



Sociedade Portuguesa de Inovação



Estudo de *Avaliação* da *Estratégia* e do Processo de Implementação das EEC – tipologia *Clusters*

Volume II
Cluster Policies in Europe
Benchmarking report

Cluster Policies in Europe - Benchmarking report

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1. Introduction

1.1. Scope of the work

This benchmarking exercise is part of the Portuguese National *Cluster* programme evaluation study commissioned from SPI and inno TSD.

The aim of the benchmarking report is therefore complementary to the main evaluation exercise and seeks to provide a series of “policy and practice best practices” based on five cases that can be used to illustrate evaluative questions and help shape the future *Cluster* policy choices. This document does **NOT** therefore seek to present a comprehensive review and description of the five selected *Cluster* policies.

Nevertheless a standard template has been used (see below) for each policy practice to facilitate the general understanding and then the analysis and presentation zoom in on specific aspects that have been agreed as being of specific interest. This template covers the following aspects:

- Cluster programme (description and main policy objectives);
- Cluster organizations (nature of the Clusters and governance models, financing instruments for the management of the Cluster, evaluation models, etc.);
- Cluster cooptation (interactions between the members of the Cluster – companies, R&D institutions and universities; and with other Clusters);
- Cluster performance (R&D activities, exports, qualification and training, etc.);
- Cluster impact (internationalization, territorial development, innovation system, scientific and technological system, etc.);
- Identification of key lessons.

This document includes a final section which seeks to draw out some key overarching messages based on the five case studies.

Both the template and the five cases were approved by the project steering group during a video conference call in which a number of alternative cases studies were reviewed before selecting the five cases.

1.2. Rationale for the selection

The table below presents the best practices that have been selected and summarises, for each best practice, the rationale for its selection:

	Best practice name	Rationale for selection
National Cluster programmes	Pôles de compétitivité (France)	<ul style="list-style-type: none"> • clear policy objective (focus on collaborative research) • long track record (since 2006) • large number of <i>Clusters</i> (70) financed in various sectors • proven results (already two evaluations)
	Vinnväxt (Sweden)	<ul style="list-style-type: none"> • recently relaunched <i>Cluster</i> policy • long term incentives provided to <i>Clusters</i> (8 years) • strong innovation agency: VINNOVA
	Hungarian Pole Programme (Hungary)	<ul style="list-style-type: none"> • emerging country with a well settled <i>Cluster</i> policy • dedicated accreditation system • dedicated <i>Cluster</i> agency: MAG
Regional Cluster programmes	Baden Württemberg Cluster programme (Germany)	<ul style="list-style-type: none"> • mature regional <i>Cluster</i> policy • implementation of the accreditation system linked to European best practice initiatives • an agency specialised in certain fields: MFG • <i>Cluster Atlas</i>

	PRIDES (PACA region, France)	<ul style="list-style-type: none">• well settled regional <i>Cluster</i> policy• currently being exploited to develop Smart Specialisation strategy• social and environmental dimension• support for internationalisation
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1.3. Methodology

The material used for this report has been principally derived from two sources:

- Review of existing literature and desk-internet research (see Annex 1: bibliography);
- Telephone and face to face interviews and exchanges with individuals involved in developing and implementing the Cluster policies and actions (see Annex 2: list of the persons interviewed).

2. Pôles de compétitivité (French national Cluster programme)

The *Pôles de compétitivité* are *Clusters* which have been given a label and are supported by a range of incentives as part of the French national *Cluster* policy.

The *Pôles de compétitivité* programme is one of the most advanced *Cluster* programmes in Europe. Indeed, the programme funds today more 70 *Clusters*

covering the most of innovative sectors (biotechnologies, aerospace, nanotechnologies, ICT, automotive...) but also more traditional ones (food, packaging, textiles, marine technologies...) with the objective of federating *Clusters* members around research focused projects in order to improve the competitiveness of the French industry. Some of these *Clusters* have shown very positive results in terms of indicators (patents, growth, exportations, etc.), some have even become world-class *Clusters* and are starting to have a strong visibility on the international stage. It finally benefits from a long track record: implemented in 2006, it has launched already two calls for proposals for the funding of the selected *Clusters*, and has been evaluated twice.



