaries from EU funds in the previous programming periods. In Objective 1, 31 projects have been approved by the government, which address 9 centres and the CERDT. The corresponding figure in Objective 2 is 17 projects, which address 7 centres (University of Liège considered as one operator). Apart from technical delays in some infrastructure projects, the projects are in their majority implemented according to plans. Length of payment procedures and administrative burden (notably the N+2 rule) have been reported as hindrances in project execution.

Main evaluation results: evaluations of this measure in the two programmes reveal mitigated results. The indicators system, which has been put in place in order to assess the realisation of objectives is considered as inappropriate in both evaluations. Indicators are ill-defined, not properly collected and as a result there is a high risk of drawing wrong interpretations from their use. Thus, they do not allow drawing any response to the key question of the impact of the excellence poles on the regional

industrial tissue. Anecdotic evidence points towards interesting experiences of research centres which have developed collective research projects or technological services in good accordance with SMEs needs, but other insights point towards activities in these centres which are quite disconnected from the economic sector. In particular, this problem seems to be present for a number of excellence poles of academic origin located in the depressed Hainaut province. Local absorptive capacity is low, and an orientation to SMEs further restricts the potential impact of these centres. The self-supported financial status, that has been imposed on these centres, is unlikely to be achieved given the present financial situation of the centres, but here again, the evaluation reports a deficiency in indicators to adequately assess this aspect. The strategic orientation towards bundling of competences across various centres is well present in the project definitions, in particular in the Objective 2 zone. In some cases, the Region even played a key role in establishing “forced marriages” in order to stimulate synergies. But unfortunately, information is missing on the effectiveness of these collaborations and synergies in the implementation of the supported projects.

The particular case of the CERDT, a new interface structure established under the Objective 1 programme, with a dual mission to improve collaborations between S&T services providers and the stimulation of innovation in the local SMEs, delivers equally uncertain results. In the absence of an objective evaluation of this structure, a definitive judgement cannot be presented either.

Reasons of success and conditions for repeatability

Despite a relevant definition of the measure and of the projects selection criteria, well in line with the needs of the regional fabric, the absence of correct measurement of its impacts prevents its consideration as a good practice. The main condition towards effectiveness of such a measure would be for the Region to develop a sound monitoring and indicators system, which would enable to evolve towards a performance-based selection system. This system should be region-wide and not specific to the European interventions.

In the future, the necessity to promote an area of action of the poles spanning to the whole region, as well as to the international scale, is advanced as an obvious option by the two evaluators. The suppression of the small-scale Objective 2 zoning is welcome in this respect. On the other hand, the remaining provincial definition under the future convergence objective will act as a constraint towards this necessary evolution.

Appendix F Further reading

AWI (2005), *Wetenschap, Technologie en Innovatie*, Brussels.

Biatour B. (2004), *La R&D et l'innovation en Belgique: diagnostic sectoriel*, Working paper 15-04, Bureau fédéral du Plan, Bruxelles.

Capron, H. and W. Meeusen (Ed.) (2000), *The National Innovation System of Belgium*, Physica-Verlag, Heidelberg, New York.

Capron, M. and Cincera, M. (1999), *The Flemish Innovation System: an external viewpoint*, *IWT-Observatorium* n°28, Brussels.

Capron, H. and M. Cincera (2000), *Technological performance*, in Capron, H. and W. Meeusen (Ed.) (2000), *The National Innovation System of Belgium*, Physica-Verlag, Heidelberg, New York.

Capron, H. and D. Duelz (2003), *Plus de recherche pour l'Europe, Objectif: 3% du PIB. Une évaluation de l'effort additionnel belge nécessaire pour la contribution à l'objectif*, Université Libre de Bruxelles – DULBEA-CERT, Brussels.

Debackere, K. and R. Veugelers (2005), *Vlaams Indicatorenboek Wetenschap, Technologie en Innovatie* (AWI Publicatie).

Debackere, K., Luwel, M. and R. Veugelers (1999), *Can Technology lead to a Competitive Advantage? A case study of Flanders using European Patent data*, *Scientometrics*, 44, 3, 379-400.

Debackere, K. and R. Veugelers (2002), *Improving industry science links through university technology transfer units*, K.U.Leuven DTEW Research Report 0258, K.U.Leuven, 30pp.

DGTRE (2004), *Rapport Annuel*, Namur.

Fiers, J. (2005), *Innovation et R&D dans les régions belges dans une perspective européenne*, Working paper Bureau du Plan n°13-05, Brussels.

General Entrepreneurship Monitor (2002), *Executive Report for Belgium and Flanders*, Vlerick Leuven Gent Management School.

High Level Group 3% Belgium (2005), *Achieving the 3% target within the context of small open economy: the Belgian challenge*, report for the High Level Group 3% Belgium, mimeo, Brussels.

IWT (2005), *Activiteitenverslag 2004*, Brussels.

Larosse, J. (1997), *Het Vlaams Innovatie Systeem: een nieuw statistisch beleidskader*, *IWT-Observatorium* n°1, Brussels.

Larosse, J. (2004), Towards a “Third Generation” Innovation Policy in Flanders: policy profile of the Flemish Innovation System”, *IWT-Observatorium* n°49, Brussels.

