IMPACTSCAN

A policy intelligence tool
for regional innovation policy

USERS GUIDE

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www. Impactscan.net

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1. INTRODUCTION

The IMPACTSCAN project provides a method and tool for regional policy-makers to analyse and evaluate the impact of the regional innovation policy. It has been developed and tested by 7 agencies dealing with innovation policy in the following 7 European regions, and co-funded by the European Commission.

Country	Region	Partner
BE	Flanders	IWT (Coordinator)
AT	Lower-Austria	Amt der NÖ Landesregierung
FR	Brittany	Bretagne Innovation
ES	Madrid	FCm+d
NL	Limburg	Syntens Zuid
PL	Lower-Silesia	Wroclaw University of Technology, WCTT
SL	Slovenia	Municipality of Ljubljana

IMPACTSCAN provides a **monitoring and impact assessment system**, allowing regional authorities to get a clearer picture of public support to innovation in their region, and to take decisions to improve the effectiveness of this support system. IMPACTSCAN focuses on the role of intermediaries in charge of innovation.

Through its **international dimension**, providing analyses for several regions in a standardised way, IMPACTSCAN offers possibilities for comparing across regional systems, and can notably open views to a variety of intermediary models, for those regions that are newcomers in the field. To allow for trans-national comparisons, standardisation of analyses is proposed through the use of common typologies and rules, tested during the pilot phase.

The tool is sufficiently standardised to allow cross-regions comparisons, but it also allows for flexibility in its use, in order to accommodate differences between regional contexts. The full deployment of the tool is to be done by each region, taking into account own constraints (notably budgetary), already available information, and integrating more specific questions of particular importance for its innovation support system. Hence, the present standardised tool provides a **common core** for regional analyses as well as for inter-regional benchmarking, and allows for more detailed or customised use to respond to specific regional needs.

The IMPACTSCAN tool has been built on an **MS-Excel file** – a "book" formed by several "pages" - and uses the functionality associated to the "pivot tables", MS-Excel dynamic tables allowing a range of options for comparison among a number of selected variables corresponding to one or more regions. Graphic presentations offer high versatility and possibilities of customisation for the benchmarking exercises. As demonstrated during the pilot phase, standard users of MS-Excel are able of taking advantage of the tool functionalities after a short practice period, supported by a short user manual.

IMPACTSCAN includes two elements:

1. A **matrix model** to quantify and analyse regional innovation policy;

2. **Context setting** information to describe regional environment for innovation.

This user guide explains first the IMPACTSCAN **matrix model**, the meaning of the categories for each building block in the matrix system, as well as the scoring mechanism, that should be used to fill in the matrixes. This Matrix system includes two main parts, with different types of data:

- Matrixes 1 and 2: provide analyses of public budget for regional innovation policies, for regional intermediaries and for innovation support services.

- Matrix 3: assesses the impact of those services on factors enabling innovation in firms, based on collections of firms' views on these services.
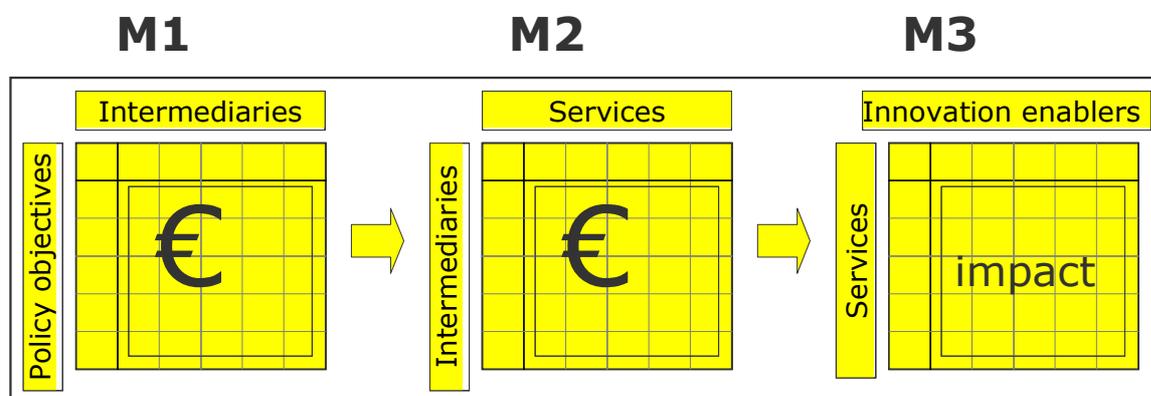
Second, the user guide explains how to use the **context setting** part, which gathers data to describe regional environments in which the innovation support systems operate. This description is needed in order to use the international benchmarking possibility of the tool. The context setting part includes a mix of qualitative and quantitative indicators reflecting key dimensions of the regional context: size and density; the general position of the region in the knowledge economy; regional innovation policy governance characteristics; innovation support; and the demand side of innovation.
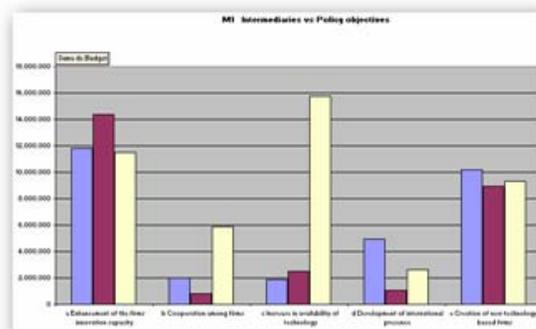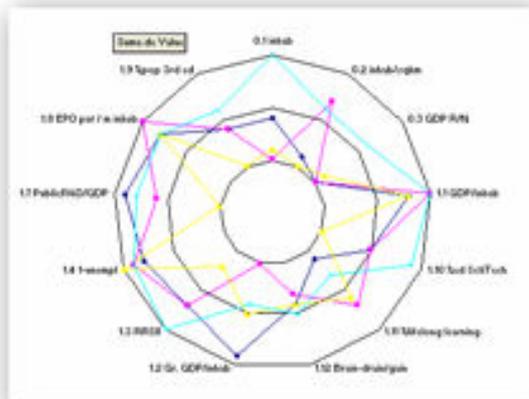
The **use** of the IMPACTSCAN tool provides quick overviews and comparisons of regional situations at a glance. Regional spider diagrams indicate strengths and weaknesses of regions compared to other regions or to a mean value. The bar charts illustrate the allocation of regional innovation budget with respect to policy objectives, service types or intermediaries categories as well as a combination of them.

The **results** obtained with the IMPACTSCAN tool can be used by regional innovation actors (authorities, innovation agencies, ...) to address several levels of policy-making:

Structural level: long term
- Overall regional situation
- Policy priorities
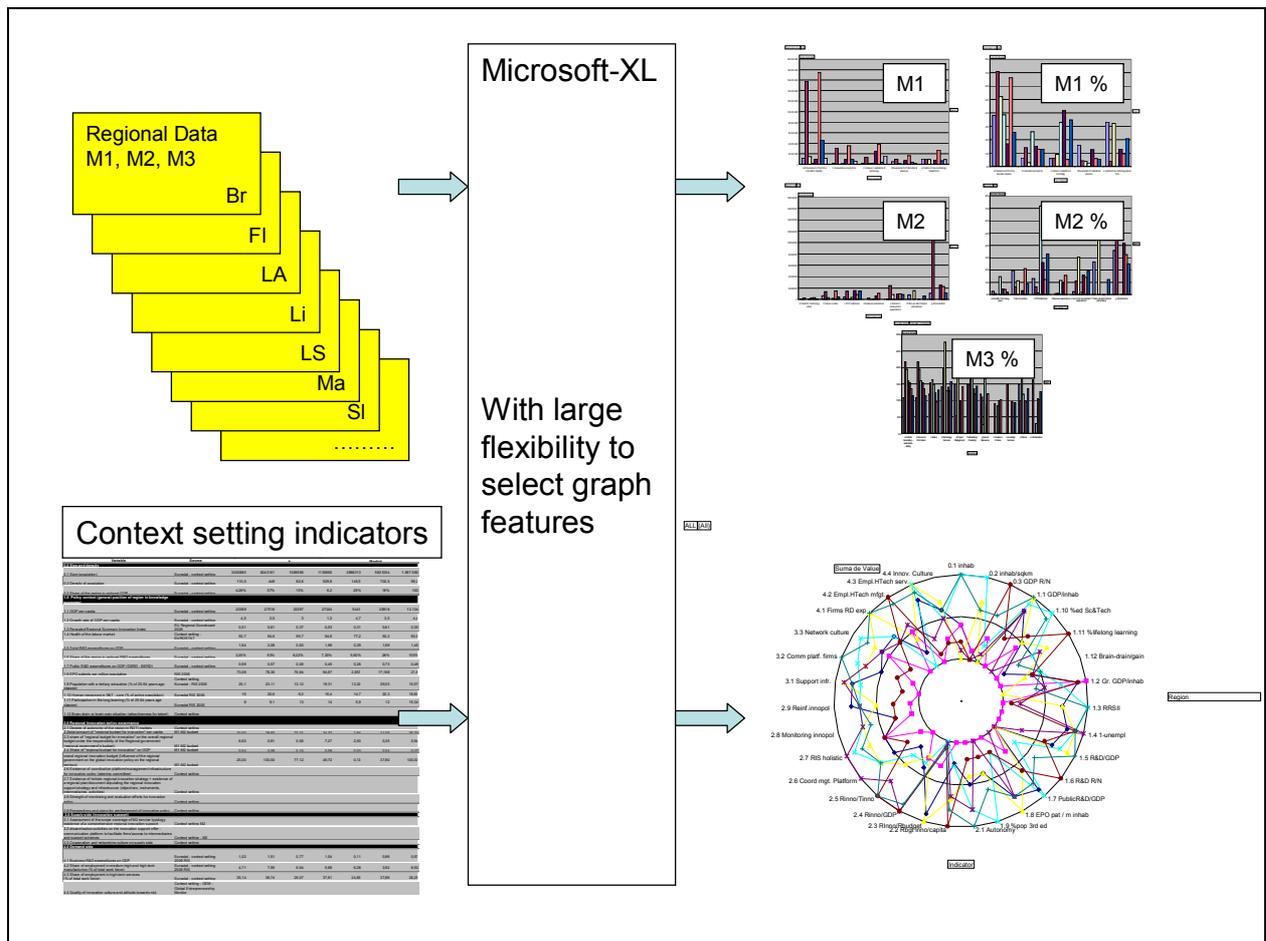- Evolution of the regional innovation profile

Tactical level: medium term
- Intermediaries model
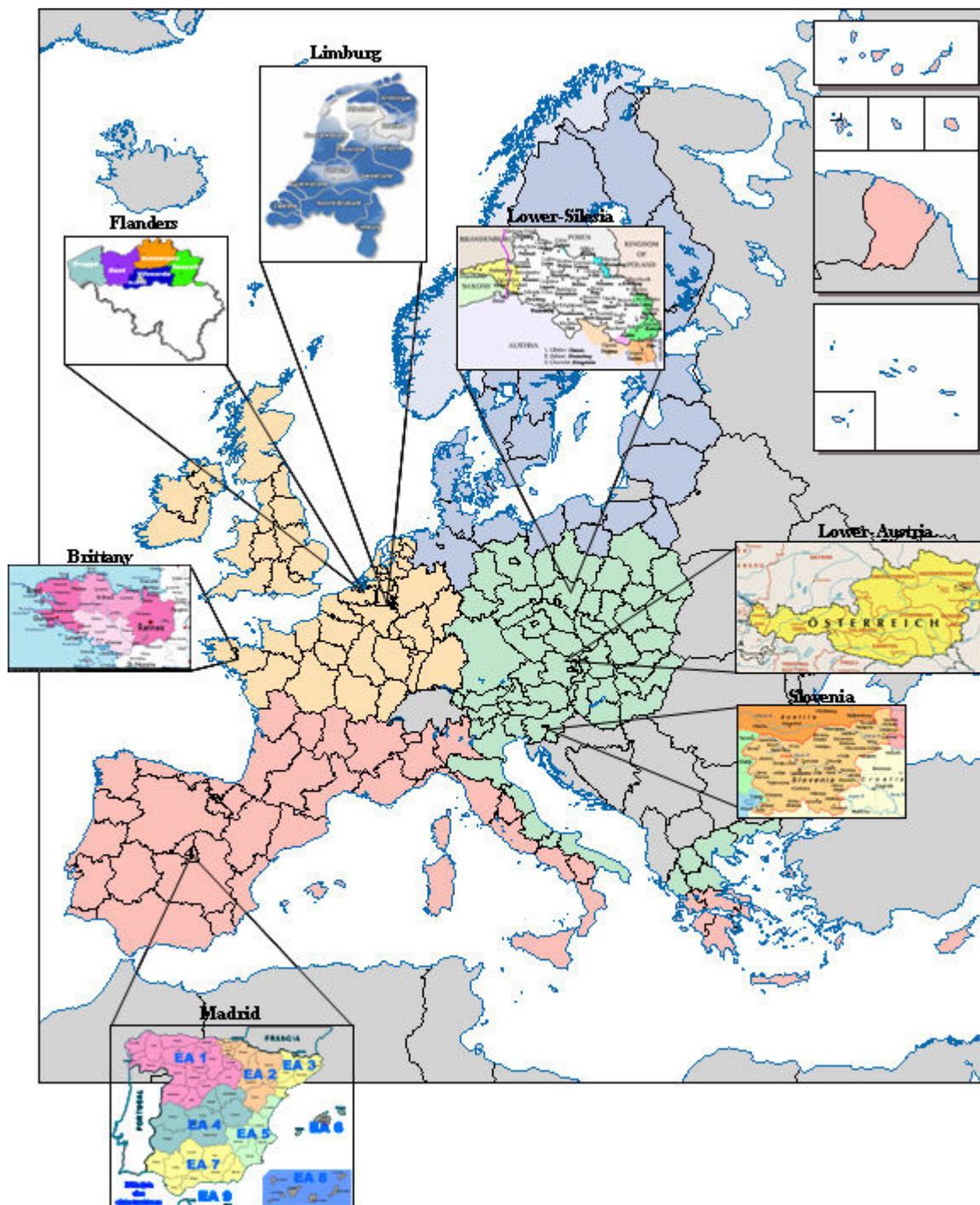- Impact on target group population

Operational level: short term
- Innovation support service portfolio of Intermediaries
- Innovation processes in the SME target group.

![impactscan logo]

THE IMPACTSCAN TOOL

IMPACTSCAN PARTNER REGIONS

2. IMPACTSCAN MATRIX SYSTEM – OVERVIEW

IMPACTSCAN is based on three data sets ordered in 3 matrixes:

Matrixes 1 and 2 put light on the organisation of the intermediary system, enlightening its composition, policy priorities and the relative weight of the various intermediaries and services in the system. Matrix 3 assesses the effectiveness of regional innovation support services to foster firm's innovation practices.

In concrete terms:

M1: presents regional innovation budget split according to policy objectives and intermediaries;

M2: presents regional innovation budget split according to intermediaries and services;

M3: presents impact scores of various services against a typology of innovation enablers, as assessed by beneficiaries (firms).
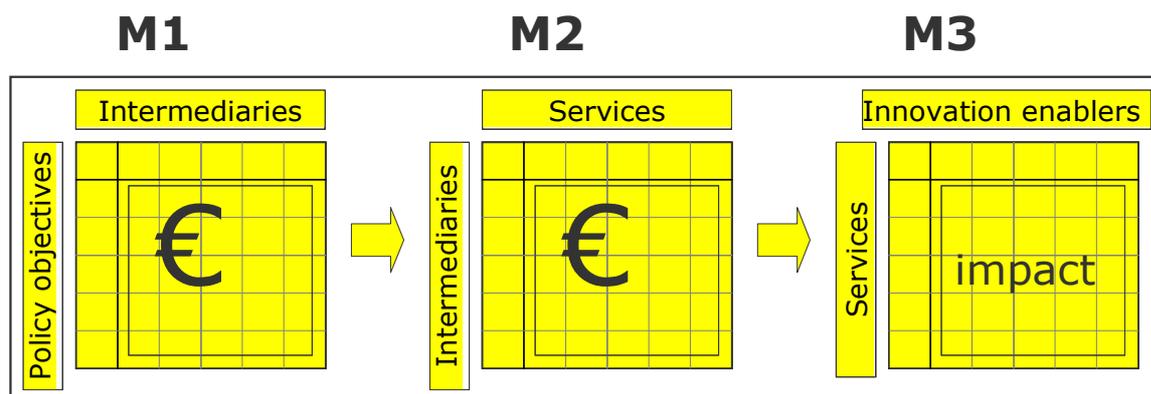
The user introduces budgetary data for M1 and M2, as well as scores for services impacts in M3. These are stored in the database of the tool, and automatically transformed in percentages, and used for the production of a variety of graphs and bar charts. When the tool is filled by several regions, pages are provided automatically with minimum, maximum and mean values for every cell in the set of pages available for the regions, and comparative graphs for each matrix (GM1, GM2, GM3) are produced. These charts and graphs can be customised by the user through the "pivot" function provided in MS-Excel. This function enables the user to select a subset of variables from each matrix, as well as a subset of regions, or minimum, maximum, mean values. The user can also integrate comments for cells, lines or columns of the matrixes, providing explanations for the regional data. The IMPACTSCAN tool provides the average scores of the sample of all IMPACTSCAN partner regions as an artificial region called "IMPACTSCAN average" allowing also some benchmarking if the tool is used by single regional authorities.

3. MATRIX 1: POLICY OBJECTIVES x INTERMEDIARIES

MATRIX 1

IMPACTSCAN provides a standard typology of:

- Innovation policy objectives;
- Intermediaries,

described below in 3.2 and 3.3.

Cell values of Matrix 1 give the budget spent by one of the intermediary types to develop support services for one of the policy objectives. By completing all cell values, Matrix 1 gives an overview of the total regional budget for innovation (defined in 3.1) according to, on the one hand, regional innovation policy objectives, and on the other hand, intermediaries beneficiaries of the regional budget. The sum of all cells of the matrix equals the total regional innovation budget.

3.1. Definition and sources for "Regional Innovation Budget" used in M1 and M2

Notwithstanding the differences across the EU in the degree of influence of regional authorities on the regional innovation budget, IMPACTSCAN focuses on those budgetary sources which are under the control of the regional authorities. Hence the Regional Innovation Budget to take into consideration for filling M1 and M2, is defined as the latest available annual budget under regional responsibility, including funds received from national and EU budgets (e.g. structural funds). The Regional Innovation Budget is limited to public budget; private expenditures are not included. The Regional Innovation Budget is given in absolute € amount.

The content of regional innovation budget varies across regions. Typical budget lines to be included in these budgets are:

♦ Subsidies to intermediaries for innovation support;

♦ Direct financial support to firms for innovation;

♦ Public participation in venture capital funds;

♦ Infrastructure for innovation (depreciation costs only);

♦ Etc.

Example : Regional budget in Brittany

The data collection and calculation process was done on the 2005 primitive budget of the Regional Council of Brittany. Absolute figures refer to the amounts allocated during the year of reference. This budget is composed of regional receipts (regional taxes) + specific State allocations to Regions + some European budget for specific projects (structural funds for some innovation-related support activity). So the budget taken into account includes indirectly national and European funds as parts of the Primitive budget of the regional government.
European funds for innovation (not under the control of the Region, and innovation budget of bodies representing French ministries at the regional level (DRIRE, DRRT, OSEO) are not taken into account are because they are not under control of the Regional Council.

In order to prevent the periodical irregularities (ups and downs) of single large investments in infrastructures, the budget should not consider the total amounts of these investments but the current annual costs for depreciation.

Example :
In Flanders the depreciation rate for S&T parks has been calculated at 10%.

For multi-annual budget lines, a yearly average should be calculated.

For programmes encompassing a variety of objectives, only the innovation-oriented part should be retained.

Sources for this budget are official regional budgetary documents. These will need to be complemented in most cases, by analysis of activity reports or, in their absence, by direct enquiries towards intermediaries, in order to obtain the split between policy objectives, intermediaries (M1) and services (M2). When there is no regional budget, the approach should be to sum up a variety of innovation support projects.

Example : identifying publicly-supported actions for innovation in Madrid

An interesting conclusion of the interviews in Madrid is the intuitive or implicit "overestimation" of the public role and existence of some of the policy instruments, emerged in Madrid, while collecting data on regional budget. For example, each year the IMADE presents the Technology Parks as important instrument of their R+D+i policies. The interview with the responsible of the "Parque Tecnológico Madrid" made it clear that this Park does not carry out any activity with respect to innovation-related services: many non-innovative firms are located in the Park. The only difference between the Park and most other "Poligonos Industriales" is that one of Madrid's incubators is placed in the Park, however this centre is an "individual agency" auto-financing its activities with the fees paid by the firms located in the centre.