We have chosen to focus on the description of the programme itself since we consider it as a model, including the description of one of its most successful *Clusters*: Systematic Paris Region, a world-class *Cluster* in the ICT field, and on the evaluation processes (and indicators used for the evaluation).

2.1. Cluster programme

2.1.1 Objectives

The main objectives of the *Pôles de compétitivité* programme are threefold:

- Create a research and innovation led ecosystem based on enhanced collaboration between companies, research and training organisations;
- Support innovation led business development;
- Enhance the industrial attractiveness and internationalisation of both pôles and their territories.

The programme was officially launched in 2004 by an inter-ministerial working group bringing together the French Ministries of Economy (DGCIS) and of Territorial Development (DATAR) in order to foster

competitiveness and innovation at the national level. Other Ministries and agencies are involved as shown below:

- Ministries of industry, research (main funder), agriculture, defence, transport, health;
- ANR (national agency for research);
- ADEME (national agency for energy);
- OSEO (financial support for SMEs and innovation) and responsible for the project contracting phase;
- Caisse des Dépôts (public bank for SMEs).

2.1.2 Description and mechanisms

A first national bid aiming at funding the *Cluster* organisations was launched in 2005, leading to the selection of 66 *Pôles de compétitivité* out of 105 proposals. Today, and following the second national bid, France has 71 *Pôles de compétitivité*. They cover a diverse set of economic sectors such as ICT, biotechnologies & health, aerospace, automotive, nanotechnologies, food and environment/water.

These *Clusters*, gathering innovative companies with high growth potential, public research centres and educational institutions have as their main objective the initiation and coordination of collaborative RDI projects between their members, providing shared services through innovation platforms, animation to the *Cluster* ecosystem, training, events, technology monitoring and developing interactions with other *Clusters* and their members.

On the basis of two calls for proposals per year, the governance of each *pôle de compétitivité* composed of technical experts pre-select collaborative RDI projects developed by their members that are to be submitted to the inter-ministerial fund and provides



Figure 1 - the last *Pôles de compétitivité* map.

them with a “Cluster label”. The *Cluster* organisation is not responsible for the management and implementation of the RDI projects but supports the project during its development phase, searching for partners, and ensuring – increasingly – the transnational activities between *Clusters*. The project development process is thus a bottom up approach based on the innovation and research needs of the members.

More recently, the French national authorities have asked the *Cluster* organisations to define more precisely their 3-5 year strategy through a *contrat de performance* (road map), indicating their objectives. The governance of each *Cluster* sets a roadmap setting giving technical priorities to the *Cluster* projects.

The projects funded are mostly R&D projects but the poles support company investment projects through a label called “Entreprise innovante des poles” attributed to certain *Pôles de compétitivité* in order them to facilitate the access to private investments for their members.

In addition to funding support for the management of the *pôles* (some 50M€ has been spent between 2005-11) the *Pôles de compétitivité* have access to a number of financial incentives, some such as the FUI (Unique Inter Ministerial Fund) are solely dedicated to the Pôle Programme. Other important ones include the ANR (national research agency) OSEO and access to funding via “competitions” supported by the Investissements d’Avenir Programme (Future Investments Programme) such as the IRT (Institutes of Technology Research), Innovation Platforms etc. Regional and local authorities also co-fund a number of the collaborative projects. Company R&D investment projects located in specific zones can also be supported via grants.

2.1.3 Statistics

Some key indicators of the nature of the *pôles* are provided below:

- Average number of members per pole: 187 (2011) with 80% of enterprises being SMEs;
- Average staff by pole: 11 FTE of which 8 persons receive a salary;
- Average budget of 1,09M€;
- The current balance between public/private funding of Cluster governance structures is 70/30.