Lukach, R. and J. Plasmans (2002), A study of knowledge spillovers from the compatible EPO and USPTO Patent datasets for Belgian Companies, in OSTC (2002), *Belgian report on Science, Technology and Innovation : The Belgian Innovation System : Lessons and Challenges*, Brussels.

Nauwelaers, C., Pellegrin, J. and M, Van Overbeke (2005), ‘*Fonctionnement du système d’intermédiation scientifique et technologique en région wallonne*’, report for the Walloon Government.

Nauwelaers, C., Pellegrin, J. and A. Reid (2004), ‘*Evaluation des aides à la recherche et à l’innovation dans les entreprises*’, report for the Walloon Government.

Nauwelaers, C., Veugelers, R. and B. Van Looy (2003), *Benchmarking National R&D policies in Europe: lessons for Belgium*, Federal Science Policy, Brussels.

Nauwelaers, C. (2003), Le profil institutionnel de S&T en Belgique, in: OSTC, *Rapport belge en matière de science, technologie et innovation 2003*, Federal Science Policy, Brussels.

Nicolini, R. (2002), R&D and regional development in Belgium: some perspectives, in: OSTC (2002), *Belgian report on Science, Technology and Innovation: The Belgian Innovation System: Lessons and Challenges*, Brussels.

OECD (2004), STI Outlook: Questionnaire Belgium, Paris.

OSTC (2002), *Belgian report on Science, Technology and Innovation : The Belgian Innovation System : Lessons and Challenges*, Brussels.

Reid, A. and G. Van der Veen (2005), *Annual Innovation Policy Trends and Appraisal Report: Belgium 2004-2005*, European Trend Chart of Innovation, Brussels.

Soete, L. (2004), *Achieving the 3% target within the context of small open economy: the Belgian challenge*, report for the High Level Group 3% Belgium, mimeo, Brussels.

Spithoven, A. and P. Teirlinck (2002), The regional structure of R&D expenditures in the Belgian enterprise sector, in: OSTC (2002), *Belgian report on Science, Technology and Innovation: The Belgian Innovation System: Lessons and Challenges*, Brussels.

Veugelers, R. (2002), How important are multinational firms for the local innovation system? Some empirical evidence from Belgium, in: OSTC (2002), *Belgian report on Science, Technology and Innovation: The Belgian Innovation System: Lessons and Challenges*, Brussels.

Veugelers, R. and B. Cassiman (2003), Foreign subsidiaries as channel of international technology diffusion: some direct firm level evidence from Belgium, *European Economic Review*, to be published (CEPR Discussion Paper n°2337).

List of useful websites at national and regional level

Federal Science policy service: www.belspo.be

Flemish Ministry of Science, Technology and Innovation: <http://awi.vlaanderen.be>

Flemish Agency for Innovation: www.iwt.be

Walloon Portal for Research and Technologies:
<http://recherche-technologie.wallonie.be/>

Website of Agency for Scientific Research and Innovation in Brussels-Capital:
<http://www.irsib.irisnet.be>

Website of Structural Funds in Wallonia: <http://europe.wallonie.be/apps/spip>

Website of Objective 2 in Limburg:
<http://www.provant.be/economie/doelstelling2kempen/>

Website of Structural Funds in Brussels-Capital
http://www.bruxelles.irisnet.be/fr/region/region_de_bruelles-capitale/ministere_de_la_region_de_bruelles_capitale/competences_et_organisation/secretariat_general/cellule_de_coordination_des_fonds_structurels_europeens.shtml

Appendix G Stakeholders consulted

List of all individuals interviewed

Name	Position	Organisation
Brussels- Capital		
Virginie Wislez	In charge of preparation Operational Programme ERDF	Regional Secretariat Urban Development – Region of Brussels - Capital
Flanders		
Bernard de Potter	Head of Innovation Policy	IWT
Marc Defrenne	Director	Ministry of Flemish Community – Europe Economy Department
Mvw Peeters	Attaché	Ministry of Flemish Community – Europe Economy Department
Louis Vervloet	Technical Director	ESF Agency Flanders
Dafne Reymen	Evaluator of Flemish Objective 2 programmers	Idea Consult
Vera Boesmans	Head European Affairs	Province of Limburg
Gilbert Paulus	In charge of ERDF projects management	Province of Limburg
Daniels Robert	In charge of ERDF projects management	Province of Limburg
Wallonia		
Florence Hennart	Unit Economic Policy- In charge of definition of future programmes	Ministry of Walloon Region – Department Economy and Employment
Didier Paquot	Head of Economic Unit	UWE (Federation of Walloon Enterprises)
European Commission		
Michel Wolff	Head of Unit covering Belgium and Luxembourg	DG Regio
Pierre-Joël Thiry	In charge of Walloon programmes	DG Regio

Participants to focus group

Name	Position	Organisation
Daniel Collet	Head of Unit Economic Policy- In charge of definition of future programmes	Ministry of Walloon Region – Department Economy and Employment
Florence Hennart	Unit Economic Policy- In charge of definition of future programmes	Ministry of Walloon Region – Department Economy and Employment
Pierre Villers	Head of Unit Research and Scientific Cooperation	DGTRE
Alain Schoon	Evaluator of Objective 1 programme	FUCAM – University of Mons
Jean – Marie Wathelet	Evaluator of Objective 2 programmes	ADE, consultancy firm