Example : identifying regional budget in Lower Silesia

The regional innovation budget for Lower Silesia has been estimated based on an analysis of budgets of individual projects. In most cases, only provisional budget is available, not real expenses. The budget has been calculated by summing up the individual projects. Those projects were found through desk research: lists of the projects financed from structural funds on national and regional level, through interviewing the intermediaries and searching their web pages, reports. The projects were financed under the Integrated Operational Programmes 2004-2006 for Improvement of Competitiveness of Enterprises (national level), and also directly from EU funds: Fp6, Leonardo, Interreg IIIC. Most of the projects have only started in 2005 and 2006. The innovation activities within the mentioned projects are not all focused on services for SMEs, however indirectly they are all considered as important for the development of the Lower Silesia Innovation System.

Validation of this regional innovation budget was done through the letter addressed to the Director of the Department of Regional Development in Regional Self-Government. Only the 2004-2006 Integrated Operational Programmes of Regional Development have been monitored in the region.

Example : Bottom-up approach to construct regional budget in Limburg

The selection of innovation-support projects to form the regional budget in Limburg, has been done by:

- including all innovation support projects from the regional economic affairs department of the regional government (Province). These projects often include structural funds or other European money. They also often include national money assigned to the region or extra national money.

- interviewing intermediary organisations, known for their involvement in innovation support, in the region. Some new projects where identified in this way. They where mainly Interreg projects.

- Next, all Interreg projects for the region were screened, trying to decide whether they where related to innovation support for SME's. In some cases 'new' intermediaries where identified. We had to decide whether they would become part of Impactscan or not.

- Structural funds were included only via the above mentioned projects. Some structural funds like CERES were not taken into account because the projects were mainly targeted to infrastructure funding.

In order to disentangle the innovation-related part of the projects, the following general criteria were used:

- Is the project targeting innovative companies?

- Somehow this is arbitrary but we excluded projects for traditional consumer services like clothing shops, restaurants etc.

- Are companies directly benefiting from the project? Directly means that they get a service or money. Buildings for starters have been left out.

- Is regional money involved? Money in control by the regional government or the regional development agency (LIOF) or structural funds (including Interreg) is considered as regional money.

3.2 Typology of Policy objectives

Regional policy documents provide a basis to allocate regional innovation budget according to the following standardised innovation policy objectives:

- **Enhancement of the firms innovation** capacity and increase in the number of innovating firms

- **Cooperation among firms,** clustering and networking addressed to technology and business issues

- **Increase in availability of technology** and improvement of accessibility for SMEs

- **Development of international presence** and activities of regional firms, both through access to external markets and international cooperation

- Support to **creation of new technology-based firms** out of university or entrepreneurial environments.

Example: Correspondence between IMPACTSCAN policy objectives and policy objectives in Flanders

1. *Enhancement of the firms innovation capacity and increase in the number of innovating firms*
   - promotion of R&D
   - valorisation of knowledge-intensive areas
   - technology evolution
   - knowledge workers
   - knowledge transfer
   - vocational training and education facilities
   - financial support, orientation towards sustainability
   - encouragement of the use of ICT
2. *Cooperation among firms, clustering and networking addressed to technology and business issues*
   - integration with partners/subcontractors/suppliers/customers
   - participation in regional/national/European/international programmes
   - cooperation projects between universities/companies/government
3. *Increase in availability of technology and make it accessible to SMEs*
   - promotion of collective knowledge centres
   - Incubation centres
   - Scientific and Technology parks
   - technology transfer
   - "human capital" preservation measures
   - promotion of R&D, Internet access;
4. *Development of international presence and activities of the regional firms, both through access to external markets and international cooperation*
   - stimulation measures for foreign investment attraction
   - international investments
   - market expansion of companies
   - mobility programme of R&D personnel
   - participation in international projects;
5. *Support to creation of new technology-based firms out of university or entrepreneurial environments*
   - entrepreneurial initiatives
   - Incubation centres
   - financial support
   - spin-off creation
   - "hot spot" generation
   - start-up programmes

3.3. Typology of Intermediaries

Intermediaries considered in the matrix system need to be at least partially funded by public money of regional origin, excluding purely commercial services from the analysis, since the focus is on the best way to spend public money.

The complexity of intermediary structures operating in support of firm innovation creates the need for establishing a typology which encompasses the diversity of institutions or entities at work in the European regions. As a result of the pilot phase, 7 types of intermediaries have been defined, as follows.

Scientific and Technology parks

A technology park is an organisation that stimulates and manages the flow of knowledge and technology amongst universities, R&D institutions, companies and markets; it facilitates the creation and growth of innovation-based companies through incubation and spin-off processes and provides other value-added services together with high quality space and facilities. These technology parks are usually equipped for business incubation, laboratories, etc. They typically provide services for start-ups and enterprises in a given regional area.

Service centres

In this category several types of service centres can be included (specialised service centres, technology transfer centres, innovation centres, technology brokers, etc.). The Service Centres category also includes the service agencies of Chambers of Commerce/Industry or other supporting organisations.

Their range of services can vary widely (from simple information, to technical support in specialised industrial sectors), and these can be offered for a fee while being publicly subsidised in part or in total.

RTD Institutions

RTD institutions are structures having research as their primary mission; however they can have offices (technology transfer services, liaison offices, etc.) created in order to disseminate or economically exploit the result of their research.

By definition, their activities are mostly focussed on applied research and predominantly on the industrial sector. They mainly offer information services, support in R&D and expert or specialised training. Like almost all R&D activities, most of these structures are either public, or publicly financed, however they might collect private R&D funds.

Target clients of this type of structure are large companies, institutions and innovation-driven SMEs.

Business associations

The main purpose of "Associations/Networks" is essentially to link together actors (firms) with some elements in common - for example: working in the same industrial sector - with the aim of producing economies of scale. They usually offer institutional and public relations and information services. The trend for the most advanced ones is to offer also other higher value-added service.

Economic development organisations

Those are structures of a public nature (often located inside central administration offices or departments), created by public authorities with the aim to support general economic and location development of the region. They generally do not focus on innovation-oriented topics, but rather on inward investment, creation of business parks, facilitating, simplifying and being the intermediary/interface between governments (or the supranational institutions) and firms, etc.

These organisations usually offer horizontal services and the large majority of these types of structures do not focus their activity on a particular industrial sector; instead they offer their services especially oriented towards all kinds of regional SMEs and large companies.

Administration

Those are departments of the own regional Administration offering specific services to innovation and general economic development. They often fund intermediaries and infrastructures or deliver direct funding to firms.

Both groups "Economic development organisations" and "Administration" work usually very close together under common regional directives.

Financial institutions with PPP (Public Private Partnership)

"Financial institutions" covers entities managing venture capital, development capital, guarantee funds, or loans and targeting innovation-oriented firms with public shareholders or at least with a public private partnership. They can be associations, companies or banks. The relevant budget is limited to the public part.

> **Example : Innovation-related financial support in Lower Austria**
>
> In Lower Austria budget for (pre)seed and further equity for new innovation-oriented companies in the IMPACTSCAN are included as relevant budget. Lower Austria does not consider further growth capital.
>
> In the case of the 'Tecnet equity Venture Capital' service, the annual VC budget was calculated by dividing the total funds volume by projects and duration. Contributions of the firms are not included due to individual arrangements and changing ROI rates.
>
> The figures given for the 'Pre Seed Finanzierung incl. Coaching' referred to 3 to 5 projects p. a. (revolving) and were thus calculated for one year only. Companies' contributions were based on the current interest costs.
>
> Within the service 'Start Finanzierung' (start-up funding), the regional costs in case of assumption of liabilities were estimated and then calculated for one year due to its revolving issue. Companies receive further budgetary support for this innovation service activity from their banks, which was estimated according to experts' views. Companies' contributions were based on the current interest costs. They had to pay a base rate incl. profit based interests and provision for financial liability.

Example for financial institutions for PPP: calculation of eligible budget

A private bank is managing the regional innovation support funding scheme of 12 Mio € provided by the regional government. The funding covers 50% of the R&D costs for an innovation project. The eligible budget is 12 Mio €. The co-financing by the firms is not considered.

A (public owned or private) venture capital company is managing a revolving equity funds for innovation oriented start-up support of 50 Mio €. The money comes from the regional government. The engagement in a new company lasts in average 5 years. Thus the venture capital company can spend approx. 10 Mio € per year in average in new start-ups. The relevant budget is 10 Mio €. The budget is not linked to the costs of the equity funds (e.g. opportunity costs of commercially available interest rate if the support start-up doesn't pay an interest rate).

The region is shareholder of a regional bank with 5% shares as public private partnership. Each year the bank supports innovation oriented firms in the region with 20 Mio € equity capital. The government guarantees the assumption of liability for the growth capital. The annual costs for the guarantee amount to 500,000 € in average. The relevant budget is 500,000 €. The private equity fund is not considered due to the private sources. If the region is not shareholder but is also providing the guarantee for the assumption of liability the eligible budget is also 500.000€.

4. MATRIX 2: INTERMEDIARIES x SERVICES

MATRIX 2

Types of Intermediaries × Types of Services: Budget Amount [Euro]

IMPACTSCAN provides a typology of:

- Intermediaries

- Services.

These are described in 3.2 above for intermediaries and in 4.1 below for services. Cell values of Matrix 2 give the budget spent by one of the intermediary types to develop one of the innovation support service types. By completing all cell values, matrix 2 gives an overview of total regional budget for innovation (defined in 3.1 above) according to, on the one hand, intermediaries beneficiaries of the regional budget, and on the other hand, types of services supplied by these intermediaries to firms.

Example : Distribution of Intermediaries' budget amongst Services in Flanders

Allocation of the budget of Intermediaries to Services is based on the RAP-tool (Result Oriented Reporting) that is communicated every 4 months to IWT for all projects that are carried out by these Intermediaries. The RAP-categories can be correlated with the Services defined for the IMPACTSCAN project. Consequently, distribution of the total budget for 2005 by Intermediary sub-category amongst the Services has been carried out according to the service portfolio deployed and activities carried out by the Intermediaries involved.

Example : Distribution of Intermediaries' budget amongst Services in Brittany

In Brittany, an estimation of full-time equivalent (FTE) staff per services was required from intermediaries, because it was impossible for many structures to give an estimation of budget per service (no analytical accountancy for most of them). FTE figures were then transformed into budget for the matrix system (pro rata calculation on the basis of the subsidies received from the Regional Council).

Example : Distribution of Intermediaries' budget amongst Services in Lower Austria

First, it has to be noted that individual services comprise several IMPACTSCAN service types and thus no unambiguous categorisation of individual services according to the IMPACTSCAN typology was possible (i.e. the Lower Austrian system includes supporting measures that offer financial contributions which must be dedicated to human resources like the 'Innovationassistant'). These supporting activities will be further on included in the main IMPACTSCAN service category 'Finance'.

Lower Austria's representatives of the intermediaries were interviewed on the services they offered related to innovation support and then backed-up by expert assessments to split the activities according to the IMPACTSCAN service categorisation showing the main service focus.

4.1. Typology of Innovation Services

Similar to the Intermediaries typology, a standardised categorization of innovation services has been developed for the IMPACTSCAN tool. Eleven different types of services are defined below, which cover the diversity of services available across EU regions. Budget allocated to these 11 types should sum up to 100% of regional budget.

In addition to these 11 service types, one additional type is proposed to single out start-up support, indicating for each intermediary type the share of the innovation relevant budget allocated to start-up services. Budget allocated to this service will come in addition to the 100% of the budget, since it is often difficult to extract the relevant share of activities specifically devoted to start-ups. In other words, under this heading, services are mentioned which are already included in previous categories: this is the case with e.g. access to finance (seed capital, business angels networking, etc.) or advice for access to market.

Contact generating – awareness-raising

This includes all activities of promotion of innovation culture and activities in the firms: general events or specific presentations to firms of public support programmes, visits to companies, dissemination, etc.

Access to Information

This includes services addressing specific topics or actions, such as newsletters of alert systems, helping the firms to tackle concrete projects or activities. Also included under this headline are information bureaux or contact points supplying partners search services and the like.

The channels of access to information can be direct (persons attending the demands), or on-line through portals or website facilities.

The information services, ranging from simple news up to the access to a knowledge database, can be specialised and technological, devoted to fund opportunities or to the management of intellectual property and internationalisation.

Advice

Services included under this headline are basically counselling assistance on innovation and business management issues: innovation audits, business strategy and planning, markets access and the like. These services are usually provided free of charge and do not take longer than a couple of days of support to one specific firm.

Some intermediaries do also provide the same kind of advisory services in more depth – this could also be considered as consultancy services – in open

competition with private service providers. Market services can also belong to this category.

Technology services

This covers specialised technology-oriented services, with high value added, that involve a direct interaction with the firms. These often require the presence of RTD teams and suitable equipment, laboratories and installations, show-rooms, demonstration equipment or facilities of any kind to support innovation activities of firms for a limited period of time, at the service provider (intermediary).

Technology services also include basic and applied research, product design and development, intellectual property rights protection, technology transfer activities, technology management etc.

Project Management

This covers comprehensive support for project management/coaching; idea generating, project planning and follow up, exploitation and marketing; innovation project coaching for single firms or group firms, e.g. providing of a part or full time project manager by the intermediary. In most of the cases these services are partly paid by the customers.

Very often the projects concerned are RTD projects; however other projects in the field of engineering and organisation are also included.

Networking / clustering

Services in clustering include support to cluster initiatives to set common objectives for cluster development, organisation of the clustering process or integration of actors and service-providers in the cluster. As for networking similar services are very often provided, addressing the creation of local or regional cooperation networks and interlinking /signposting of networks at local, regional, national or international level.

Website and virtual services systems are common, as well as the organisation of "thematic clubs", symposium, workshops…

Human Resources

This covers services dealing with training for firms' employees in technological or organisational issues like project management, quality, safety, environment, computer science, etc. These kinds of services not only address knowledge increase, but also create opportunities for relationships between people, etc…

More specialised services, in topics such as creativity for product design, are also quite often provided.

Access to Finance

This covers services offered to SMEs in order to facilitate access to funds for innovation, such as risk capital or development capital funds, or resources for innovation projects financing. Also support to develop investment plans or schemes is included under this heading.

Normally the sources of finance addressed could be both private (e.g., development banks) and public (regional, national or international innovation programmes, besides public financial institutions).

Incubating Services

Those are infrastructure and basic services (accountancy, secretarial services, providing information and communication structure, etc.) provided for innovative start-ups normally for a limited period of time, typically 3 to 5 years in order to support their take-off.

Finance

Finance covers the direct financing of firms or financial aids with the purpose to carry out innovation activities. Financial support covers non-repayable subsidies/grants, credits with market conform interest loan or with interest loan below market price providing of equity capital and providing assumptions of liability.

In the case of repayable financial support and assumptions of liability only the capital costs have to be considered.

Infrastructure

Infrastructures cover investment in all kind of buildings/facilities and in "heavy" equipments with the purpose to support companies in their innovation activities or to foster the innovation environment of innovative firms. Infrastructure is only directly provided for firms without any complementary services by intermediaries. Otherwise the investment is part of other professional services provided by intermediaries and thus belongs to the respective service type.

This type of infrastructures can be both managed directly by the regional administration or by innovation intermediaries (Industry Associations, Technical Schools, etc.) with regional firms as beneficiaries. Therefore, neither educational nor research facilities are considered. Besides, general regional investment real estate development for business, technology or science parks are not considered as long as this infrastructure is not provided for innovation support to firms.

Only annual costs for depreciation of the investment are considered instead of the absolute investment amount in infrastructure.

Additional type for information purpose: Start-up support

This service type is a special category, focusing on one target group, rather than on an activity. The aim is to highlight the priority given to start-ups in regional policy. It includes activities already covered under previous types, extracting the part specifically devoted to start-ups. The amounts reported under this type are not included in the tool for further calculations.

This category covers support for potential entrepreneurs and new innovative firms, ranging from discovering and screening business ideas (normally technology-based) to the establishment and first years of operation of the firm. In between, a wide range of services are usually provided by generalist or specialised intermediaries: incubation infrastructure and services, mentorship, training courses in enterprise creation and management (development of business strategies and planning, etc.). A young company is usually defined as a company not older than 3 to 5 years.

5. MATRIX 3: SERVICES x INNOVATION ENABLERS
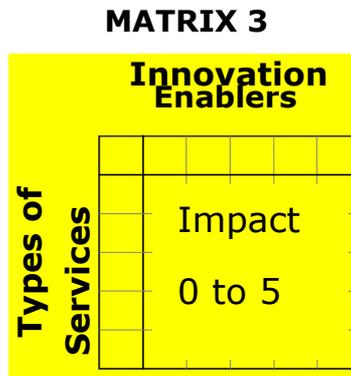
MATRIX 3

IMPACTSCAN provides a typology of:

- Services
- Innovation Enablers

These are described in 4.1 above for services and in 5.1 below for innovation enablers.

The objective of Matrix 3 is to assess the influence of regional services on innovation capabilities - the "innovation enablers" - of SMEs. This is done through the collection of views of companies on effectiveness of regional innovation support services for their innovation practices. The analysis focuses on the effectiveness of the regional services on innovation enablers (first order effects), but does not deal with impact of innovation on company performance (second order effects such as change in turnover, jobs, export, profit, costs, ...). It is indeed difficult to attribute such second order effects to innovation services only, as many other factors play a role to influence companies' performance.

The cells of the matrix represent the score of effectiveness of services on innovation enablers: the scoring mechanism, on a 0 to 5 scale, as well as data collection procedures to obtain such scores, are described in 5.2.

5.1. Typology of Innovation Enablers

A typology of 10 innovation enablers has been developed and tested during the pilot phase of IMPACTSCAN. These innovation enablers cover a range of abilities which the firms should possess in order to be able to successfully conduct their innovation strategies.

Strategy

How to plan future's business?

Ability of a company to define mission, goals and strategy for the future, based upon its ambition and vision and the ability to communicate these within the company. Innovative companies can also define innovation goals and have an innovation strategy.

Structure & Organisation

How to structure the organisation and its processes for innovation?

The way in which in a company tasks are assigned (organisation chart), how people are cooperating and the flow of material and information is managed (processes), how decisions are made (decision structure), how things are coordinated (deliberation structure), and how these processes and structures are supported by methods, tools and infrastructure. Innovative companies can have specific processes and structures for innovation management.

Innovation Culture

How to create a company culture aimed for innovation?

The company culture is a system of unwritten rules and habits that determine the behaviour of employees. Because of these unwritten rules employees know which behaviour is rewarded. Some cultural elements are closely related to the innovation capacity.

Some of these are:

- Focus towards the future (inquisitiveness for new developments and possibilities, external orientation);
- Openness and cooperation (informal contacts, shared interest, motivation and responsibility);
- Acceptance of failure (condition for learning, accepting risks).

Financial Resources

How and where to obtain financial resources and how to allocate them?

The ability of a company to obtain money for their innovation activities and to allocate this money to those activities. Some sources for obtaining money for innovation are: loans from banks and financial institutions, subsidies or tax reductions from regional, national or European government, money from friends and family, informal investors, economic development organisations, venture capitalists, joint-stock companies, or by going to a stock exchange.

Human Resources

How to get the best out of the entrepreneur and its employees?

The ability of the company to hire the right employees and to enhance their competencies. The ability of the entrepreneur and/or the company staff to develop their own competencies is important for innovation management. Some aspects of this capability are: having the right leadership, being able to make choices, communicate these choices, "manage with a soft hand" and be result-oriented.

Information & Technology

How to acquire the right information, knowledge and technology?

The ability and possibility of the company to acquire information and have access to knowledge from outside the company using several resources like universities, institutes and other companies, symposia, workshops and trainings, fairs and events, written resources like professional literature and patent literature, formal and informal meetings and (international) networks and commercial consultants and specialists.

Idea Generation & Creativity Process

How to come up with new ideas?

The ability of a company to generate and select new ideas for innovating products, processes or markets. Companies with high capabilities in the former six categories should be able to generate these new ideas. However, this process stage is very important in innovation management and innovation support activities are often targeted at enhancing this capability in companies, often by offering methods and tools for creating ideas and supporting the selection process.

Implementation of Innovation

How to transfer innovative ideas into ongoing business?

The ability of a company to develop activities to transfer an innovative idea into a mature product, service or process. Many company disciplines, if present, are (preferably simultaneously in teams) involved in the process like design,

development, marketing, sales, procurement, production (production engineering) and customers.

Market Orientation & Operation

How to find customers and open up new markets?