2.2. A successful *Cluster* organisation: Systematic Paris-Region

As an illustration of the activities of the *Pôles de compétitivité* we have chosen to describe the *Cluster* Systematic Paris-



Region which is one of the most important *pôles de compétitivité* (in terms of membership and volume of projects), and it falls within the world-class *Cluster* category.

Created in 2005, Systematic is a *Cluster* devoted to complex systems with more than 650 key players in the Paris region area. The main sectoral focus of members lies in the field of software-dominant systems with a strong industrial and societal dimension. More than 600 organisations are involved in the R&D network of the *Cluster*: 366 SMEs, 116 large firms establishments, 24 ETI (medium-sized enterprises), 79 research centres and training establishments, 19 local authorities and 15 investors.

At the heart of digital revolution, the goal of Systematic is to develop the regional economy, boost the competitiveness of local companies and support employment growth by leveraging innovation, training and partnership opportunities.

To date the Systematic *Cluster* has developed 318 R&D projects, an investment of €1,4 billion including €520 million funded by the French Government, its agencies (National Research Agency and OSEO) and from the Paris-Region local governments.

In addition to the funding it received from the French Government (as a *pôle de compétitivité*) Systematic is supported by local authorities, economic development agencies, the French Government and its partners.

The commitment of all the *Clusters'* actors in the “cooperation-competition” creates synergies between SMEs, Large Companies, Research Laboratories and allows the emergence of innovative projects. This cooperative method enables a very strong project dynamic around 6 themes:

- Automotive and Transport;
- Free and Open Source Software;
- Systems Design and Development Tools;
- Telecoms.

The thematic groups evolve according to the priorities, opportunities and interests of the Cluster members. For example in 2012 an additional group, Smart Energy Management, was created. This group has also participated in the creation of a MOU signed between 7 national Clusters interested in Smart energy.

Finally, the Cluster has a strong internationalization strategy and has established concrete partnerships in USA (Boston/MIT), India and China and has organized many SME visits. It has also put in place a dedicated programme (ETI) to support SME “first timers” develop internationalization and technology projects.

2.3. Cluster coopetition

Intra-Cluster cooperation between members of the *pôles* is one of the main *raison d'être* of the programme. Partners will not receive funding unless they collaborate! The incentives provided by the initiative have thus had a major policy impact and breaking down one of the important innovation barriers, namely lack of or poor collaboration. This has been particularly important for SMEs. This was not always the case and the first evaluation undertaken in 2008/9 highlighted the need for this aspect to improve (which it has).

One of the second weaknesses detected in the first evaluation concerned the low level of cooperation between *Clusters*, either in the same sector, or as part of the same value chain. Again new incentives, such as additional funding for projects that were co-labelled by 2 or more *Clusters* has meant that this activity has now tripled when compared to the first three year period. Some formal coopetition processes and initiatives have also emerged and are briefly described below.

2.3.1. InterClustering in ICT & health

The three *Pôles de compétitivité* Cap Digital, Medicen and Systematic are all based in the Paris Ile de France region and in 2010 they decided to combine their expertise around the ICT & health fields. The main objective of this initiative is the development of innovative R&D projects. Since 2010, the centres have organised five workshops related to the creation of the projects. On average, the people involved in these workshops are 150.

The *Clusters'* members are asked to present their project in a few minutes and the goal is to form consortia that develop innovative products or services. Since the beginning of the “TIC & Santé” (ICT & Health) initiative, the pole partners have developed 75 projects, 45 of them have been approved. Of these 45 projects, 20 of them were selected and funded by the Government.

2.3.2. Mondial de l'Automobile

Another important example of *Cluster* cooperation regards the “Mondial de l'Automobile” 2012 involving the collaboration between three *Clusters* “D4CAR”, “Mov'eo” and “Pole Véhicule du Futur”. The three *Pôles de compétitivité* gather together 750 members of the transportation industry and mobility sector, of the automotive research and training. In seven years, nearly 600 projects have been approved with a total R&D budget consisting of 2 billion€.

The continuing emergence of new technologies gives rise to new challenges for the automotive and transport industry. In order to address these challenges, the three *Pôles de compétitivité* sustain hundreds of networked innovation projects.