This represents the head and tail of the innovation process, closing the innovation circle. It consists of the ability of a company to develop activities for selling innovative products: it includes marketing and sales (customer interactions) and activities to determine market needs like market research and customer analysis for future products and services.

Exploitation of the innovation

How to maximise profit from innovation?

Once the innovative product or service has been launched, the product or service is part of the mainstream activities of the company. This category defines the ability of a company to run regular business, sell products or services, produce and deliver them in time, deliver after sales service and in the end make money out of the innovation.

5.2. Methodology: data gathering and scoring mechanism

Two elements are needed to implement a scoring system for Matrix 3:

1. **An information gathering tool to capture companies' views**: this consists of exploitation of existing surveys, interviews, new surveys, working groups, use of intermediaries such as industry federations, etc. In addition, segmentation of companies (to account for different needs of different types of companies) might also be included.

2. **A scoring system**: development of a metrics system to translate results of information gathering into scores. The scoring system needs to generate comparable data across regions, with the view of inter-regional benchmarking.

Information collection procedures

The most appropriate method to collect data for the purpose of creating the scores for M3, is to launch a **new firm survey** focused on the question of the influence of regional services on firms' "innovation enablers", using the harmonised IMPACTSCAN categories of services and innovation enablers. The ideal would be to gather data for individual services in a first step and then aggregate them according the IMPACTSCAN categories in a second step. Gathering primary data directly from the beneficiaries of regional services appears as a necessary stage in the context of the IMPACTSCAN objectives, as testified by the pilot phase experiments.

Experience shows that written surveys generally generate a very low response rate, due to "survey fatigue" and to the complexity of questions linked to

innovation. Given the presence of such complexity also in the two typologies used in IMPACTSCAN (services and innovation enablers), an alternative is to carry out **phone surveys**. This can be implemented by using specialised service companies, making sure that enquirers are well briefed on the scope and key concepts of the survey.

The best way to gather the information- but also the most time consuming one – is to carry out **in-depth case study interviews**. Some limitations of this method need to be kept in mind: 1) a properly run phone survey would probably already exhaust available time and budget for this phase of the work; 2) those interviews need to be done by very qualified people who are not always available; 3) results gathered are qualitative in nature and do not easily translate into a standardised score. When possible, regions are encouraged to carry out such in-depth interviews, which would mainly be used for interpreting the results of the main phone survey.

The content of the survey will need to be adapted to the context of each region; in Annex one example of a survey structure is provided.

The **sample of firms** to be enquired needs to be **representative** of the regional fabric, but limited to firms **with innovation potential**. Use should be made of existing firms databases such as the ones held by regional authorities, chambers of commerce, industry federations, funding organizations, etc. The danger to avoid would be to limit the sample to firms involved in R&D activities or highly innovative companies, as the role of intermediaries and the nature of services often target those firms with innovation potential but not yet active in innovation on a systematic basis. Often, database on R&D-intensive firms do exist, but they need to be complemented by other sources to cover non R&D-active firms

A **categorisation** of the firms should be developed in order to account for the various needs of different types of companies. The following parameters may be taken into consideration:

- size: number of employees with classes <10; <50; <250;>= 250 further segmentation according regional requirements optional

- age: new firm (up to 2 to 5 years depending on the region) – mature

- Sector: based on NACE codes

- R&D intensity (if possible): expenditures to turnover.

These parameters can be used as filters for Matrix 3 in order to gain an overall picture of the impact assessment of services on all type of firms or to gain a focussed picture of the assessment on a specific target group. Differences by applying the filters will allow the identification of different impact of single service types on different categories of firms.

Example : Postal survey and face-to-face interviews for M3 in Brittany

A **postal survey** was launched in Brittany to more than 6500 firms. 580 responses were received, i.e. a response rate of 7.21% .
Two lists of contacts were used :
- the database of the Regional advisers' network managed by Brittany Innovation (5000 contacts "informed" through advisers' visits in firms)
- the database of the COFACE (export insurance company).

The responses came mostly from the contacts taken from the database managed by Brittany Innovation, filled in by more than 100 advisers from 40 structures.
So it is not a totally representative sample of the regional business fabric but it is a sample based on a large set of SMEs potentially beneficiary of the innovation support offer. All important sectors for Brittany are represented, for some sectors we took only SMEs with more than 5 employees.

The services of a call center were used for follow-up calls to 400 firms.

Face-to-face interviews were carried out with 81 SMEs

- 38 interviews from contact lists sent by 25 intermediaries
- 43 interviews from contacts coming from the postal survey.

The sample had the following characteristics :

- 31% ICT, 25% services to business, 15% food-processing. This is not strictly representative of the regional economic fabric but key regional sectors are represented.

- 50% have less than 10 employees = very small enterprises (this is good because 99% of the regional fabric is made up of such firms)

- very large range in terms of turnover (from 100K€ to 5000K€ in similar proportion)

- 78% said to have had a turnover in progress over the last 3 years

- 1/3 are less than 3 years old.

The representativeness of the innovation support offer was one of our main objectives: all structures analysed in Matrix 2 have been mentioned during the meetings but not at the same proportion. We decided to elaborate radar diagrams only for the structures mentioned by at least 20 firms but we did do the data processing for the whole data collected.

We led open semi-directive discussion with firms about innovation process, needs, the received support and impacts of this support. Then the results of the interviews have been codified into the IMPACTSCAN typology and matrices.

Example: M3 - Madrid data gathering survey

Empirical research for M3 in Madrid has been based on the analysis of replies to 103 questionnaires administered through a survey to a stratified sample of 600 Madrid-based innovative companies. The results achieved have a high reliability according to the sample selection.

With regard to the method of capturing responses, questionnaires were followed up by telephone calls to remind and advise people in charge on filling the questionnaire. This effort has allowed the collection of significant number of answers in terms of statistical sampling.

Such monitoring, and subsequent tabulation of the questionnaires, provided the opportunity to verify that the survey had been completed properly, in accordance with the objectives previously set in the project. This question is particularly relevant in a study as conceptually complex as this one, since it was possible that the respondents provide their answers without having a clear awareness of the meaning of each word, and distort the results achieved. Thus, devoting personal attention to a significant number of respondents increases the validity of the survey.

In addition, to further strengthen the statistical validity of the research, part of the sample (11 company directors) have been interviewed personally by the research team. The findings from these interviews were an extremely useful input to draw conclusions from the exercise.

Stratification has been done on the basis of three variables:
- size in terms of staff numbers,
- industry sector depending on the areas of activity identified by interviewees and reclassified by reference to the CNAE national economic activity classification.
- innovative character given by firms investment in R & D

Data Exploitation has been implemented through a check of consistency using various recoding models (percentage of maximum response; percentage of minimum response; assigning numerical values to each category of response). Once the questionnaire has been recoded an exploration of data has generated the final results of the analysis.

Example : Data collection for M3 in Slovenia

A **firm survey** was launched in Slovenia. Two questionnaires were prepared. A first questionnaire was sent by e-mail to 2.500 addresses has 4 tables with the following contents:

T1:   enablers/services

T2:   intermediaries/enablers

T3:   Any positive changes with regard to enablers in the firms in the last 2 years? (Y/N)

T4:   services/changes with regard to enablers (in ref. to the T3)

M3: The response was 77 completed questionnaires by 15 May 2007. These data were processed: the average estimation of impact of services to enablers is given. In M3 only those companies' responses were taken into consideration that used at least a (1) service.

Individual interviews were also carried out. Questions for each enabler were prepared in such a form that could be well understood by companies. We found out that companies with high-tech products and with longer period of operation were able to respond to the majority of questions. Some of them described their way of operation in details; some limited themselves to yes/no. Based on the answers we conclude that companies have also been learning from our questions, i.e. sometimes they said they would think about introducing and including additional innovation actions to their daily practice. They also defined their needs and desires. Some companies could not answer a whole spectre of questions relating to an enabler. This indicates a definitive need for new services which will close the gap in their knowledge in the field of innovation.

Our conclusions: the in depth questionnaire based on the set of ten enablers was found as a very good tool, not only to assess the existing innovation capacity of companies, but also to find out the missing knowledge and to plan introduction of new services to close the gap in their knowledge of innovation management.

Apart from new surveys, some existing tools need to be screened for their contribution to the exercise. Existing information gathering tools may include:

- **Existing surveys**: with a few exceptions, most existing surveys in EU regions are not oriented towards perception of the *system* of regional services by companies. Some inform about the perception of services by one intermediary only or one type of service (R&D grants e.g.). The results of these surveys need to be taken into account when gathering information for M3, provided that the results can be customised according to the standard services and innovation enablers categories;

- **Working groups or panels of companies**: this method, often used with the support of industry federations or chambers of commerce, is relatively easy and cheap to implement. However its important drawback is that it is unavoidable to introduce a bias in the sample of companies, since the types of companies participating to such exercises are likely to be already well acquainted with the regional system, and to present a

higher than average innovation profile than the population of innovative firms in general. It seems more appropriate to use such tool as a complement to a survey, to discuss results;

- **Use of company representatives:** indirect sources of information on companies' perception can also be gathered through the use of firm representatives such as industry federations. However, even more than the previous tool, this method suffers from the introduction of bias in the representation of companies (e.g. often larger firms are better represented than smaller ones). Furthermore, such representatives do sometimes play the role of an intermediary and therefore can rather be classified on the supply-side.

Scoring mechanism

Each cell of Matrix 3 reflects the influence of a type of service on a firms' enabler, as a result of a comprehensive survey (see possible structure in Annex).

The results of the survey exploitation are transformed into the common 6 scale scoring system for Matrix 3:

0:	no influence
1:	very low influence
2:	low influence
3:	acceptable
4:	high influence
5:	very high influence
N.A:	not applicable (service not used; impact unknown; missing, etc)

Note: it is important to differentiate between a score of 0 (no influence) and missing values, which should be treated as such

Since the score measures the influence of a service on an innovation enabler, and not its visibility, IMPACTSCAN partners choose to compute average scores based on a representative sample of the beneficiaries of services.

Example : Data analysis for M3 in Lower Austria

For data analysis of the interviews among companies (which started end of March 2007) an expert organisation used the software "Matlab" to run various correlations of the 440 feedbacks on single services as well as the answers on current situation and company figures. But also comparisons of the impact perception of both sides (companies and intermediaries) were possible. Finally, two workshops took place on 19th and 20th of April 2007 where further brainstorming results of regional entrepreneurs who had not been interviewed within the face-to-face-in-depth interviews (control group) and the regional intermediary organisations as well as other experts were included in the analysis of the survey results.

Additionally, this analysis was matched with results of further data sources like:

-statistical analysis of the RISNÖ++ questionnaire survey 2002/2003

-analyses of other existing evaluations.

An alternative: using penetration rates in Limburg

When the total target population for a service is known, it would be interesting to weigh the scores by the rate of penetration of the service, defined as the ratio between number of firms beneficiaries of the service/total target population. This calculation has been carried out in Limburg on a project-by-project basis.
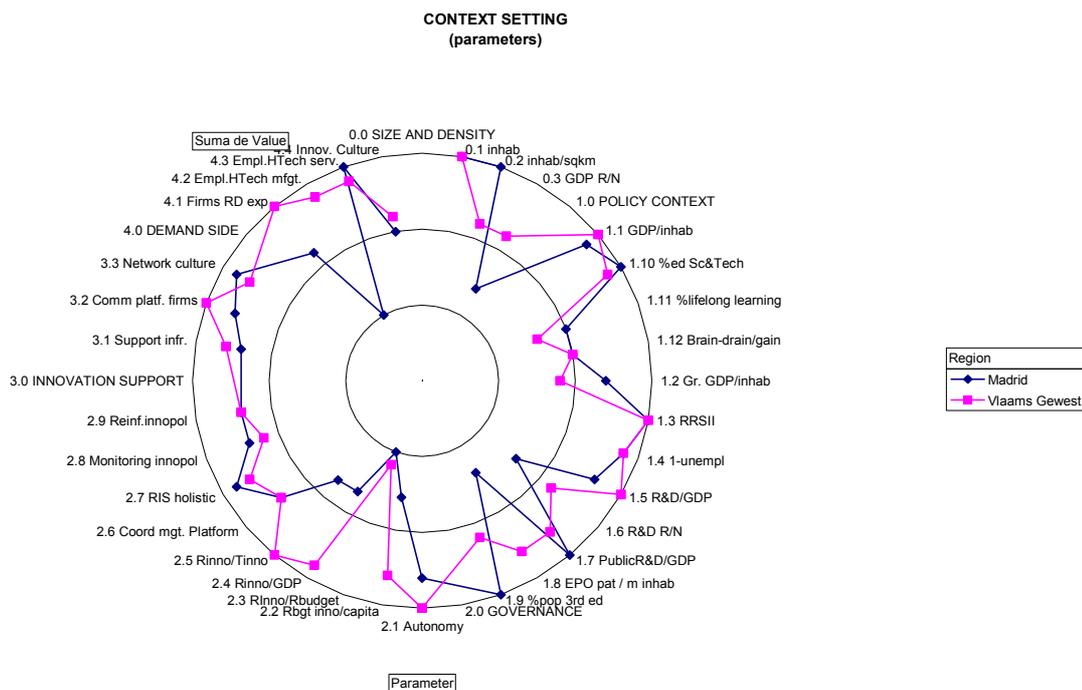
6. CONTEXT SETTING

The objective of the context setting element is to provide the framework for the regional situation, enlightening specific characteristics and typical particularities of drivers and providers of innovation in the regional environment. The context setting is a starting point for the explanatory analysis stage in the interregional benchmarking exercise: differences in outcomes of the matrix system need to be put in perspective with the regional situation.

Using a mix of qualitative and quantitative indicators, IMPACTSCAN provides a visual summary of the regional context in which innovation policy is deployed. This approach was inspired by a previous EU-funded project, the STRINNOP project (www.strinnop.net), and adapted to the needs of IMPACTSCAN. The pragmatic self-assessment tool is based on a common indicator set and a common scoring methodology resulting in graphical picture (radar diagram) of each region. Harmonisation in collection and interpretation of the indicators allow comparisons between the regional profiles of several regions (as the example below shows).

The list, definitions, sources and scoring of indicators follow below. Users enter their own data and the system calculates minimum, maximum and average values based on the range of regions having completed the context setting part. Data from the pilot phase of IMPACTSCAN are presented as examples. The scaling 0-10 is representing the relative position of a region within the 7 regions currently included in the tool.

Context setting: Categories and indicators

0. 0 Size and density
0.1 Size (population 2005 - Eurostat
0.2 Density of population (2004) - Eurostat
0.3 Share of the region in national GDP (2004) - Eurostat
1. 0 Policy context (general position of regional in knowledge economy)
1.01 GDP per capita (2004) - Eurostat
1.02 Growth rate of GDP per capita (2004) - Eurostat
1.03 Revealed Regional Summary Innovation Index European Innovation Scoreboard 2006
1.04 Health of the labour market (2005) Inverse of the Unemployment rate - Eurostat
1.05 Total R&D expenditures on GDP (2003) - Eurostat
1.06 Share of the region in national R&D expenditures (2003) - Eurostat
1.07 Public R&D expenditures on GDP (GERD - BERD) (2003) - Eurostat
1.08 EPO patents per million population (2003 - provisional value) European Innovation Scoreboard 2006
1.09 Population with a tertiary education (% of 15 and over) (2005) – Eurostat
1.10 Human resources in S&T - core (% of active population) (2006) - Eurostat
1.11 Participation in life-long learning (% of 25-64 years age classes) (2005) - Eurostat
1.12 Brain-drain or brain-gain situation (attractiveness for talent) - own regional analyses
2.0 Regional Innovation policy governance
2.1. Degree of autonomy of the region in RDTI matters- own regional analyses
2.2 Total amount of "regional budget for innovation" per capita – M1-M2 budget
2.3 Share of "regional budget for innovation" on the overall regional budget under the responsibility of the Regional government (regional government's budget) – M1-M2 budget
2.4 Share of "regional budget for innovation" on GDP– M1-M2 budget
2.5 Share of the regional government's innovation budget on the overall regional innovation budget (Influence of the regional government on the global innovation policy on the regional territory) - own regional analyses
2.6 Existence of coordination platform/management infrastructure for innovation policy (steering committee) - own regional analyses
2.7 Existence of holistic regional innovation strategy - Existence of a regional plan/document stipulating the regional innovation support strategy and infrastructure (objectives, instruments, intermediaries, activities) - own regional analyses
2.8 Strength of monitoring and evaluation efforts for innovation policy- own regional analyses
2.9 Perspectives and plans for reinforcement of innovation policy- own regional analyses
3.0 Supply side (innovation support)
3.1 Assessment of the scope coverage of M2 service typology existence of a comprehensive regional innovation support - own regional analyses, M2
3.2 Dissemination activities on the innovation support offer - communication platform to facilitate firms'access to intermediaries and support schemes - own regional analyses, M2
3.3 Cooperation and networking culture on supply side - own regional analyses
4. 0 Demand side
4.1 Business R&D expenditures on GDP – Eurostat
4.2 Share of employment in medium-high and high-tech manufacturing (% of total work force) – Eurostat
4.3 Share of employment in high-tech services (% of total work force) – Eurostat
4.4 Quality of innovation culture and attitude towards risk- own regional analyses – Global Entrepreneurship Monitor

INDICATOR SET AND SCORING

0.0 SIZE AND DENSITY

0.1 Size (Population)

Definition: Total Population

Source: Eurostat (2004 data)

Measurement:Quantitative indicator

Metric: 0 :=   min - 1 136 695 (Limburg)

                    5 :=   7 regions means –

                    10 :=   max – 6 043 161 (Flanders)

0.2 Density of population

Definition: Population/km²

Source: Eurostat (2004 data)

Measurement:Quantitative indicator

Metric: 0=   min – 82,6 (Lower Austria)

                    5=   7 regions means

                    10=   max – 702 (Madrid)

0.3 Share of the Region in national GDP

Definition: Regional GDP/National GDP

Source: Eurostat (2004 data)

Measurement:Quantitative indicator

Metric: 0=   min – 4.3% (Brittany)

                    5=   7 regions means

                    10=   max – 100% (Slovenia)

1.0 POLICY CONTEXT

1.01 GDP per capita

Definition: GDP per capita is a important indicator to measure the economic
                   performance of a region. According the definition that innovation
                   means bringing new technology in markets and thus make turnover
                   with new products the GDP per capita is an indirect indicator for
                   innovation success.

Source: Eurostat (2004 data)

Measurement: Quantitative indicator

Metric: 0=   min – 5441.8 (Dolnoslaskie)

                   2.5=   14 455

                   5=   7 regions means

                   7.5=   25 492

                   10=   max – 27 516.6 (Flanders)

1.02 Growth rate of GDP per capita

Definition: Real growth rate of regional GDP at market prices at nuts level 2 –
                   percentage change on previous year (2003/2004)

Source: Eurostat 2004 data

Measurement: Quantitative indicator

Metric: 0=   min – 1.2 (Limburg)

                   5=   7 regions means

                   10=   max – 5.2 (Ljubljana)

1.03 RRSII (Revealed Regional Summary Innovation Index)

Definition: Identifies the leading regions within the EU.
                   The RRSII is designed to pinpoint "local leaders". Regions in highly
                   performing countries will always look more favourable when compared
                   directly to regions from less performing countries.

Source: EU regional Scoreboard 2006

Measurement: Tentative summary indicator of all EIS indicators.
                   The RRSII is calculated as the average of the RNSII and the Regional
                   European Summary Innovation Index (REUSII). The REUSII is
                   calculated as the average of the indicators values indexed to the EU
                   mean.

Metric:	0=	min – 0.31 (Dolnoslaskie)
	5=	7 regions means
	10=	max – 0.61 (Madrid and Flanders)

1.04 Health of the labour market : 1 – unemployment rate (%)

Definition :   Inverse of the Unemployment rate

Unemployed people = persons aged 15-74 who were without work during the reference week, were currently available for work and were either actively seeking work in the past four weeks or had already found a job to start within the next three months

Source :   EUROSTAT (2005 data) – unemployment rate at Nuts level 3 (%)

Measurement:Quantitative indicator

Metric:	0=	min – (100-22.8) = 77.2 (Dolnoslaskie)
	5=	7 regions means
	10=	max – (100-5.4) = 95.7 (Lower Austria)

1.05 Total regional R&D Expenditure (% GDP)

Definition: Total intramural R&D expenditure (GERD) % of GDP

Source: EUROSTAT (2003 data)

Measurement: Quantitative indicator

Metric:	0=	0.39 (Dolnoslaskie)
	5=	7 region means
	10=	2.08 (Flanders)

1.06 Share of the regional R&D Expenditure (% GDP) in national R&D expenditures

Definition: Total intramural R&D expenditure (GERD) in millions of euro

Regional value/national value

Source: EUROSTAT (2003 data)

Measurement: Quantitative indicator

Metric:	0=	3.2%(Brittany)
	2.5=	20 %
	5=	7 region means
	7.5=	70%
	10=	100% (Slovenia)

1.07 Public regional R&D Expenditure (GERD – BERD) (% GDP)

Definition: The indicator is the ratio of public R&D spending on GDP. The former is defined as the difference between total R&D expenditures (GERD) and business enterprise expenditures (BERD). It thus includes higher education expenditure in R&D (HERD), government expenditure in R&D (GERD) and private non-profit expenditure in R&D (PNRD).

In addition to the production of basic and applied knowledge in universities and higher-education institutions, publicly funded research offers several other outputs of direct importance to private innovation: trained research staff and new instrumentation and prototypes.

Source: Eurostat Public R&D expenditure = (GERD/GDP)-(BERD/GDP) 2003 data

Measurement: Quantitative indicator

Metric:	0 =	0.06 (Lower Austria)
	5 =	7 region mean
	10 =	0.73 (Madrid)

1.08 EPO patents per million population

Definition: Number of patents applied for at the European Patent Office (EPO), by year of filing. The national distribution of the patent applications is assigned according to the address of the inventor.
The capacity of firms to develop new products will determine their competitive advantage. One indicator of the rate of new product innovation is the number of patents. This indicator measures the number of patent applications at the European Patent Office.

Source: Eurostat (2003 data – provisional value)

Measurement: Quantitative indicator

Metric: 0 =   2.851 (Dolnoslaskie)

                 5 =   7 region mean

                 10 =   94.6793 (Limburg)

1.09 Qualification of population - Population with a tertiary education (% of 15 and over years age classes)

Definition: This is a general indicator of the supply of advanced skills. It is not limited to science and technical fields because the adoption of innovations in many areas, particularly in the service sectors, depends an a wide range of skills. Furthermore, it includes the entire working age of the population, because future economic growth could require drawing on the non-active fraction of the population. International comparisons of educational levels however are notoriously difficult due to large discrepancies in the educational systems, access, and the level of attainment that is required to receive a tertiary degree. Therefore, differences among countries should be interpreted cautiously.

Source: Eurostat 2005 data

                 Population with tertiary education / total population aged 15 and over

Measurement: Quantitative indicator

Metric: 0=   13.12 (Lower Austria)

                 5=   7 region mean

                 10=   29.03 (Madrid)

1.10 Qualification of population – Human resources in Sciences and Technology – core (% of active population)

Definition: Number of persons who have successfully completed education at the third level in a S&T field of study and who are employed in a S&T occupation

                 A rapidly changing economic environment and a growing emphasis on the knowledge based economy have seen mounting interest in the role and measurement of skills. Meeting the demands of the new economy is a fundamental policy issue and has a strong bearing on the social, environmental and economic well-being of the population. Data on Human Resources in Science and Technology (HRST) can improve our understanding of both the demand for, and supply of, science and technology personnel — an important facet of the new economy.

Source: Eurostat (2006 data)

Measurement: Quantitative indicator

Metric: 0=   9.2 (Lower Austria)

                 5=   7 region mean

                 10=   22.3 (Madrid)

1.11 Participation in life-long learning (% of 25-64 years olds)

Definition: The reference population is all age classes between 25 and 64 years inclusive. A reference period of four weeks has been chosen in order to avoid distortion of information due to recall problems. The reference period is the last four weeks preceding the survey, except for France, the Netherlands (until 1999) and Portugal for which information is collected only if education or training is under way on the date of the survey. Education includes initial education, further education, continuing or further training, training within the company, apprenticeship, on-the-job training, seminars, distance learning, evening classes, self-learning, etc. as well as other courses followed for general interest: language, data-processing, management, art/culture, health/medicine courses. Before 1998, education was related only to education and vocational training which was relevant for the current or possible future job of the respondent.

A central characteristic of a knowledge economy is continual technical development and innovation Under these conditions, individuals need to continually learn new ideas and skills - or to participate in life-long learning. All types of learning are valuable, since it prepares people for "learning to learn". The ability to learn can then be applied to new tasks with social or economic benefits. The limitation of the indicator to a brief window of four weeks could reduce comparability between countries due to differences in adult education systems. Little is known at this time about such differences, but differences in the timing of national holidays, preferred times for adult education courses, the average length of adult courses, and other unknown factors could influence the results and reduce comparability. Technical Paper N° 5 of the 2002 EIS further elaborates on the issue of "Lifelong Learning for Innovation".

Source: Eurostat (2005 data)

Measurement: Quantitative indicator

Metric:	0=	5.9% (Dolnoslaskie)
	5=	7 region mean
	10=	17.8% (Slovenia)

1.12 Brain-drain or brain-gain situation (attractiveness for talent)

Definition: A brain drain or human capital flight is an emigration of trained and talented individuals ("human capital") to other nations or jurisdictions, due in our context to lack of opportunity, low attractiveness of the regional markets or other reasons. We can also speak of outflow of scientist and technologists and so called "Knowledge workers" to others regions or countries. Brain drain can occur either when individuals who study abroad and complete their education do not return to their home country, or when individuals educated in their home country emigrate for higher wages or better opportunities. The second form is arguably worse, because it drains more resources from the home country. Its counterpart is brain gain in the areas to which talent migrates (high attractiveness of the region for talents)

Source: Regional sources – estimation

Measurement: Qualitative indicator

Metric: 0=   Brain drain is a big issue and a threat in the trajectory of the regional economic development

5=   No big gap – balanced situation

10=   The region attracts knowledge workers and it is in a brain-gain situation.

2.0 REGIONAL INNOVATION POLICY AND GOVERNANCE

2.1 Degree of autonomy of the Regional Government in RDTI explain RDTI matters (institutional and administrative autonomy – degree of empowerment of regional authorities from central government)

Definition: Overall autonomy in RDTI matters taking into consideration political, financial and legislative issues

Source: Regional analysis

Measurement: Qualitative indicator –

Metric: 0=   no autonomy

Category C: centralised countries, either with regions playing a very limited role in RDTI matters, or with no regions at all. Many Member States, and all the New Member States, fall into this category. Apart from the obvious cases of very small countries where no sub-national division of the territory exists in these matters, this group also includes larger countries, where regions are defined but still do play a minor role in policy development, because they lack constitutional, legislative, and budgetary powers in RDTI matters. In a number of cases, regions have been defined for the purpose of handling Structural Funds, but the possibilities for their regions to define and implement their own policies is not (yet) present. Another set of countries under Category C includes regions which are rather active in implementing national development programmes with a regional development focus, and including innovation- (and sometimes research-) related measures, such as, e.g. in Ireland. It is to be expected that in a number of countries, regions will progressively acquire more powers in these areas, which might induce some shifts towards Category B.

                    5=   some autonomy

Category B: centralised countries, where a dominant role is played by the national level, with however a significant possibility for regions to develop own initiatives in RDTI policy, in partnership with the national state. France presents a typical case of this category: French Regions have the possibility to develop their own policy orientations with regard to RDTI, but the RDTI landscape, funding sources, institutions, are mostly determined at national level, so that actions need to be developed in partnership with the State. Such Regions have co-funding possibilities, which allow them to orient their actions according to regional priorities. In countries of this category, there is usually a large difference between regions, in terms of their involvement in RDTI policy

design and implementation, with some regions limiting themselves merely to implementing national instruments, while others developing specific programmes and institutions, and policy lines. Finland and Sweden represent two cases where the responsibility of regions in RDTI matters is growing significantly, starting from a situation where until recently, these matters were still under exclusive responsibility of the national government. The Netherlands is following an opposite trend, with recentralisation moves occur after a period of larger initiative left to the Provinces.

10=   full autonomy

Category A: decentralised countries, including regions with legislative and executive autonomy, able to design and implement RDTI policies on their own. The federal states of Austria, Belgium and Germany belong to this category, as their regions have constitutional powers allowing them to define their own policies. Belgium provides an extreme case where RTDI policies at regional and community level are run in complete independency from the federal state, which also possesses some autonomous competences in the science field. In Austria and Germany, most of the policies are implemented jointly between federal and regional level. The autonomous regions of Spain and Italy, and the devolved British regions enjoy different types of rights: some have been granted a larger degree of autonomy than others. So in the UK, Wales and Scotland could belong to the first category, while the other English regions belong to the second category, and the "historical autonomous communities" in Spain, as well as autonomous provinces in Italy have more autonomy than the other regions in their countries.

2.2 Total amount of Regional budget for innovation per capita (according to IMPACTSCAN definition: innovation budget under Regional government's responsibility)

Definition: The total amount of public money spent by the Regional government for regional innovation support according to the "regional budget" definition agreed upon in IMPACTSCAN: "The Regional Innovation Budget is defined as the latest available annual budget under regional responsibility, including funds received from national and EU budgets (e.g. structural funds). The Regional Innovation Budget is limited to public budget; private receipts are not to be considered. The Regional Innovation Budget is given in absolute amount.". It must correspond to M1 or M2 budget. It encompasses expenditures for R&D and innovation funding schemes as well as for setting up and running costs of the

innovation supporting infrastructure (finance + infrastructure + person-related budget)

Source: M1-M2 budget - regional and national statistics

Measurement: Quantitative indicator

Metric: 0=   1.64 (Dolnoslaskie)

5=   7 region mean

10=   34.8 (Slovenia)

2.3 Share of this regional budget for innovation under regional authority's responsibility into the overall regional authority budget

Definition: Same definition as above for "regional budget for innovation"

Source: M1 budget / Total budget of the regional authority

Measurement: Quantitative indicator

Metric: 0=   0.35% (Madrid)

5=   7 region mean

10=   6.6% (Brittany)

2.4 Share of the regional budget for innovation on GDP

Definition: Same definition as above for "regional budget for innovation" – in relation to GDP

Source: Regional statistics – M1 budget

Measurement: Quantitative indicator

Metric: 0=   0.03% (Dolnoslaskie – Madrid)

5=   7 region mean

10=   0.41% (Slovenia)

2.5 Influence of regional government on regional innovation policy = share of the regional budget for innovation on the overall public money for innovation for the Region

Definition: Identification of the Influence of regional government on the regional innovation policy and budget understood as the estimated share of the regional budget (decision power located by the Region – same definition as above for "regional budget for innovation") in relation to the overall budget for innovation support available in the Region (State,

European, sub-local innovation budget outside Regional government's responsibility)

Source:	Regional and national statistics or estimation
Measurement:	Quantitative indicator – estimation
Metric:	0= 0% of the overall budget for regional innovation support activities comes from the regional government
	5= 50% of the overall budget for regional innovation support activities comes from the regional government
	10= 100% of the overall budget for regional innovation support activities comes from the regional government

2.6 Existence of "management infrastructure"/ "coordination platform" for regional innovation policy (steering committee, executive unit)

Definition:	In order to fine-tune the effectiveness of single regional activities and to coordinate individual activities as efficient as possible an "increasing order" of coordination activities (coordination platform of the regional actors), with a strategic committee on the top (regional steering committee) is necessary. Clear rules have to be defined and a "Code of Conduct" is necessary in order to ensure the follow-up of the decisions.
Source:	Expert assessments, preferably of several persons
Measurement:	Qualitative indicator
Metric:	0= no specific management bodies, no strategic committee exists at all – no governance system
	5= some actors meet regularly but no formal coordinating process and organisation
	10= very well structured governance system for the regional innovation system - One "steering" committee / management body/ coordinating body empowered and legitimate. it is mandated to supervise the implementation of the regional innovation policy and fine tune the support activities. This "entity" can also take the shape of regular meetings of all actors (e.g. every four months) with open discussions if it has the political backing and the power to have decisions implemented.

2.7 Existence of holistic regional innovation strategy (vision, turning into action, adoption and further development)

Definition: In close connection to or as a result of the regional steering committee and the political decision process a holistic regional innovation strategy – including vision, turning into action, adoption and further development – is necessary for a target oriented innovation policy. This strategy must take the current situation of the needs of the regional firms and the existing competencies into consideration (transparency of regional know-how and competencies (innovation potential), transparency of firms' needs in innovation support). This strategy ideally is documented in a specific strategy policy paper (stipulating objectives, instruments, intermediary, type of intermediaries and their mission, type of infrastructure and activities)

Source: Expert assessments, preferably of several persons

Measurement: Qualitative indicator

Metric: 0= no regional innovation strategy exists at all, no regional innovation-related policy paper(s)

5= a regional innovation strategy exists, some of the pillars are implemented with the necessary backing. Some policy papers are partially related to the regional innovation infrastructure but as such do not stand for a comprehensive action plan or policy paper.

10=existence of a regional innovation strategy with political backing, based on the consensus building of the actors of the regional steering committee. Exact defined objectives and milestones, demonstrating the actual progress of the defined measures for every corner pillar. One or several specific strategic policy documents precisely frame the regional innovation support in the Region; specifying medium and long terms objectives, instruments, intermediaries' mission, activities, as well as planning and financing methods (money allocated).

2.8 Strength of monitoring and evaluation efforts for innovation policy

Definition: Monitoring is necessary in order to assess the impact of the measures on the Regional Innovation Profile and for further adjustments of the current innovation policy and the adjustment of single activities.

The monitoring activities have to be dedicated to responsible, professional institutions and persons, the monitoring methodology has be defined clearly and has to be traceable for all involved persons.

Source: Regional sources

Measurement: Qualitative indicator

Metric: 0= no monitoring activities

5= some monitoring activities, use of some reporting and assessment tools, with clear responsibilities

10=   clearly defined and highly professional monitoring and assessment system (outputs and impact of services and funding schemes, firms' needs…). Indicator set, data collection and proceeding methods (reports, survey, questionnaires, ICT tools…) are used by dedicated body. This body collects, codifies and transfers this knowledge to policy-makers. Follow up of the results: data are used in the policy governance to adjust the system.

2.9 Perspectives and plans for reinforcement of innovation policy

Definition: The development of a monitoring and governance system aims at fine-tuning and updating the regional innovation policy.

Source: Regional sources

Measurement: Qualitative indicator

Metric: 0= no new plan, no concrete perspectives under construction for the moment

5= some changes are planned in the innovation policy but no deep modifications foreseen

10=   new plans and perspectives have been launched or are planned to be launched to reinforce regional innovation policy.

3.0 SUPPLY SIDE

3.1 Availability / existence of a comprehensive regional innovation support infrastructure - Assessment of the scope coverage of M2 service typology

Definition: Appreciation of the coverage of the M2 service typology: existence of the various support services on the territory.

Nota bene: we are not dealing here with the firms' knowledge and awareness of the regional innovation support infrastructure (transparency of the support offer)

Source: Regional sources

Measurement: Qualitative indicator

Metric: 0=   lots of gaps exist in the coverage of the various support services. Some important service types are missing or very scarce (technology service for instance, or start up support)

                5=   some gaps exist

                10=   the full range of support services is covered.

Ideally business ranges targeted by the innovation policy are also well covered within the supply infrastructure

3.2 Communication platform to facilitate firms' access to technology and service providers – dissemination and promotion activities on innovation support offer

Definition: A widely diffused minor innovation will have a much bigger impact than a dramatic knowledge advance that is kept secret. This implies the importance of a communication platform where firms can get any kind of information on innovation support they are looking for. In some regions this platform is called a one-stop-shop, the entrance to the regional innovation supporting system. The communication platform should use different communication channels: the personal advice is the most effective one because within a personal meeting an experienced advisor can very precisely figure out the required support service of the company and provide the entrepreneur with an appropriate service or technology provider. The advisor can give the firms further tips how to use the existing know-how or how to complement the own know-how with external knowledge for the development of new products or different applications.

Complementary parts of a communication platform can be written documents like a "Who is who" in the regional innovation supporting

system (and even on the national/international). This information could also be provided as an internet guide. According the specified plans of the company the internet guide can work as a knowledge based information system.

This communication platform can strongly interlink to the identification of regional competencies and the pro-active approach.

Source: Regional sources

Measurement: Qualitative indicator

Metric: 0=   no dissemination and promotion tools and platform of the existing support services and technologies is provided

5=   there are persons who facilitate the access to the required innovation support service as well as handbooks or internet guide.

10=   the communication platform involves all actors of the innovation supporting system. "Consultation and facilitation hours" are provided by members of the communication platform with very good overview over the offered services and technologies as well as with high business and innovation orientation. Follow up of the provided contacts. Cases where no help can be offered for the companies are tackled in meetings of the communication platform in order to decide whether an action has to be taken to close the existing gap.
Every firm is aware of the communication platform and tools.

3.3 Cooperation and networking culture on supply side

Definition: Fostering synergy and cooperation process within the innovation support infrastructure is essential to ensure efficiency of the support activities. Some cooperation and communication tools may have been developed and joint actions regarding innovation support promoted and financed. The structures are encouraged to work as a network.

Source: Expert assessment

Measurement: Qualitative indicator

Metric: 0=   no tool nor projects developed in this perspective

5=   some tools and projects, of relevance to some structures

10=   tools are used and joint actions are set up to develop synergy, networks and joint actions to optimise innovation support in SMEs

4.0 DEMAND SIDE

4.1 Business Expenditure on R&D (BERD) (% GDP)

Definition: This indicator measures the R&D expenditure (from all sources of funding) of the business sector (manufacturing and services) as a percentage of GDP.

The indicator captures the formal creation of new knowledge within firms. It is particularly important in the science-based sectors (pharmaceuticals, chemicals and some areas of electronics) where most new knowledge is created in or near R&D laboratories.

Source: EUROSTAT (2003 data)

Measurement: Quantitative indicator

Metric: 0=   min – 0.11 (Dolnoslaskie)

5=   7 regions means

10=   max – 1.54 (Limburg)

4.2 Share of employment in medium-high and high tech manufacturing (% of total employment)

Definition: Number of employed persons in the medium-high and high-tech manufacturing sectors. These include chemicals (NACE24), machinery (NACE29), office equipment (NACE30), electrical equipment (NACE31), telecommunications and related equipment (NACE32), precision instruments (NACE33), automobiles (NACE34) and aerospace and other transport (NACE35).
Total workforce includes all manufacturing and service sectors. The share of employment in medium-high and high technology manufacturing sectors is an indicator of the manufacturing economy that is based on continual innovation through creative, inventive activity. The use of total employment gives a better indicator than using the share of manufacturing employment alone, since the latter will be affected by the hollowing out of manufacturing in some countries.

Source: Eurostat (2006 data)

Measurement: Quantitative indicator

Metric: 0=   min – 3.92 (Madrid)

5=   7 regions mean

10=   max – 7.95 (Flanders)

4.3 Share of employment in high-tech services (% of total work force)

Definition: Number of employed persons in the high-tech services sectors. These include post and telecommunications (NACE64), information technology including software development (NACE72) and R&D services (NACE73) Total workforce includes all manufacturing and service sectors.

The high technology services both provide services directly to consumers, such as Telecommunications, and provide inputs to the innovative activities of other firms in all sectors of the economy. The latter can increase productivity throughout the economy and support the diffusion of a range of innovations, in particular those based on ICT.

Source: Eurostat (2006 data)

Measurement: Quantitative indicator

Metric: 0=   min – 24.83 (Dolnoslaskie)

5=   7 regions mean

10=   max – 37.86 (Madrid)

4.4 Quality of innovation culture and attitude towards risk

Definition: "Innovation culture" includes notably the following elements:

-Firms (and society as such) openness towards risks and entrepreneurship, which includes "behaviour " and "leadership management" : tolerance to failure, freedom for and stimulation of initiative-taking, fostering of employees' empowerment and self-learning, idea generating promotion, team oriented leadership, …
- Willingness to collaborate with external partners (confidentiality issues), including foreign partners,
- Attention for innovation and R&D opportunities
- Willingness to think over organisation and decision-making process to stimulate idea generation and innovation project management...

This indicator can also be backed up with reference to figures like: share of small companies introducing improved product, new product, new processes, share of SMEs innovating in collaboration.

Source: Regional sources

Measurement: Qualitative indicator

Metric: 0=   weak innovation culture – lots of barriers exist in the society and within the traditional business sphere – few innovative SMEs

5=   some sectors are concerned but low participation of SMEs or some main sectors in this culture

10=   innovation culture is strong and firms' practices are evolving in many sectors, innovative SMES are developing in all main sectors of the region.

7. HOW TO INTERPRET RESULTS ?

When the matrixes system and the context setting are filled, the user is ready to interpret results for two purposes:

- Regional self-assessment (section 7.1);
- Inter-regional comparisons (section 7.2).

Ideas are provided below to inspire this work.

We conclude this section with ideas for further work generated by the use of IMPACTSCAN in the pilot regions (section 7.3).