2.3.3. Easytech

This project is dedicated to SMEs and its aim is to enhance their growth. Easytech offers a personalized support and subsidies to SMEs in order to reduce the project's cost. The technological components developed in public research laboratories, including the “CEA” and “Grenoble INP”, are made available to the companies. The goal is the creation of new marketable products in less than 18 months. Easytech provides solutions in order to help SMEs to put intelligence into their products and to improve them. The program benefits of the experience of the pole in the animation of its ecosystem, in the coordination of multiple actors and in the knowledge regarding the funding mechanism of innovation.

2.3.4. Example of international partnership

The French *Cluster* Systematic and Aerospace Valley and the German *Cluster* SafeTrans are taking part in a European technology development platform dedicated to embedded systems. These French and German leaders in the transport sector are actively contributing to setting up R&D projects that will have a lasting industrial impact at a European level. The project has begun to explore new partnership with other European excellence *Clusters*, particularly with the Dutch *Cluster* Point-one, to develop embedded systems and micro-nanotechnology.

The three projects illustrate how different factors are important in fostering inter *Clustering* and include both geographical proximity (the first example), business opportunities (all examples).

At an international level, the Government helps *Cluster* stakeholders, and specifically companies, to identify the most suitable international partners, and to create technological partnerships with them, based on the creation of value. The General Directorate for Competitiveness, Industry and Services encourages the following:

- Actions carried out by Clusters within the framework of implementing an international strategy;

- Collective action involving several Clusters working in the same sector in order to increase partnership possibilities for their companies and to make them more attractive to foreign investors;
- Actions to support technological partnerships abroad for Cluster SMEs;
- The national export agency (Ubi France), OSEO and many regional authorities are also providing financial and logistical incentives to help internationalise Cluster/members.

2.4. Cluster performance

2.4.1 Ranking system

The 71 pôles are currently organised into three categories:

- Category 1: world-class Clusters
- Category 2: Clusters with a worldwide ambition (these first two categories total 18 Pôles)
- Category 3: national Clusters (53 Pôles)

In addition a further initiative has labelled a number (126) of local *Clusters (Grappes d'entreprises)* which are more business focussed organisations and not part of the *Pôle de compétitivité* programme).

The following data provides an illustration of how and to whom the main public financial incentives were distributed to in the 2005-2011 period:

- 56% of funding has gone to companies, 44% to research organisations. SMEs have received 36%;
- 51% of funding has gone to pôles categories 1 (29%) & 2 (22%);
- Five regions have received 70 of all funding and 12 Pôles received 50% of all R&D funding;
- Increasing co-labellisation process between pôles (numbers tripled between 2008-11).

2.4.2 Evaluations

The two national level evaluations (summaries available on the <http://www.datar.gouv.fr/>) provide a rich source of material in terms of individual *Cluster* performance and at the national policy level.

The performance assessment of the *Pôles de compétitivité*, takes place every three years and is handled by an independent team of experts coordinated by the inter-ministerial working group. This evaluation relies on 72 indicators covering the following elements:

- **Research and technology activity:**
 - Annual expenditures and employees involved in the projects selected by the Cluster, coming from enterprises and public research organisms;
 - Number of project selected, number of patents;
 - Involvement of actors, exportations and national position;
 - Ability to involve enterprises in the Cluster;
 - Exportation;
 - Position of the Cluster in the national economy regarding its main field of activity.
 - Employment evolution;
 - Growth of the added value of Clusters' SME members compared to other SMEs of the same size and activity;
 - Global evolution of employment, especially SME;
 - Evolution of the employment in the five main topics of the Cluster;
 - Quality of the Cluster's strategy and its implementation;
 - Economic strategy: relevance of targeted markets;
 - Scientific strategy: scientific roadmap's quality;
 - International strategy: inter-Clustering and technological partnership;
 - Competences strategy: developing new trainings, collective skills management tools;
 - Animation and governance;

- Quality of the action program;
- Private involvement to finance the Cluster's governance;
- Expenditure repartition in the different activities.
- **Outcomes:**
 - R&D projects;
 - Infrastructures development;
 - Skills' development;
 - Partnerships;
 - International development;
 - SME's development.