7.1. Ideas for regional self-assessment

A whole range of questions can be examined in order to get a clearer picture of the regional innovation support system in the regions, based on the analysis of M1, M2, M3 and the context setting data. An open list of such questions is presented below, along with examples of how some of these questions have been dealt with by IMPACTSCAN partners from pilot regions.

Questions based on M1

- What are the main strengths and weaknesses of my region and do the policy responses correspond to these? (See example from Lower Austria)

- How does the distribution of funds over the policy objectives look like? (See examples from Brittany and Lower Silesia)

- Which intermediaries are responsible for the implementation of key policy priorities? Can we assign certain policy objectives to specialised Intermediaries ?

- From the point of view of reaching policy objectives, is there an optimal distribution of funds over the different Intermediaries?

- Is there a distance between policy rhetoric and actual policy implementation? How does the money flow across objectives and does this match with policy declarations? (See example from Flanders)

- Etc.

Example: context setting - M1 analysis:
**Increase of technology availability – a challenge for Lower Austria – policy responses**

The comparison of selected context indicators of Lower Austria with the IMPACTSCAN partner regions reveals remaining structural deficits of Lower Austria: Due to the strong national concentration of higher education and R&D institutes in Vienna and the direct vicinity to Vienna Lower Austria is suffering own public R%D activities which results in very low public R%D expenditures in relation to the regional GDP. Low population density (0.2 inhab/sqkm), the lowest of all 7 IMPACTSCAN regions and a considerable brain drain towards Vienna as Lower Austria's traditional R&D and business hub is leading to a low share of population with tertiary education (% pop 3rd ed) and to a low share of active population in science and technology (%ed Sc&Tech). Thus the critical mass for fostering public R&D expenditures as a fast-selling system is missing.

Context Setting
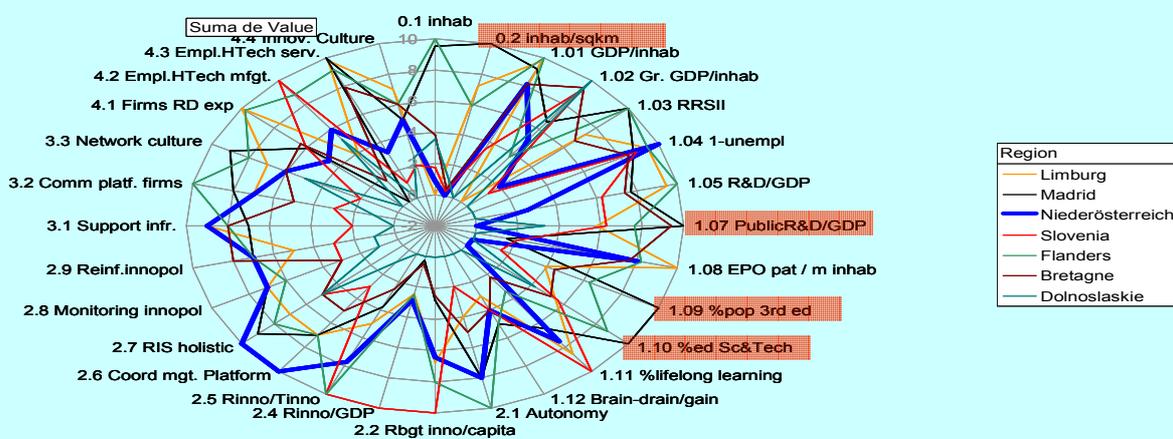
In order to overcome these innovation obstacles the regional government is putting a lot of efforts on creating a critical mass in future oriented technology fields in order to stop the brain drain and to establish Lower Austria as a technology location since the development of the Regional Innovation Strategy Lower Austria (RIS NÖ) in 1999. Examples are the Technopol-Program or Competence Centres of Excellence. These efforts are reflected in the budget allocation on the policy objectives as defined by the IMPACTSCAN partner regions: Lower Austria shows the second highest budget share for the policy objective "Increase in availability of technology".

Budget Allocation according Policy Objectives
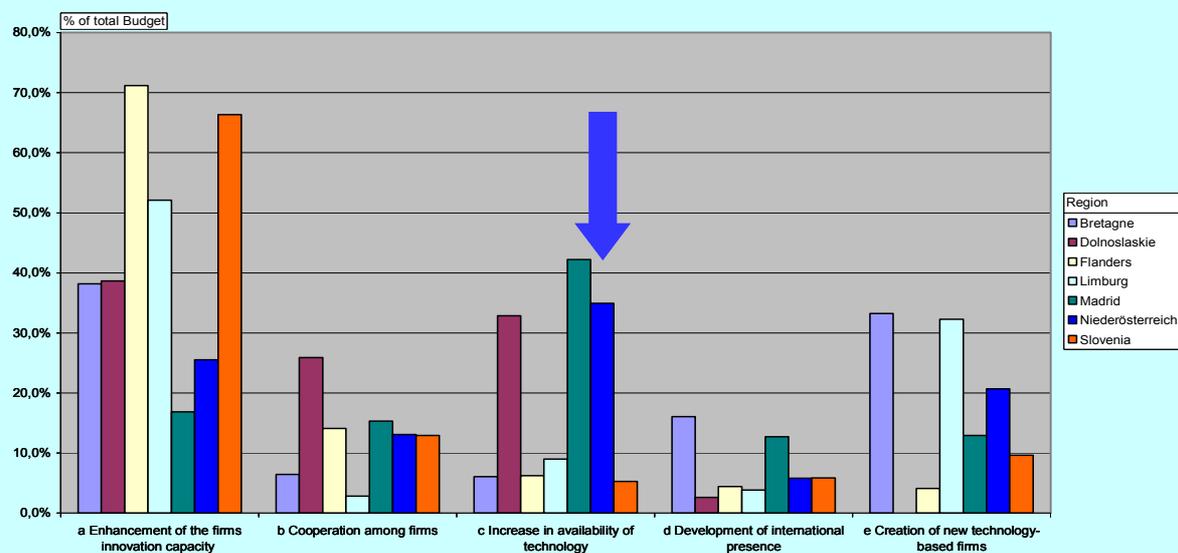
M1 – Analysis in Brittany helps identify the Regional government 's innovation policy content and orientations

The analysis of allocation of regional budget for innovation shows:

-A **balanced** distribution of the public regional money budget in term of intervention types :

    - Funding of structures (working budget, equipment and in-home research programmes): (RTD institutions + Service centres + science parks) (38%)

    - Direct funding schemes for SMEs ="administration" (36%)

    - Allocation to PPP funds and private financial institutions + specific allocation to specific loans/guarantee schemes (26%)

The conclusion is that the Regional Council's budget for innovation is not exclusively focused on the funding of structures. There is a 50/50 balance between the funding of intermediaries and investment in companies. Funding to Economic Development Organisations will increase with the development of "the 4 regional Poles of competitiveness" supported by the regional council (working budget and support to labelled projects).

The majority of the budget is devoted to

    - "**Innovation capacity enhancement**", including: Technology transfer support, R&D support + support to cross-sector skills (HR, organisation, business intelligence…)

    - "**Creation of NTBF**" : main part due to funding into PPP funds and participation into loan/guarantee schemes

    -"**Support to clustering/cooperation among firms**" has been increasing since 2005 through the influence notably of the development of the support policy around the "Poles of competitiveness".
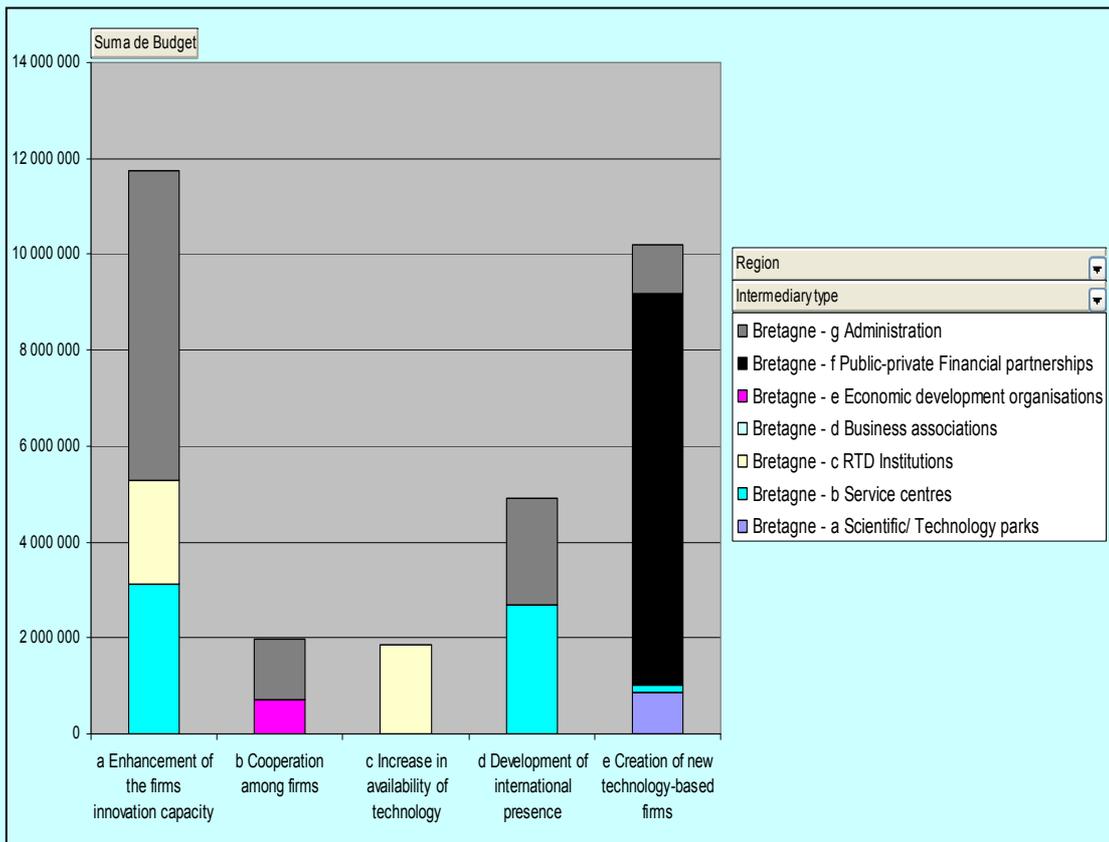
M1 – Comparing policy declarations with budget orientations in Flanders

Entrepreneurship has been put high on the list of the innovation policy mix in Flanders. Specifically it has been the aim of the policy makers to put a lot of emphasis on awareness raising, education, coaching, financial support for entrepreneurial initiatives. But when looking at M1, it seems that the least amount of budget is dedicated to creation of new technology-based firms. This observation indicates that there is some inconsistency between the policy objective regarding entrepreneurship and the way it is handled in reality in Flanders. Apparently, it is not so easy to get things done in this area. Without doubt, this is related to the weak quality of innovation culture and reluctant attitude towards risk as identified in the context setting analysis.

Another reason for the limited number of start-ups is related to the shortcoming in money. A gap is detected between the projects and activities that got direct financial support and the further needs of the companies involved after finishing the supported project. To handle this problem, the most important addition to the Flemish policy measures is the establishment of the VINNOF, the Flemish Innovation Fund. This is a pre-seed and seed facility to support young innovative companies to transform their ideas into business. Although the yearly budget is foreseen, neither grants nor loans from this budget were spent in 2005. As the analysis is based on data from 2005, the VINNOF measure could not come into the picture yet.

In the Policy note, internationalization is of specific interest. Setting up supporting services for market expansion and international investment are mentioned in explicit way. However, distribution of regional budget to this objective is rather modest. Consequently, the question rises how efforts can be increased in effective way to get better support for internationalization.

Cooperation among firms, clustering and networking addressed to technology and business issues get a budget allocation proportional to the importance of this subject matter in the policy mix. In particular, this facilitates working in an "open innovation" context.

Administration representing mainly direct funding of innovation in firms, clearly dominates.

Intermediary type (All)

M1 Intermediaries vs Policy objectives

![impactscan]
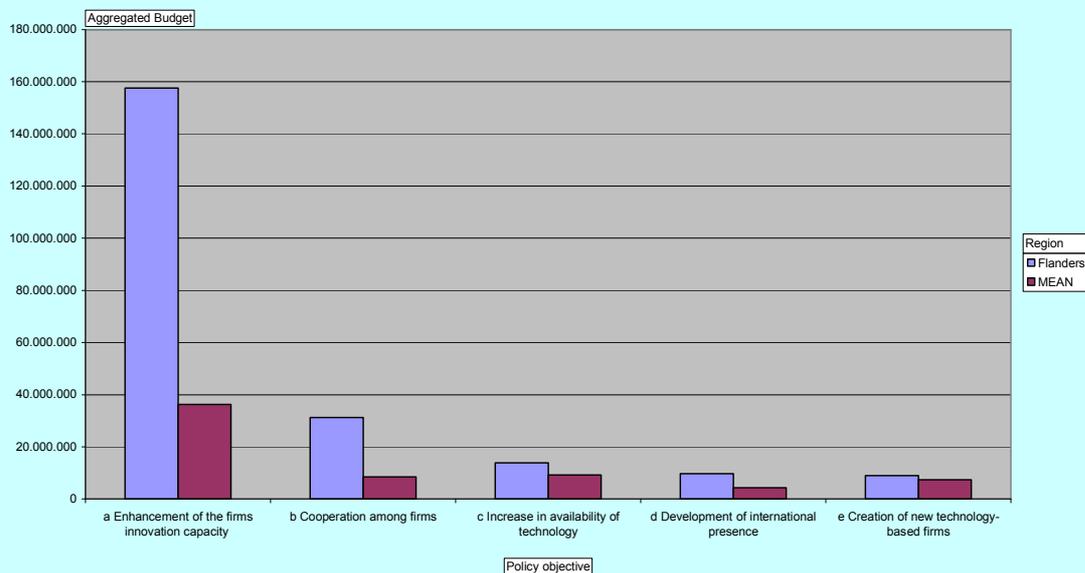
M1 – Getting a picture of implicit policy objectives in Lower Silesia

The total ("innovation budget") amount of money distributed in Lower Silesia is very low compared to other regions. The objective of creating new technology based firms is totally absent, no services for this purpose are present in the region. Regarding cooperation among firms there are projects supporting networks between academia and companies. In the amount of money spent on Enhancement of the firms innovation, projects supporting building an innovation system are also included as a pre-condition for Enhancement of the firms innovations, as well as support to Research - Industry intermediation activity projects, funding of financial schemes.

Intermediary type (Wszystkie)

M1 Intermediaries vs Policy objectives

Aggregated Budget

Policy objective

Region
□ Dolnoslaskie
■ MAX
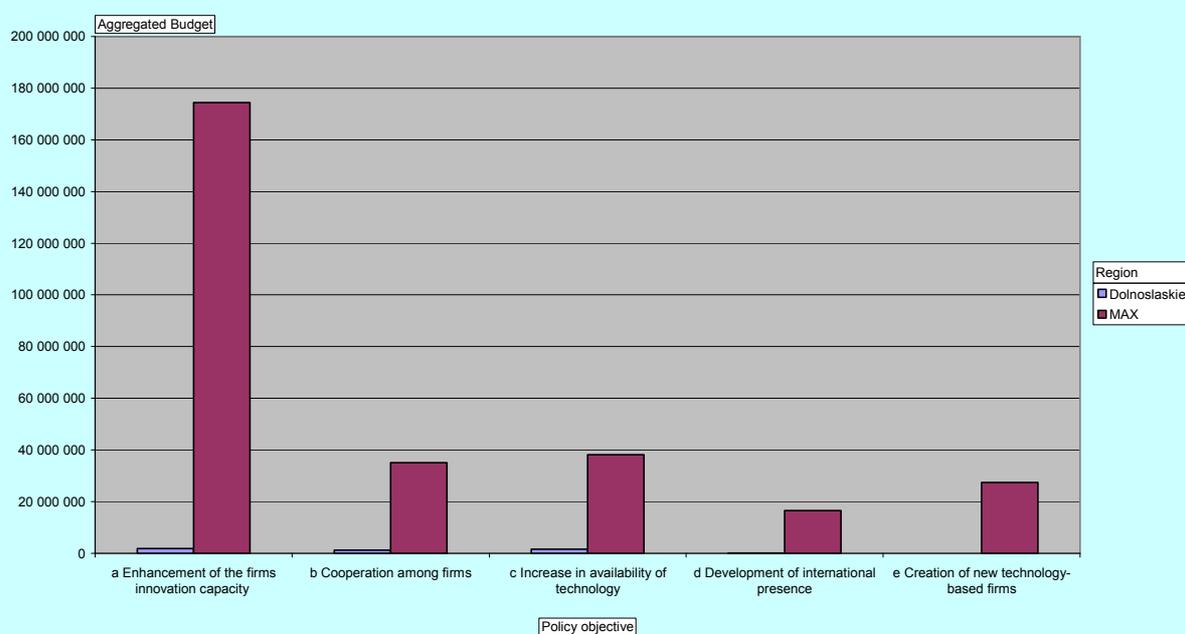
Questions based on M2

- Is there an optimal distribution of funds over the different intermediaries, given the various services that are publicly supported?

- Is there an optimal distribution of funds over the different services?

- Does the priority in terms of supported services match policy priorities (see examples from Brittany and Flanders)

- Can we optimise the Intermediary-Services allocation to increase the Impact? Can we identify overlaps or gaps in the services distribution?

- Is specialisation of Intermediaries to few services a right path to follow?

- Is there a right balance in technological (hard) and non-technological (soft issues of innovation) support?

- What is the importance of NTBF's for our regional innovation system and do we offer them the right services?

- How important is stimulation of networking between companies and what are most appropriate services?

- Etc.

**M2 : diversity of innovation service suppliers in Madrid**

Supporting firms networking and clustering initiatives in Madrid is the task of regional development agencies such as IMADE. This practice is concordant with that of other regions like Limburg and Flanders which have lower budgets for these services.

But unlike other similar regions in size and development like Flanders – where the training and HR services are provided by regional development agencies – regional administration, universities and research centres are in charge of that task in Madrid.

As for the innovation support infrastructures, the Madrid Region manages a high budget through universities, using both regional and national funds (and also European funding) dedicated to the creation of new research institutes and laboratories in which the companies are taking part. The 11 IMDEA (Madrid Institute of Advanced Studies) research institutes which are being created since 2006 is the most important initiative currently under development.

Service type	f Networking / Clustering

M2 Services vs Intermediaries
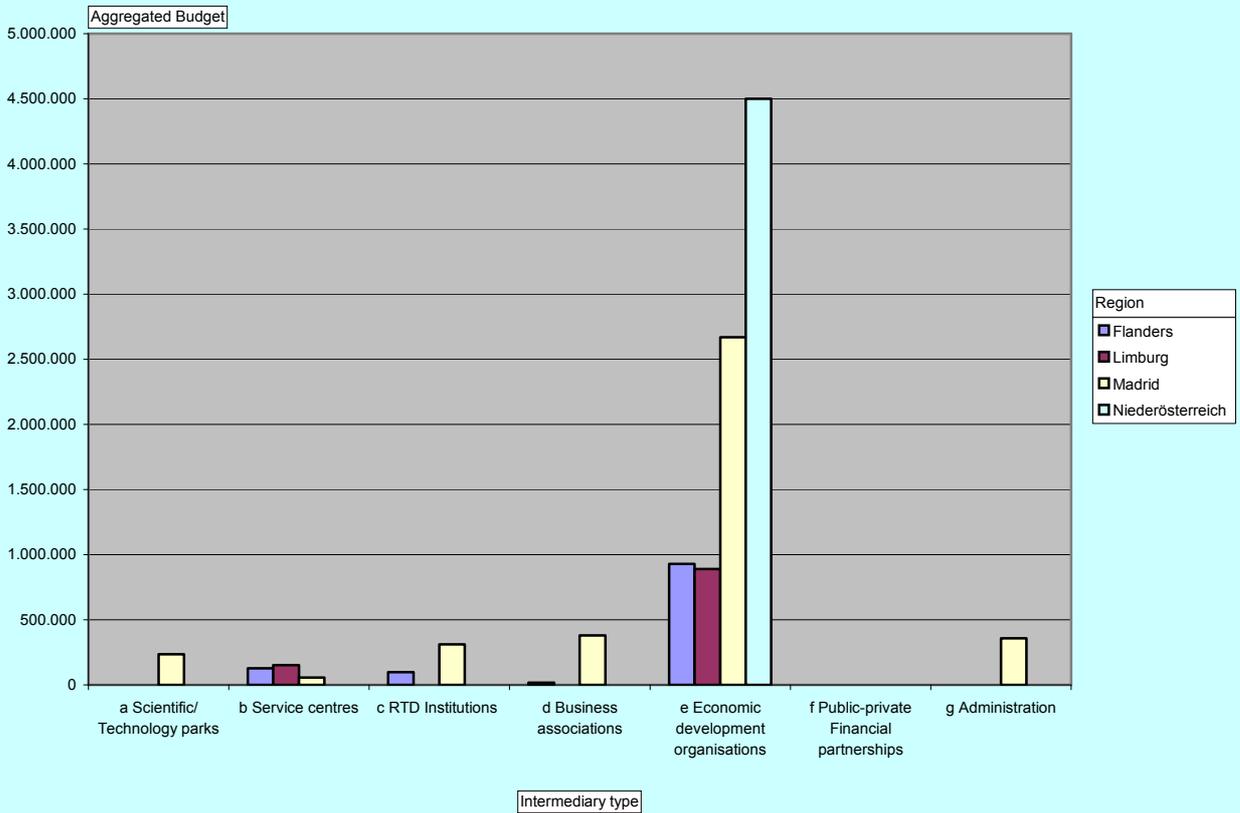
M2 – Analysis of services funding in Flanders: how to move towards non-technological innovation support ?

The high budget amount allocated to direct funding of innovation in companies ("Finance") indicates that innovation support in Flanders is strongly focused on technological innovation.

"Access to information" includes services addressing specific topics or actions helping the firms to tackle concrete innovation projects. The information services are notably technological oriented. Technology services involving a direct interaction with the firms are concentrated on technological issues.

Non-technological services are clearly under-represented. Evidence is shown in the limited budgets for Project Management (from idea generation along project planning and follow-up to marketing and exploitation), Networking, Human resources (training of firms' employees), Access to Finance (services to facilitate access to funds for innovation, such as risk capital, development capital funds, resources for financing innovation projects) and Incubating Services (infrastructure and basic services provided for innovative start-ups).

While technological innovation is still at the core, the awareness has risen recently to enlarge the innovation trajectory with related non-technological issues. Following issues are now considered with more importance, implying the widening or broadening of knowledge development and knowledge diffusion: entrepreneurial marketing enhancing economic valorisation, adjustment of business models for better innovation potential, organizational innovation and change management, impact of regulations, specific knowledge about IP, attention for design, more orientation towards the service industry and post-stages in the innovation trajectory.

Compared to other regions, Flanders has spent a lower budget for Infrastructure in 2005. This is a quite normal observation because large investments in buildings, facilities and equipment were already done in the past.
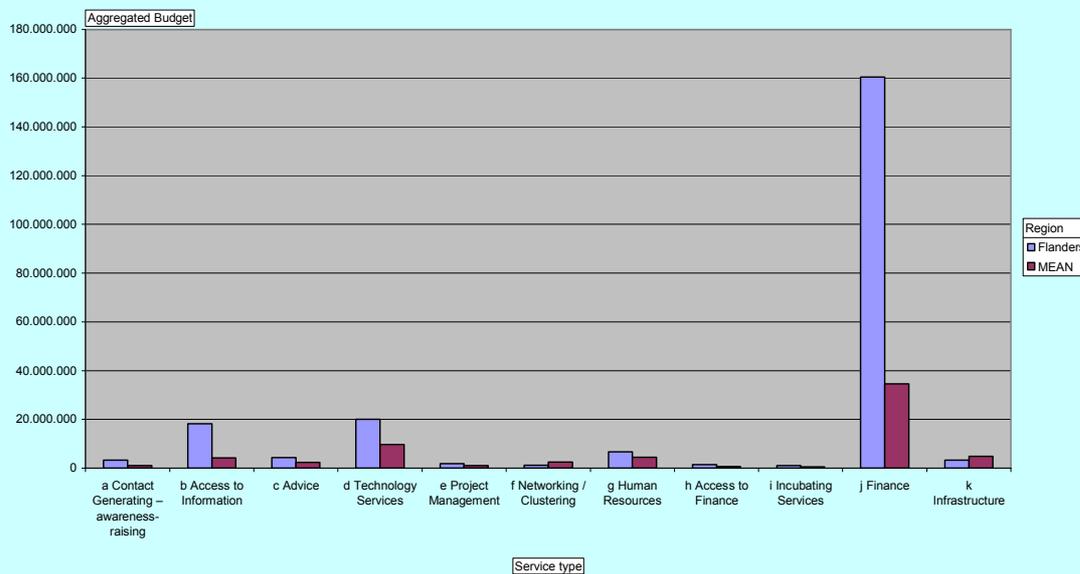
**M2 – Analysis in Brittany indicates a priority in innovation finance and "first steps of innovation"**

The analysis of M2 in Brittany revealed that most of the innovation support budget goes to frontline support for innovation: that is to say: awareness-raising, access to information, advice and project management (general project management and "technology service" understood in Brittany M2 as "technology-related project management"). This underlines the core objective of the mission of public interest financed in structures by the Regional government: regional public money is focused on purpose on awareness-raising mission, connecting Research and Industry, access to advice and to external expertise, access to strategic information.

The "finance" category also takes an important place and role: this category includes two elements: direct funding schemes for firms and money allocation to financial institutions, PPP and loans/guarantees linked to innovation project and start-up.
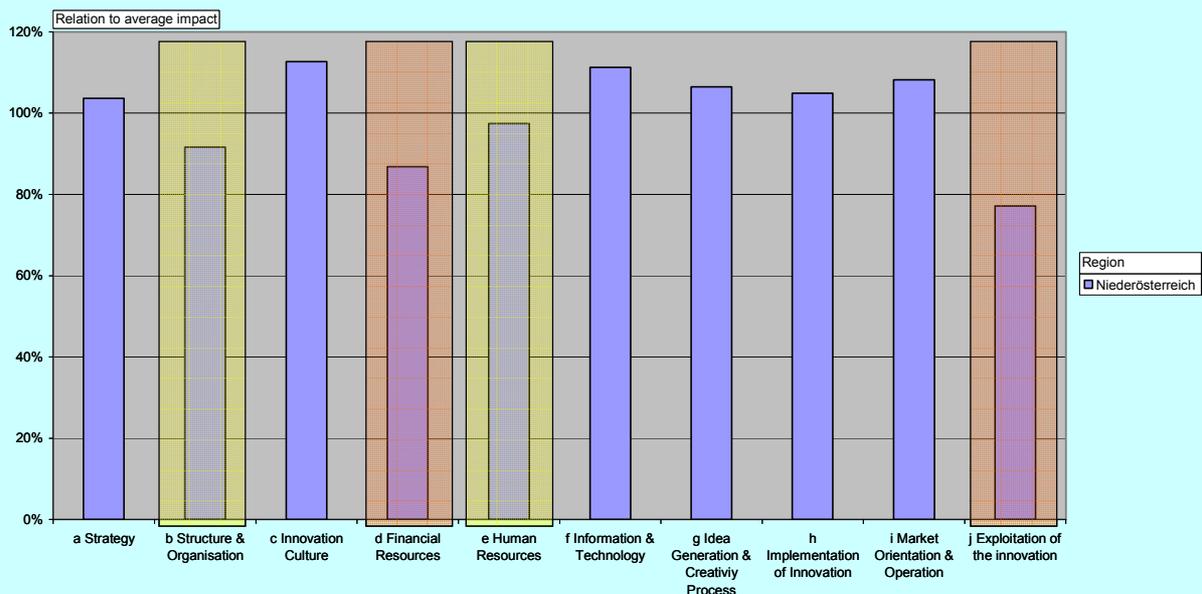
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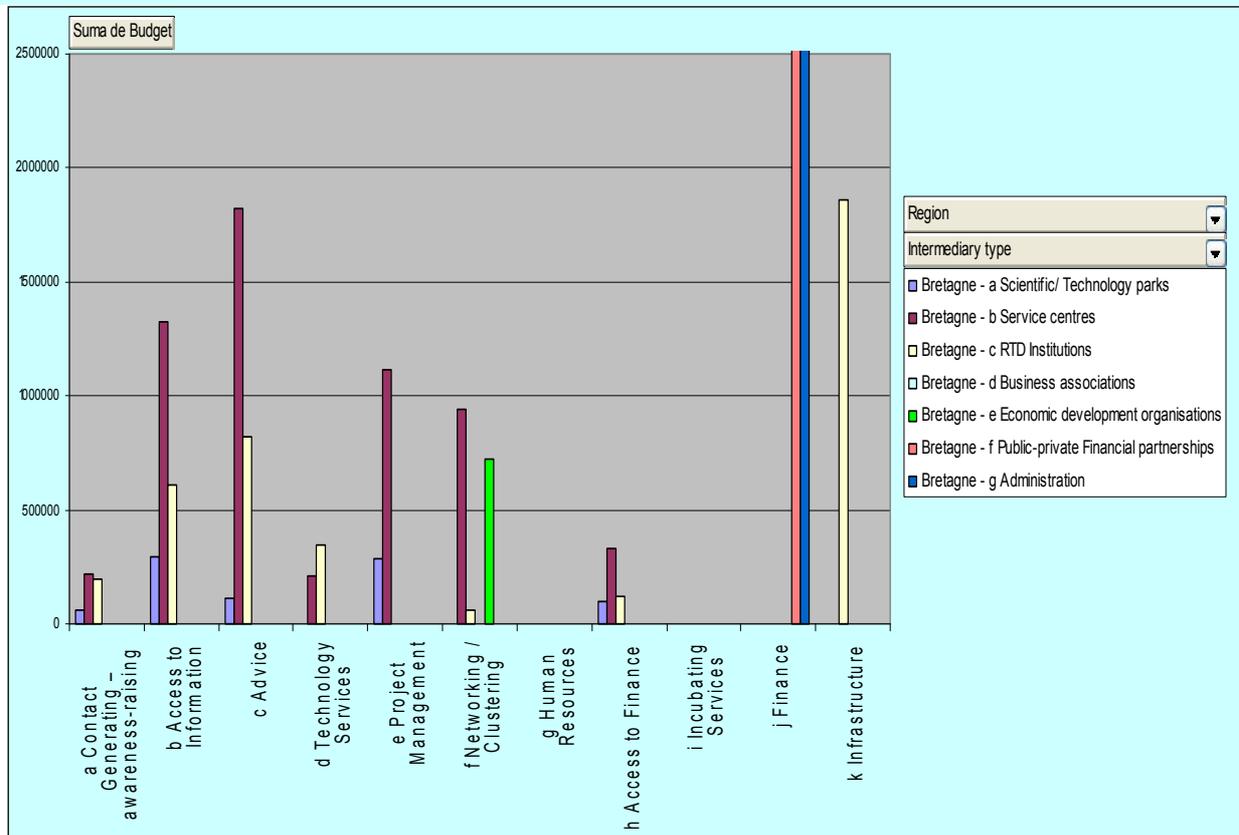
Questions based on M3

- Which services provide highest impact on enablers? (see examples from Brittany and Slovenia)

- Can we optimise the services distribution to improve the enablers' scores? Where to spend additional budgets for highest impacts? Where to cut with least negative impacts?

- Are all enablers supported by services? (see examples from Lower Austria and Lower Silesia)

- Is Supply matching Demand?

- Is more detailed analysis needed? (e.g. on sectorial level, segmentation of SME's, …)

- "What if" simulations on various levels (change in policy, intermediaries configurations, services, …)

- Etc.

Example: identifying gaps in innovation support through M3 in Lower Austria

The impact distribution over all innovation enablers in Lower Austria reveals a remaining gap of the Lower Austrian innovation support service portfolio: the support of the firms' structural and organisational development is still under developed, which is very often correlating with the mid or larger sized companies. While the yellow marked innovation enablers "Human Resources" and "Structure and Organisation" show the necessity of further improvements within the Lower Austria innovation support portfolio, the red marked bars "Financial Resources" and "Exploitation of Innovation" (including increasing turnover and profit) will further on remain as weakness in the companies' assessment while seeking for higher turnover and especially higher profit.

M3: Impact of the full NÖ service portfolio on the innovation enablers

Relation to average impact

Region
☐ Niederösterreich

Categories: a Strategy, b Structure & Organisation, c Innovation Culture, d Financial Resources, e Human Resources, f Information & Technology, g Idea Generation & Creativiy Process, h Implementation of Innovation, i Market Orientation & Operation, j Exploitation of the innovation

Example: strengths and weaknesses in innovation support through M3 in Brittany

The analyses of M3 scores for Brittany revealed that the following services had a high impact on innovation enablers of firms in the region: Diagnosis, technological interface, R&D/technical activities, financial intermediation.

In contrast the following enablers were only weakly addressed by the innovation support system and need further consideration in policy: anticipation and operational carrying out of industrialisation and commercialisation phases, and internal structuring/organisation

Example: assessing impacts of services in Slovenia

Work carried out for M3 leads to an interesting finding that the biggest positive changes of individual enablers in the last two years were in the field of Strategy - 81% answers, Information, knowledge and technology – 89% answers and Market orientation and operation – 80% answers, while the smallest progress was shown at Exploitation of innovation, where only 53% of firms noticed important positive changes.

The most successful usage of funds was in Project management; at the 2nd place was Access to information and at the 3rd place Advice. This is in accordance with the study "Innovation Management and the Knowledge – driven Economy", where they concentrated on Innovation Management Techniques (IMTs). Participants in the study found that the main IMTs used were project management (82%), followed by business plan development (67%), corporate intranets (66%) and benchmarking (60%). The smallest success was in the category Technology, if we except Human resources which were not explicitly included in M1. There is a low level of efficiency of networking/clustering in comparison to project management which shows the highest level of efficiency. An interesting finding is that start-up services had the minimal impact (the lowest score).

Example: identifying gaps in services in Lower Silesia

For Lower Silesia, at the time of data gathering it was impossible to obtain companies answers on the impact of services since the services have been just delivered in the various projects. Therefore the results for impact scores where obtained partly by questioning companies that participated in the support system earlier that the innovation budget concerned, via questionnaires sent by mail (1000 questionnaires sent), and partly by estimating impact from earlier evaluations during the RIS survey.

Looking at all the types of the services in comparison with the max and mean values (table below), the bigger difference - lower score in opinions of companies from Lower Silesia, is shown under the 'project management', which contains services to support companies over a longer period of time, 'access to finance', 'technology services' and direct finance to support the payment of specialists and investments, which have the highest relative overall impact in other regions.

These services seem to not be available to companies, particularly management of innovation in SME is not offered, and also access to finance concerning innovation as technology credit, capital ventures is seldom used by the companies.
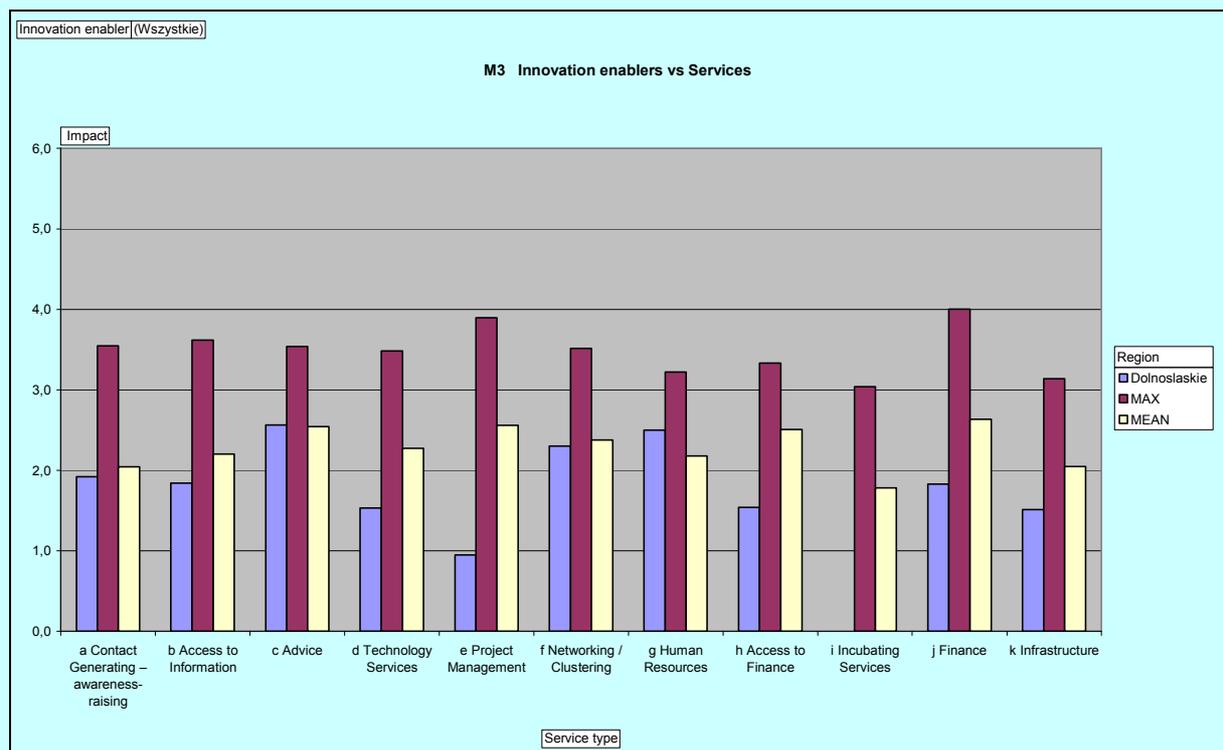
Example: combining policy objectives and innovation enablers in Limburg

When we combine M1 and M3 into M13 we get an impression of the impact profile of the innovation policy on the enablers. Activities that support 'enhancement of innovation capacity' have high impact on the enablers 'strategy' and 'structure and organisation' and low impact on 'financial resources' and 'innovation culture'.

Activities that support 'cooperation among firms' have flat and low impact profile but in general such activities reach a high number of companies.

Activities that support 'increase in availability of technology' have highest impact on 'the enabler 'information and technology' as expected.

Activities that support 'creation of NTBF' have a high and flat profile. In Limburg the activities in this category consist of services for providing long term coaching and help, mostly for starting companies, and are categorised under the service 'project management'.

No impact measurements where done for activities supporting the policy objective 'development of international presence'.

Policy objective	Strategy	Structure	Culture	Financial resources	Human resources	Information	Idea Generation	Implementation	Market		Exploitation
innovation capacity	2,8	2,8	1,9	1,6	2,4	2,3	2,5	2,7	2,3	2,1	
cooperation	1,7	1,7	1,7	1,7	1,5	1,8	1,8	1,8	1,8	1,8	
availability of technology	2,4	1,8	1,4	1,8	1,9	3,0	2,4	2,2	1,9	1,8	
creation of NTBF	2,7	2,8	2,4	2,7	2,4	2,7	2,2	2,4	2,7	2,3	

7.2. Ideas for Inter-regional comparison

IMPACTSCAN provides the possibility to compare regional innovation support systems between regions. During the project, bilateral discussions between regions, involving the use of the matrixes and the context setting part, were experienced as the most efficient way to carry out inter-regional comparisons. Identifying the largest differences in context setting, M1,M2 and M3, was a general starting point to start such comparisons.

A list of possible questions to be addressed, as well as examples of practical outcomes achieved in the pilot regions, are listed in this section. The questions relate both to specific features of the IMPACTSCAN tool, but also to more detailed aspects of the regional context which go beyond the content of the tool. Indeed getting more detailed knowledge about these regional features are necessary to interpret the IMPACTSCAN results with due care.

Tip: an outcome from bilateral discussions between Slovenia and Madrid

There is a logical sequence to look at graphs :
1st step : in M1 identify strong policy objective and identify which intermediary is working on this policy objective.
2nd step : look at M2 to identify the service that intermediaries are developing and search for difference between regions
3rd step : look at impact of different services to identify good practice

**Questions on policy context and M1**

- How much budget is being spent on innovation in the different regions? Which part is EU money?

- How is the regional innovation budget designed?

- What is the strategy and evolution in policy objectives for the support of the Intermediaries and Services in the other region and why? (eg. Top down-bottom up, increase-decrease, centralised-decentralised services, …)

- How far do the intermediaries depend on public money? What is the model of cooperation/dependence between intermediaries?

- What are the main innovation support mechanisms and services in the other regions? What were the reasons to chose such mechanisms?

- Which ones are effective? Are there methods in place to measure effectiveness? What are the tools in place for monitoring implementation of the RIS concerning innovation services?

- Etc.

Caveat : an outcome from bilateral discussions between Flanders and Lower Silesia

We should keep in mind that the data in IMPACTSCAN exclude all actions that are not innovation-specific, and that the data only include regionally-managed money. So, all interpretations should always bear in mind that this does not represent all innovation money available FOR the region. The difference can be considerable! And we should be careful not drawing the conclusion that some functions are missing, because they might be taken in charge by national level.