In addition all the *Clusters* were benchmarked according to the ECEI benchmarking tool and all received the Bronze label. Subsequently a number of *pôles* have secured the Gold Label (Systematic for example).

According to the outcomes of the 2012 assessment it appears that:

- 39 competitiveness Clusters had reached their goals (group 1);
- 19 competitiveness Clusters had reached almost all their goals (group 2);
- 13 competitiveness Clusters had to deeply restructure themselves (group 3).

The policy impacts of the current assessment are not known but based on the experience of the 2008 assessment the following type of impacts can be expected:

- The Category segmentation model (currently three) will probably evolve towards two categories with cleared distinctions between the two;
- Dedicated funding sources at a national level will continue;

- Project outcomes will shift away from the “project” outcome to the “product” outcome ie a greater focus on the exploitation of the RDI results and the development of products, start-ups, patents, etc.
- Some Clusters will be reclassified, perhaps focussing on the regional level;
- Inter Clustering and internationalisation will be boosted. With more inter-pole collaboration (international it is hoped that they can contribute to national sector strategies and create more collaboration between « technology » and « applied » Clusters;
- Clusters will be encouraged to participate in the S3 process (research and innovation smart specialisation process).

2.5. Summary of good practices

2.5.1. Good practices

- Inter-ministerial coordination and collaboration, although not perfect, the GTI enables good inter-ministerial understanding. Further efforts need to be made concerning the links between the Cluster policy;
- Critical mass of Clusters enables high visibility, attracts leaders from business and research fields;
- Diversity of incentives and funding opportunities has helped tackle the barrier linked to encouraging SMEs to participate in RDI projects;
- Growing inter Cluster cooperation in France and overseas via dedicated support networks such as Ubi France/OSEO;
- A good range of performance indicators that are close to policy objectives and facilitate policy evaluation/Cluster monitoring.

2.5.2. Challenges

- Complexity of project selection (time for labelling process);
- Clusters management costs will need to move towards a more balanced financing regime i.e. 50/50. This implies Clusters will need to develop more value added services, especially for companies. Business plans will need to be developed accordingly;
- Given the number of Clusters it is important to develop further inter Cluster collaboration, for example as a contribution towards national technology or sector road maps;
- The less performing Clusters might find that they are “declassified” and shift their focus to regional activities as opposed to national/international projects;
- Full results in 2013 may result in a reduction of Clusters and possibly a split between international and national/regional Clusters.

3. VinnVäxt (Swedish *Cluster* Policy)



The VinnVäxt programme is famous among *Cluster* programmes in Europe at first because Sweden is one of the most innovative countries (several of its regions including Stockholm and Western Sweden (Göteborg) are ranked highly in of the Regional Innovation Scoreboard) and but also, because Sweden has started to consider the potential of *Clusters* towards competitiveness very early: VinnVäxt has been funding *Clusters* since 2002. The programme is also remarkable in the sense that it funds *Clusters* for a long period: up to 10 years, which gives them more time to grow and bring added value to the regions they represent. Another interesting concept concerning this programme is the fact that it does not use the term “*Clusters*” but prefers to speak about a form of competition between regions, but keeping as a central idea the collaboration theme between the key actors of innovation: companies, research/high education and public authorities (the “triple helix”).

We have decided to focus our description on the above mentioned elements, including the description of its implementation agency: VINNOVA, the national innovation agency, as well as the choice of the indicators used for the evaluation of the *Cluster* performance, such as the growth of the enterprises.

3.1. *Cluster* programme

3.1.1 *Objective*

The objective of the VINNVÄXT programme is to promote sustainable regional growth based on international competitiveness within a chosen area of strength. Its purpose is to advance the functionality, dynamics and efficiency of the regional innovation system.