Example: Flanders is looking for foreign experiences to support NTBFs

In bilateral workshops, Flanders took a particular look at experiences in Brittany and Limburg, which have a support system with high priority on Start-ups and NTBFs development.
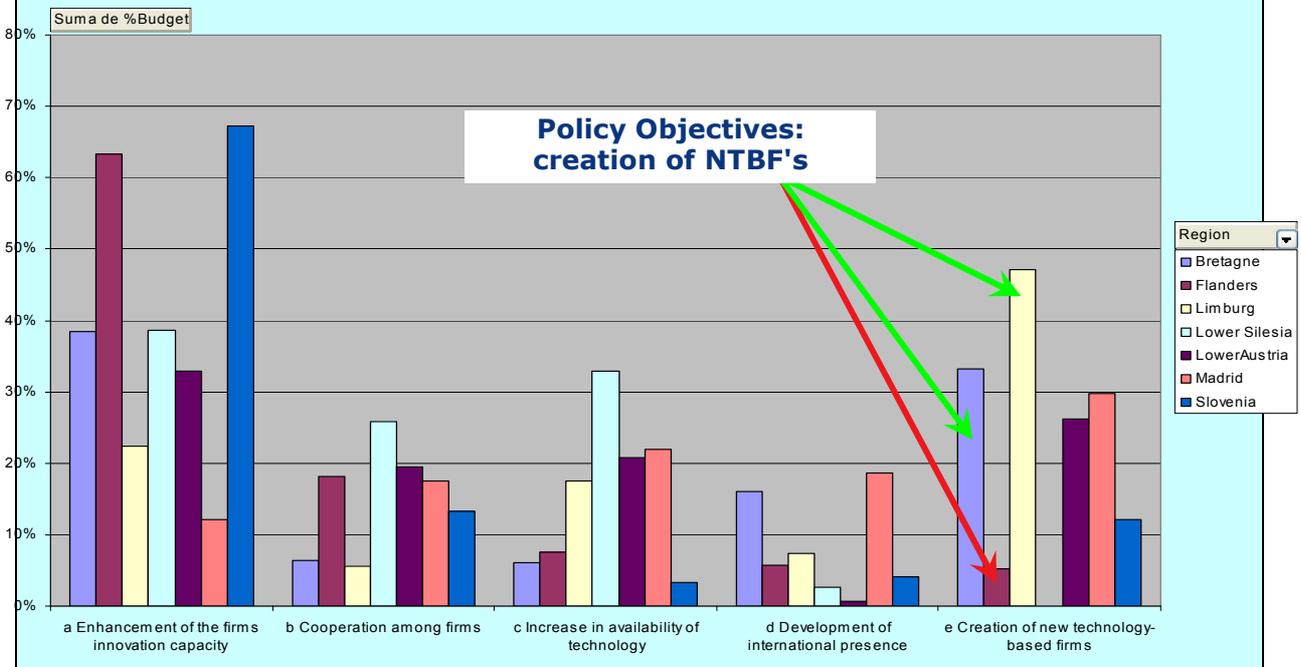
M1: Support to creation of NTBF in Madrid

In Madrid the Administration does not spend high amounts of funds directly in financing the creation of new innovative companies, in comparison with the other IMPACTSCAN partner regions. This is because the Regional Government supports the development of this function by other institutions such as universities, research centres and technology or science parks.

Intermediary type (Tous)

M1   Intermediaries vs Policy objectives

Aggregated Budget

Region
- Bretagne
- Flanders
- Limburg
- Madrid
- Niederösterreich
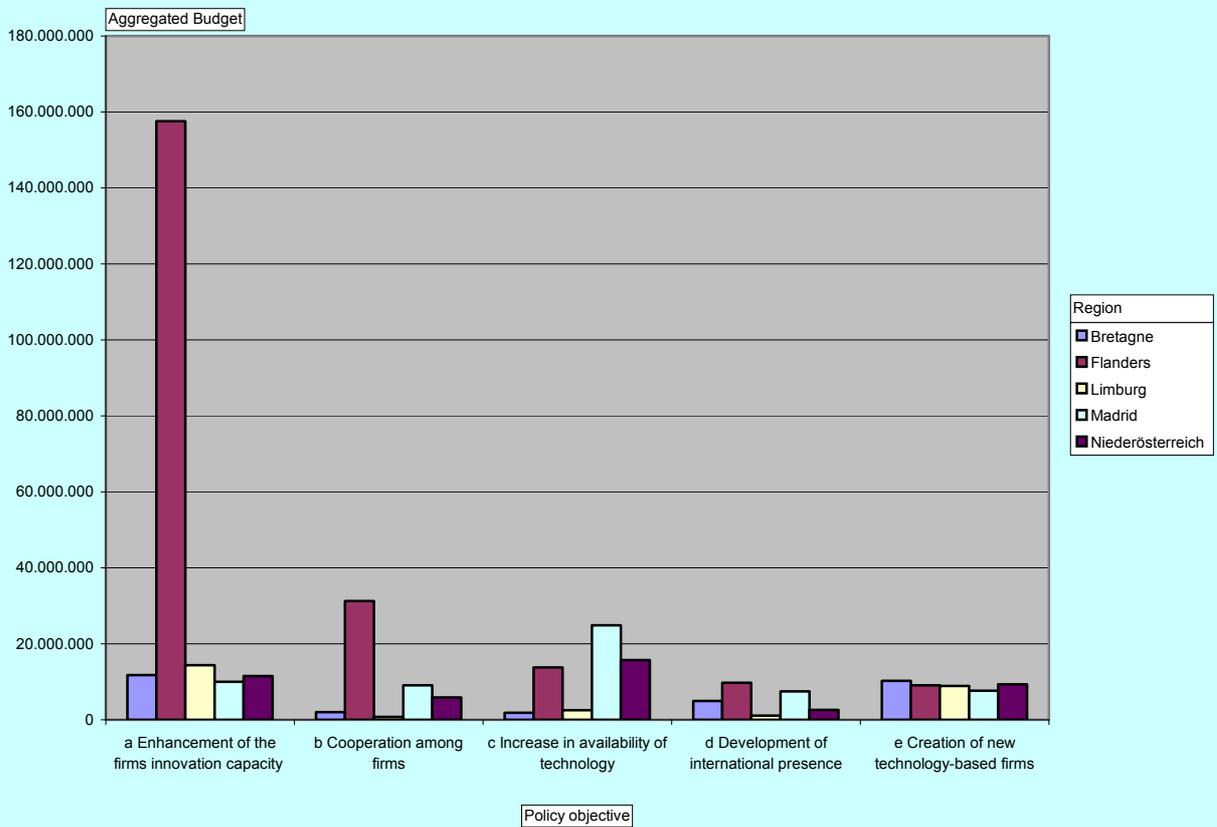
Policy objective

Questions on Intermediaries and Services

- For each policy objective how does the mix of relevant Intermediaries compare between regions? (see examples from Brittany – Lower Austria)

- What are the main differences and similarities in Intermediary-Services combinations between regions? Can we explain these differences? (context?) (see examples from Brittany, Lower Austria and Limburg, and from Lower Austria and Flanders)

- How do the efficiency scores of services compare between regions? How to explain the difference in impact of some services in different regions?

- Are there clear "impact profiles" of the service types? What are the explanations from the regions?

- Etc.

M1: comparing intermediaries between regions – lessons from Brittany and Lower Austria benchmarking

The bilateral benchmarking workshop gathering Brittany and Lower Austria generated a conclusion that having the same "brand" in different regions doesn't mean to deliver the same services – Technopôle is not the same like Technopol Programme: in Brittany and Lower Austria there are service providers acting under the same name, but not offering the same service portfolio.

In Brittany the mission of the "Technopôles" is the expansion of technology companies and particularly the stimulation of technology oriented start-ups within the Science Parks which are managed by the Technopôles. Technopôles help start-ups to structure their projects (key stages) and ensure project coherence through overall project monitoring. They provide assistance for new corporate leaders throughout the start-up phase and introduce them into the Park network.. If we take the overall activity portfolio Brittany's "Technopôles" deliver different services, targeting different business type and start up founders with different backgrounds (some manage cluster initiatives, other are working much more like small local development agency and manage local funds…) nevertheless regarding the budget taken into account in IMPACTscan and consequently what is financed by the regional government all "Technopôles" have the same mission: the start-up creation support is a core common activity.

The scope of the Lower Austrian Technopol Program is to promote technology and to reinforce the international competitiveness and position of Lower Austria in Europe as a modern centre of the technology industry. Each Technopol combines Research and university training with a business park in one location: direct technology transfer from science to business – and fundament for the future of R&D oriented innovation. Every Technopol has an own active on-site Technopol Manager bringing together applied research projects, Technopol-based research institutes and companies but with less focus on the academic and technology oriented start-up support which is provided by other service providers.

Therefore one conclusion for carrying out inter-regional benchmarking activities is not to limit the comparison of names/types of organisations active in the innovation support but to carry out a more detailed analysis of the individual services.

Policy result: using IMPACTSCAN to legitimise changes in the Slovene system

Slovenia used M2 to compare total staff involved in types of activities (e.g. advice): this provides a benchmark from other regions. Slovenia uses this to argue for downsizing the system. Using IMPACTSCAN for legitimising changes in one system is an approach that worked very well for Slovenia.

M2: comparing services types between regions – lessons from Brittany, Limburg and Lower Austria benchmarking

M2% Services vs Intermediaries
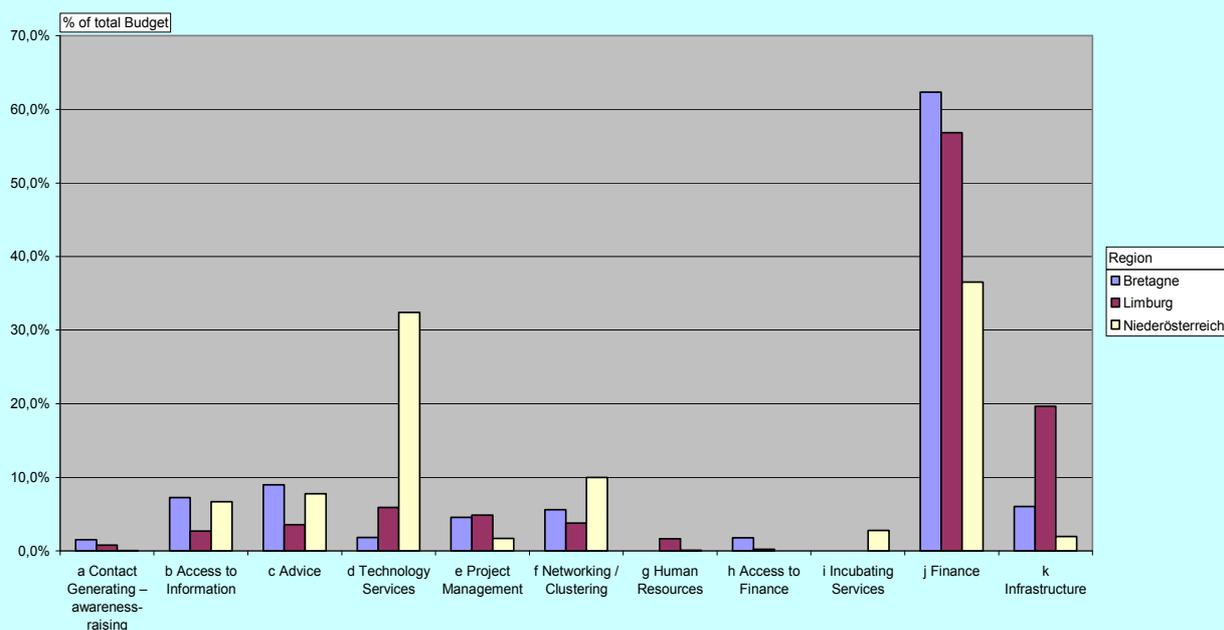
Brittany and Lower Austria have quite similar service mix available at the regional level, the differences with Limburg are bigger. On this graphic the focus of Brittany on the mission of public interest on "awareness-raising", "access to info" and 'advice' as well as support in "project management" is made quite clear. It is interesting to see what kinds of intermediaries are involved in Lower Austria for similar service delivery.

"Access to finance" is an important aspect of intermediaries' mission in Brittany. It is interesting to have the description of the respective content for "finance" in each regional context because huge amount of money is a stake.

The low score for Brittany concerning "technology services" needs to be explained to avoid misunderstanding, this graphic triggered highly interesting discussion regarding the technology-based innovation support in the respective regions.

M2: comparing relative budget shares over services – Lower Austria's analysis and comparison with Flanders

Comparing the split of Lower Austria (NÖ)'s regional budget over service types with the other IMPACTSCAN partner regions shows a noticeable well-balanced budget share over all IMPACTSCAN service categories:

The highest share for technology related services of all IMPACTSCAN regions is reflecting the specific attention the Lower Austrian government is paying for increase of the public R&D activities.
Also with respect to "Incubating Services" Lower Austria is posting the highest share, which is also based on the fact that Lower Austria's "Incubating services" provided by the "RIZ" are following a broad approach including innovative start-ups, but not as a focus.
For the service types "advice" and "networking/clustering" the situation is different: The respective NÖ services have a strong focus on innovation by providing specific services and therefore in both cases the NÖ budget shares come second among the IMPACTSCAN sample.

M2: Budget distribution over the service types
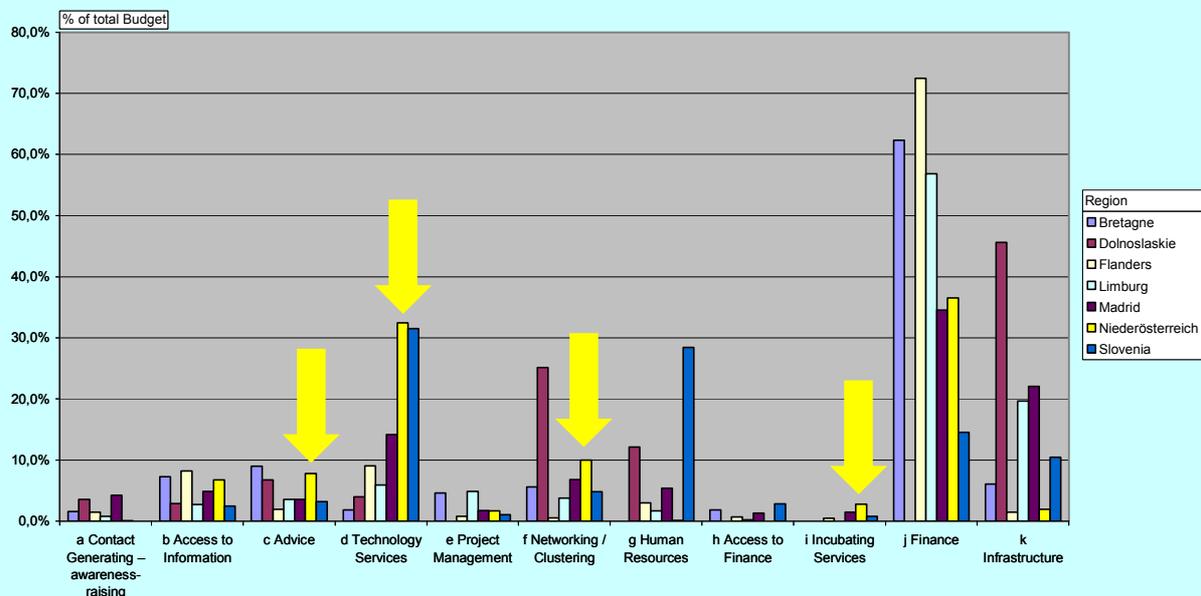
The main reason for this high performance regarding the mentioned service types and the overall well balanced budget shares is mainly rooted in the fact that Lower Austria is not allocating such a huge budget share to "Finance" as the partner regions Brittany, Flanders and Limburg are doing neither to "Infrastructure" as Dolnoslaskie (Lower Silesia) is doing.
Nevertheless Lower Austria notes its highest budget share for the service type "Finance" also like further 4 out of the 6 IMPACTSCAN partner regions.

A focus for the inter-regional benchmarking on absolute figures from regional level only, may lead to misinterpretation: Flanders has very high expenditures for policy objective "Enhancement of firms' innovation capacity" in absolute figures, and most of the budget is direct funding from administration (approx. 133 Mio €). There is no additional national budget, due to the distribution of competences in the federal state of Belgium (innovation policy is fully regionalised). In comparison the Lower Austrian government is spending for direct funding approx. 10 Mio €, further 25 Mio € are coming from the national side, thus in total 35 Mio €. With respect to the population of both regions (Flanders: approx. 6 Mio inhabitants, Lower Austria approx. 1,6 Mio inhabitants) a similar amount of direct funding for the enhancement of firms' innovation capacity per inhabitant is spent in both regions even though the absolute figures are leading to different interpretation.

M2 – Comparing budgetary allocations to services from a Limburg perspective

M2 highlights that that the largest part of the money (57%) is delivered via direct financial contributions to the companies. This is also the case in Flanders (72%) and in Brittany (62%). On average 40% is spent by directly financing company innovations.

Limburg spends more than average on the services 'infrastructure' (20%) and 'project management' (5%). The rest of the budget percentages are below average. 'Technology services' are only 8% of the budget in Limburg against 14% average. Especially Lower Austria spends a large part of its money on 'technology services'.

Besides that it is noteworthy to point out that no regional money is put in the services 'access to finance' and 'incubating services' in Limburg. In other regions the service 'access to finance' is part of the activities of certain intermediaries. In some cases regional and national authorities work together to (help) finance innovation plans of companies.

Limburg has one incubator building for life-sciences. 'Incubating services' are delivered on a commercial basis.

The low Limburg budget for 'contact generating/awareness raising' can be explained by the fact that this service is delivered by Syntens with national money.

Intermediary type [Alle categorieën]

M2% Services vs Intermediaries
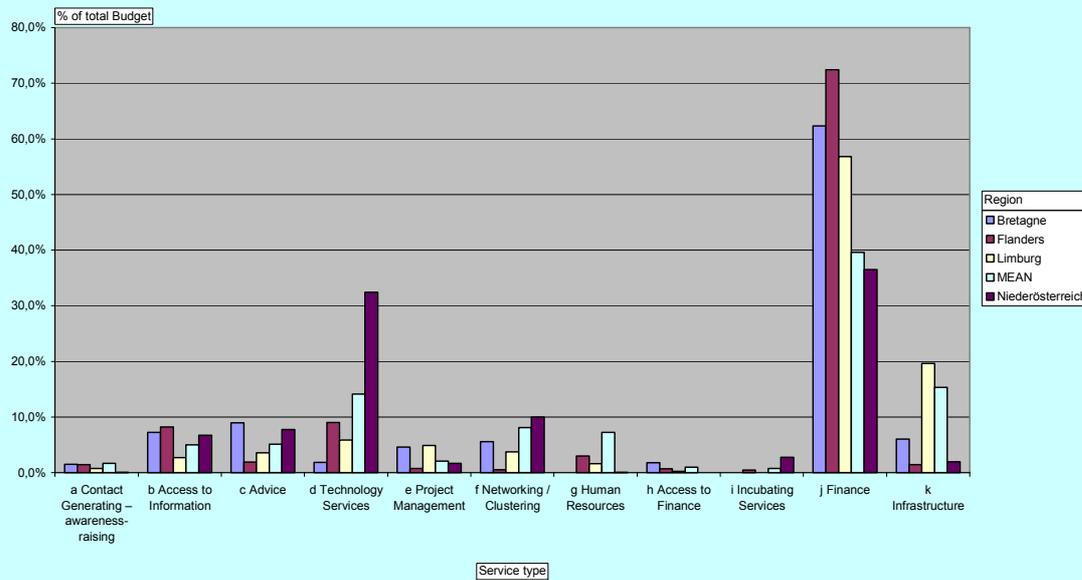
M3: comparing firms opinions on innovation services Madrid - Flanders

When analysing opinions of the firms in Madrid firms on the effect of innovation services on innovation enablers, both information access (consultancy and advice related to technology, finance, markets, etc.) and direct public financial support are the best appreciated services.

Compared to regions like Flanders, information access support is better evaluated by firms in Madrid, while the financial resources are highly appreciated in both regions.

| Innovation enabler | d Financial Resources |

M3   Innovation enablers vs Services
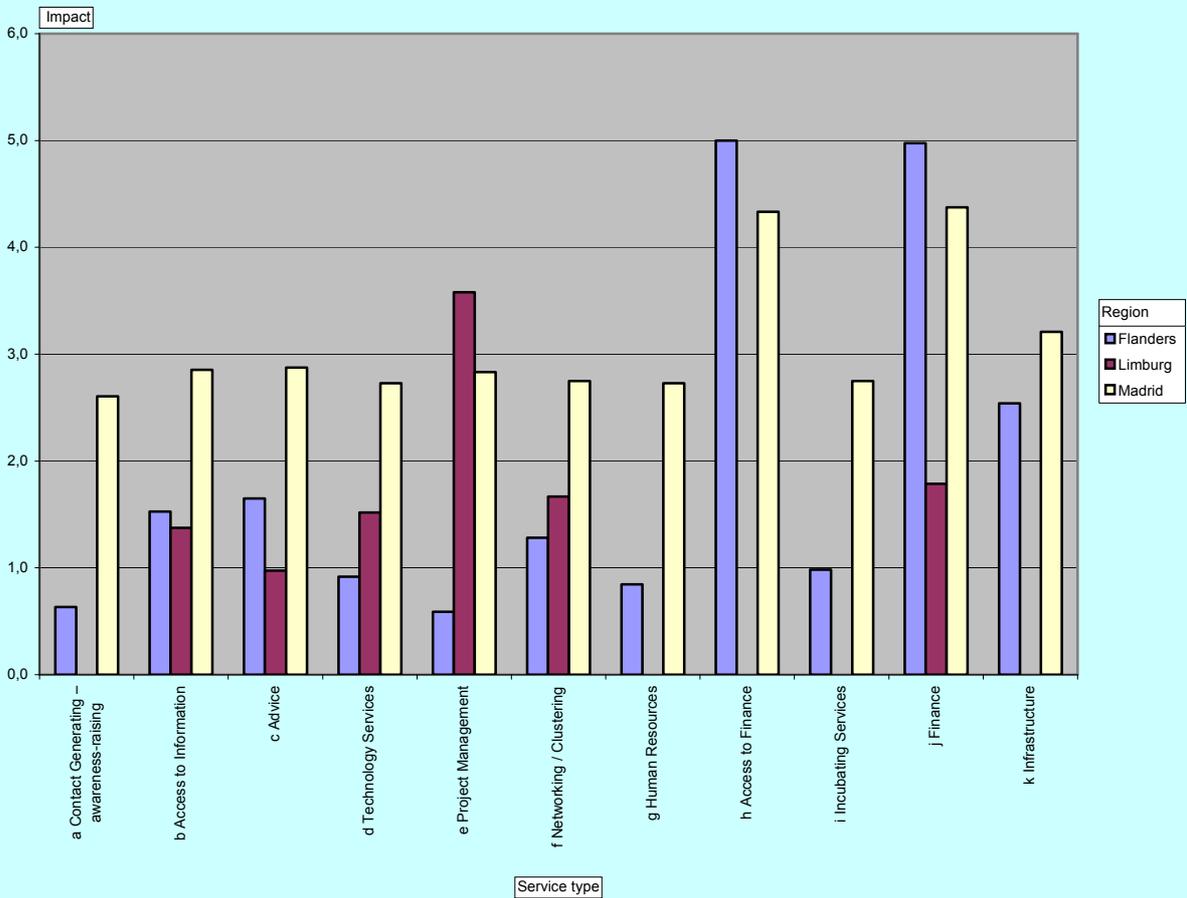
7.3. Further work following the use of IMPACTSCAN

The use of IMPACTSCAN in the pilot regions generated some new activities to fine-tune or go deeper into the analyses provided by IMPACTSCAN. Examples of these further expansions are given in the boxes below.

Brittany : IMPACTSCAN as a building block of the Regional Innovation Strategy

The results of the IMPACTSCAN project – analysis of the support offer financed by the regional government (budget and policy), analysis of the intermediary support and analysis of impact are going to be further exploited and commented all along the collaborative elaboration process of the first Regional Innovation Plan for Brittany.

5 working groups have been set up
- Innovation culture and awareness-raising
- R&D
- Internationalisation of innovation
- Commercialisation and industrialisation of innovation and knowledge
- Innovation policy governance

The elaboration process follows up three phases
-validation of the diagnosis
-validation of main corner pillars and objectives for the plan
-validation of an operational action plan with concrete measures, schemes and corresponding funding systems

This elaboration of a RIP has been initiated by the Regional Council of Brittany in agreement with the State / Prefecture. This plan will concern and involve all innovation support stakeholders but also all entities funding innovation support at each institutional levels : State, Region, Cities and Counties/department. Brittany Innovation, as part of the Regional Development Agency is in charge of the operational organisation of the plan elaboration process. The document is to be voted by the Regional Council of Brittany in September 2008.

The preparatory work on the diagnosis fully uses IMPACTSCAN outcomes. Nevertheless, to get a comprehensive diagnosis covering the overall innovation support on the regional territory, we need to collect data from some entities not taken into account in the Impactscan scope limited to the innovation infrastructure financed or cofinanced by the Regional government. To carry out the additional data collection and processing, Brittany Innovation is going to use the Impactscan methodology. Consequently appropriate questionnaires have been set up and sent to State and the Regional delegation of national ministries (DRRT, DRIRE), OSEO, 10 cities, 4 counties as well as the Regional consular chambers. In the following weeks interviews should also take place.
In parallel, the current data table for M1 is going to be updated with the regional government's 2006 Primitive budget. We will add to this an estimation of FTE involved in the implementation of the innovation policy in the regional Administration itself.

Some intermediaries not taken into account in IMPACTSCAN should also be interviewed.

During the elaboration of the RIP the issues raised by the IMPACTSCAN exercise are going to be addressed
For instance:
- In depth discussion about the daily work of intermediaries and their practices of networking and collaboration. For instance we should get more insight in the service covered by the term "project management" support (≠ advice).
- Brainstorming and proposals regarding the weaknesses and gaps underlined in Matrix 3 for Brittany
Basis for recommendations and focus in the action plan.

Further work using IMPACTSCAN in Limburg

To be able to truly benefit from the results of the IMPACTSCAN project it is necessary to repeat the same exercise several years. Since the method and the required tools are developed it is expected that data gathering next time will take a lot less effort than during the IMPACTSCAN project. By using the method over a longer period of time, we can learn what effects different changes in the services offer have on perceived impact in the companies.

From the results of the IMPACTSCAN project we derive following recommendations for future policy development:

Formulate innovation policy objectives out of context setting analysis.

Translate innovation policy objectives into desirable impact on companies in terms of innovation enablers. Use input from experts (Syntens, LIOF, others) and SME's in the process.

Choose the best services with desired impact for chosen policy objectives by analysing the results of regularly performed impact measurements.

Consider the possible value of new services by estimating the expected impact of the service on the innovation enablers of the companies.

Support further development of the IMPACTSCAN method to correlate impact on enablers to outcome parameters (Bevos).

Keep comparing data and results obtained through IMPACTSCAN with the IMPACTSCAN regions.

Find new regions in Europe and/or in the Netherlands that have a comparable context setting or that are interesting to Limburg for other reasons that are willing to do the IMPACTSCAN exercise in order to make new interesting comparisons.

Establishing a policy monitoring system in Lower Silesia

Work on IMPACTSCAN in Lower Silesia made it clear that the regional innovation system was in need of better governance and a monitoring system in order to adjust the policies. This involves:

-institutional coordination (to coordinate/advise innovation projects and distribution of finances)
-monitoring and evaluation of the projects results, tracing money flows from source to intermediary to "customer" (the firms)
-information platform for all the actors involved (building the map of intermediaries and their portfolio of services should be part of coordination activities). This would throw light on questions such as:
who are the intermediaries, what is the precise nature of their work? what R&D infrastructure is available for SME projects/services? What are the flows of funding national/regional? Do the intermediaries specialise in thematic programmes, are the various types of intermediaries represented? How many people are working on innovation missions in the intermediary organisations? Are they dealing with first steps of the innovation projects (prototypes), and support in later stages (market ready product)? Etc.

M3: comparing views of suppliers and users of innovation services in Brittany

In Brittany, the team carried out the exercise and the data collection to get the perception of SMES as well as the perception of intermediaries on the impact of support activities. From this work, two results were delivered to the Regional Council of Brittany.
        1. Graphics of the perception given by an intermediary category on their own support impact (addition of the scores of all members of an intermediary type);
        2. Graphics of the perception of firms' beneficiary of the services delivered by this respective intermediary type.

This allowed a comparison between both perceptions, which showed that intermediaries are in general more positive than firms with regard to their impact on innovation enablers in firms.

Annual update of IMPACTSCAN and regional extensions in Spain

Madrid intends to further use the tool capabilities to improve detail, measurement of innovation policies, aimed to increase information and transparency of regional policies.

Plans are underway to define a regular survey methodology allowing the yearly collection of data related to impact of innovation policies on regional firms.

Comparison with other Spanish regions at national level is also envisaged. This would require the identification of best practices, improvement of data quality and implementation of common analytical approaches.

Further study on services impact in Flanders

Following work with IMPACTSCAN, Flanders has a larger scale study in preparation about 'How to improve the ROI2 of the tax money spend on innovation support services and IWT-products by Intermediaries'. This study will involve:
•Detailed analysis of company innovation support needs
•Detailed study about the use and non-use of currently available innovation support services and products
•Study of image, barriers, …
•Matching Supply – Demand (IMPACTSCAN Framework)
•Action and Marketing plan (taking into account inter-regional best practices)

Improvement in data collection in Slovenia and a new INTERREG project ?

The key problem of tool execution, that the Project Management Team and the Expert Team of City of Ljubljana faced, was the acquisition of appropriate and sufficiently objective data. To a large extent one had to rely upon the expert knowledge of collaborating teams and adoption of matrices as for available information. With regular and systematic gathering of budget data beforehand, with corresponding collaboration of intermediaries and regular inquiries among the latter and among firms the quality of the IMPACTSCAN tool can be essentially upgraded. In this way the tool becomes a strong support at setting up measures in the field of innovation policy. Beside improvement of the list (enlistment) of data it is necessary to continue the work with regard to the methodology and definition of individual categories, which has to be upgraded mainly in the direction of "closing" of possible subjective interpretations and judgments.

Based on experiences gained so far, it would be very reasonable that a specific inquiry among users of services offered by intermediaries would be carried out in order to get data for M3. For implementation of IMPACTSCAN in long-term we should reach the following goal: each receiver of support should be obliged to report not only on spending of finances but should also answer the IMPACTSCAN inquiry. In this way we would get a database of answers for M3 and would gradually overcome deficiency of reliability of data. In the next phase the Slovene Project team will also complement the methodology of assessment of impact of individual service on innovation enabler and consecutively on innovation capability of a firm, so that a united criterion for ponders will be used at each calculation of M3.

The Project Management team together with the Team of experts has identified a big potential of the IMPACTSCAN methodology and tool as well as for the City of Ljubljana and Slovenia as for other regions in the New Member States (NMS), therefore it has started with preparation of a new EU project (acronym: NMS INNO JUMP) within the INTERREG IVC programme. This project means continuation – upgrade of the IMPACTSCAN project. All project partners/regions will prepare their own Action Plans as the final project results.

Impact assessment of individual services versus impact assessment of summarised service categories
Lower Austria and Flanders

For M3 and the comparison with the IMPACTSCAN partner regions, Lower Austria has aggregated the single impact scores of the individual services to average scores for the defined service categories with the consequence that the profiles of the service categories as less meaningful than of the individual services because the calculation of an average over several services is equalling the individual particularities and thus the whole service profile. The problem of unambiguous allocation of single services into service categories leads also to information loss by aggregating individual scores.

Therefore Lower Austria has chosen to gather and to analyse the information and impact for individual services and to aggregate the findings in a last step in order to allow a comparison with other regions on the individual as well as on the aggregated level. In the framework of Lower Austria with approx. 30 relevant innovation support services the individual approach is feasible but for regions with a much higher number of service providers and services the Lower Austrian approach cannot be carried out for the short term but could be developed and implemented with a long term perspective as part of a continuous monitoring of the impact of the regional innovation policy and single services.

Within their bilateral meeting Flanders and Lower Austria have agreed that information gathering and impact assessment for individual services are of interest for innovation policy with respect to strategy finding and monitoring of individual services and individual intermediaries.

8. FINAL WORDS FROM PILOT REGIONS

Through the participation of Brittany Innovation into the project, the IMPACTSCAN exercise has enabled the Regional Council of **Brittany**:

To draw a clearer picture of a complex regional innovation support system;

To identify strengths and weaknesses of its regional context (and to use a visual tool shared by several European partners : the context setting radar diagram);

To analyze new quantitative and qualitative data through the participation of about 30 intermediaries;

To appreciate also what kind of data are not available or very difficult to access within intermediaries for the moment;

To develop questionnaires and interview methodologies towards SMEs (collecting regional data on innovation process, needs and perception on the regional support offer);

To prepare and carry out concrete interregional benchmarking exercises and raise awareness about the importance to position the Region within a national but also European context to draw up relevant vision of strengths and weaknesses and give basis for the policy improvement

To test an assessment methodology, to develop and use a simple and user-friendly tool to prepare and carry out bilateral meeting for interregional comparison and trigger discussion on regional practices and results;

To learn from European partners about their innovation support infrastructure and the ways regional governments have been monitoring innovation support activities and policy;

To develop a regional reflection about the current knowledge management process and assessment tools used in the Region (by policy-makers and on the ground level by intermediaries);

To have a solid contribution to launch a regional debate to write down the first "innovation plan for Brittany".

With IMPACTSCAN as "facilitating project" it was the first time that the **Lower Austrian** government has gathered economic and innovation services related information in this broad and structured way. The result is among other things a good transparency of the provided resources for regional innovation support (regarding budget, human resources, qualitative and quantitative impact). Many of these monitoring activities will not only continue in the future like the NÖ Innovation Index or the enlargement of CIS survey for regional analyses, but will be further developed in the future.

Furthermore IMPACTSCAN results are an important input for strategy development of intermediaries and initiate open discussions between the regional government and the service providers as the last months have already shown.

The indicators and monitoring methodologies applied by the Lower Austrian government will become an inherent part of the overall "Wirtschaftskonzept Niederösterreich" (economic concept of Lower Austria) which is dealing with economic policy in a broad way with integration of the regional innovation policy. This concept is just being developed applying the Balanced Scorecard Methodology (BSC).

Last but not least Lower Austria's benchmark activities have increased the interest of the other Austrian Bundesländer for national wide benchmark activities which will start in 2008.

Key conclusions of the project for **Slovenia** are as follows:

The IMPACTSCAN Tool has good quality for evaluation of intermediaries and measures in the field of innovation policy.

Regular collection and processing of necessary data on the national level (in national institutions that finance various institutions and measures for encouraging/stimulating of innovation) and systematic data collection in enterprises would lead to improvement of the tool. Consecutively the tool can become very useful for innovation policy makers.

The IMPACTSCAN Tool was designed within the EU (inter-regional) project, which enables transfer of good practices. By using the IMPACTSCAN Tool a system of regular monitoring and complete evaluation of impact of the innovation policy is restored. This is very positive, as Slovenia does not have one, yet.

To sum up, the IMPACTSCAN tool has been found extremely useful for policy makers in Slovenia, as this was the first time that an offer of supporting services had been related in such an innovative way to the appraisal of the innovation capability of firms. Each phase of the analysis already gives instructions how to set up supporting measures and to locate the most obvious deficiency, either of financial (i.e. an existing service inadequately supported) or organizational nature (i.e. a needed service is not provided by any intermediary or it is provided by several intermediaries but at a very poor level and certain co-ordination or joining of sources would be needed).

In the environment, where the tool has been used in whole because of better availability of data, new measurements for stimulating innovation activities in firms have been already put into force based on the results of the tool.

By developing a policy intelligence tool for regional innovation policy in the format of a monitoring and impact assessment system, **Flemish** regional authorities got a clearer picture of public support to innovation in their region and can take decisions to improve the effectiveness of this support system.

Due to the bottom-up approach over years, the current regional innovation support infrastructure and system is complex and diverse. A wide range of innovation actors are deploying services through multiple innovation support initiatives. How they are fulfilling the preset innovation policy objectives and whether their offerings match firms' needs are not exactly known. Monitoring the intermediaries' initiatives by the RAP-tool (result oriented reporting) as well as measuring direct and indirect effects of services offered to firms is certainly a step in the right direction. This is now complemented by the IMPACTSCAN policy intelligence tool allowing both regional self-assessment as inter-regional benchmarking.

In a certain sense, the tool strengthens the regional authorities as the promoters of the regional innovation process taking place in firms.

The challenging dimension is to build on commitment of key regional actors to ensure that an impact assessment culture is implanted in the region and that it becomes an integrated part of innovation policy.

The recommendations and suggestions drawn in **Madrid** after two years spent collecting and analysing information to implement the IMPACTSCAN pilot tool, are the following:

First, Madrid requires improved and more detailed statistical data on regional innovation processes at regional level.

Second, it is necessary to work with comparable annual series and maintaining an innovation budget split by policy objectives.

Last, in order to upgrade the usefulness of the IMPACTSCAN tool, it would need ideally to be implemented at European Union scale using the normalised concepts (Intermediary, Services types, Enablers, Policy objectives, etc).

The IMPACTSCAN project has helped the Province of **Limburg** to:
- Confirm the directions chosen in current innovation policy
- Develop an improved monitoring system based on innovation enablers
- Have a framework to consider the possible value of new services by estimating the expected impact of the services on the companies.

Moreover it has helped Syntens as an intermediary and project partner to:
- Better understand the regional intermediary system and their own position in it
- Strengthen its capability of supporting regional government in formulating policy goals and related services
- Identify possible new services
- Improve their tools and knowledge on a national level
- Gain experience in a European project, understanding regional differences and discovering similarities in innovation support systems and services.

IMPACTSCAN first can be used as a tool for designing innovation policy in **Lower Silesia**, rather than measuring its impact. It is useful to establish connections between policies and different financial resources to cover the objectives of various policy documents, which are today dispersed.

The tool may also help in designing the innovation intermediaries support system: Lower Silesia has a lack of some services as defined in IMPACTSCAN: innovation project management; technology services, incubating services, and also direct funding should be incorporated in regional innovation portfolio of services. With small "easy money" a start could be taken to build trust and innovation culture.

IMPACTSCAN helped to deploy in Lower Silesia the concept of closing the loop between creating policy documents, and SMEs' needs and evaluation of services for SME delivered through various projects within operational Programmes schemes.

The IMPACTSCAN tool brought about the requirement for gathering regional data in systematic manner; macro economy indicators together with companies needs and evaluation of the innovation potential including direct financing. However measuring impact of services is very difficult because most of the projects have not been finalised yet.

The set of policy objectives used as a benchmark becomes the reference for the regional policy objectives, financed from different resources, operating for the region but not necessarily distributed in the region.

ANNEX: STRUCTURE for COMPANY FIELD SURVEY

This annex includes a sample structure for questionnaire for the field survey on firms, to be used for defining scores for Matrix3.

Part 1. Identification of company

Generic: name, address, function of respondent, year of creation, sector, size (employees), turnover

Type: SME, Start-up (1-5 years), part of (multinational) corporation, member of cluster.

Part 2: R&D and innovation behaviour

Involvement in R&D activities (share of turnover and employees devoted to R&D), % RD staff

Involvement in innovation activities: overall intensity and type of innovation, degree of cooperation in innovation.

Part 3: Degree of externalisation of innovation activity

List of IMPACTSCAN services. For each service, rating of: 1) intensity of need for the service; 2) internal or external response to the need; 3) when no external response: reasons for non-externalisation; 4) when external response, intensity of use of the service.

Part 4: Visibility and use of regional intermediary infrastructure

List of IMPACTSCAN regional intermediaries adding others such as universities, research centres, private service companies and banks. For each intermediary, rating of :1) visibility[1]; 2) existing cooperation[2]; 3) degree of satisfaction with cooperation

Extent of cooperation within the region versus outside the region: list of national and international cooperation sources: 1) visibility; 2) existing cooperation; 3) degree of satisfaction with cooperation.

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[1] Does the company know this intermediary ?
[2] Two levels: has the company already contacted the intermediary; has the company already been beneficiary of the service ?

Part 5: Legibility[3] of regional intermediary infrastructure

Association between IMPACTSCAN intermediaries and services: 1) for each intermediary, rank up to 3 services perceived as being its main activity(ies); 2) for each service, name up to 3 intermediaries which you would contact in case of need for this service.

Part 6: Effectiveness of regional intermediary infrastructure

List of IMPACTSCAN enablers. For each enabler, 1) self-rating of company's strength; 2) ranking of up to 3 most relevant[4] services from IMPACTSCAN list of services; 3) ranking of up to 3 most relevant intermediaries from IMPACTSCAN list of intermediaries. For clients only: 4) rating of *impact* of the services[5] used on enabler and 5) rating of *impact* of the intermediaries used on enabler.

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[3] Does the company understand the activity of the intermediary ?
[4] Which type of services does the company find most useful in order to increase its capability in ...(each enabler) ?
[5] Chose up to 3 services used which have an expected impact on the enabler.