The programme target is for at least 50% of the funding to go to needs-driven research and development. The objective is for the winners to become internationally competitive in their respective fields within 10 years. VINNVÄXT assumes the active involvement of players in industry, research, politics and public sector.

The policy of regional development in practise during the 1970-1980 was mainly focused on the development of Sweden as a manufacturing industrial nation. One important feature of this policy was to support sparsely populated regions with growth problems. Compensation and redistribution became attributes of this policy as well as a systematic re-localisation of government offices away from Stockholm. However, the strategies of the regional policy remained centralized to national government. VINNVÄXT is a new approach to innovation policy.

The concept behind this programme is the promotion of effective cooperation between companies, research and development organisations and political system within each region (the so-called “triple helix”), with the aim of developing dynamic regional innovation systems which will allow the region to be competitive at an international level within specific areas of growth. VINNOVA offers support for process management and competence development in that specific area. VINNVÄXT – regional growth through dynamic innovation systems – is different from earlier initiatives in Sweden with its long-term perspective, its process support and the fact that the programme selection procedure is competitive.

3.1.2 Governance: VINNOVA

In the VINNVÄXT programme initiatives are funded in accordance with the contracts/agreements made between VINNOVA and a recipient organisation for an operational period of 3 years at a time.

Established in 2001 and located in Stockholm, VINNOVA is leading government innovation-support agency dependent on the Ministry of Enterprise, Energy and Communication. With a yearly dedicated budget of 180 M€ (exclusive administrative expenses) and a 180 staff, VINNOVA aims at promoting sustainable economic growth by financing R&D and developing innovation systems. Hence, its main mission focuses on strengthening research cooperation between universities, research institutes and companies and other actors of the Swedish innovation system.

The basis for contracts is the initiatives’ action plan for the operational period. With the backing of a programme board, this action plan was assessed by VINNOVA as realistic and reliable for reaching the growth objectives set by the initiatives and ultimately VINNOVA’s programme objective. The programme board consists of six people representing educational establishments, institutes, industry and public players.

3.1.3 Description and mechanisms

This Swedish programme is administered by VINNOVA and has carried out three calls: in the first of these two calls were chosen rather mature initiatives and in the third call emerging *Clusters* were targeted. The *Clusters* are selected through a very well-developed selection process in which about 35 people have been involved in reading, interviewing and selecting winners from the more than 200 applications that have been submitted to the VINNVÄXT-programme.

VINNOVA’s support relates primarily to:

1. The development of the identified innovation system. For example the funding of:

- process management development support;

- future-oriented processes (looking forward 10-20 years) and technological scenarios (5-10 years);
- analyses and the drawing up of strategies to lift the innovation system to an international level;
- the commissioning of research and expert competence in the fields of learning, network organisation and leadership;
- the development of preconditions for learning and innovations.

2. Funding of needs-driven research within the identified growth field (R&D projects) in collaboration between colleges/universities (possibly institutes) and companies.

During the initial period, the focus is on 1, at the same time as 2 is under development. After this, it is expected that the regions will assume responsibility for most of the funding of 1, which means that the major part of VINNOVA's funds can be devoted to needs-driven research and development funding.

3.2. Cluster organization

Cluster organisations fulfil a number of important roles such as the identification of key competencies and research needs, the communication with funding agencies, the facilitation of connections between R&D organisations and companies, the support in the translation of research results and the reassurance that *Cluster* member interests are addressed.

VINNOVA has selected three winners after the last call of proposal that has attracted more than 150 applications:

- **Robotdalen**

It is a world-leading region in robotics. Universities, companies and regional government bodies have joined together and they cooperate in order to develop a competitive region in the manufacture, research and development of robotics. Robotdalen focused on different areas such as industrial robotics, field robotics and health robotics;



- **Innovation i Gränsland**

Its goal is to strengthen the South of Sweden food industry by creating products with high added value. Its aim is to establish an open meeting place for ideas and fresh approaches. The program is based on the participation of researchers, companies and organisations.

- **Uppsala BIO**

It is an initiative from the local biotech industry, the two universities in Uppsala, and regional development bodies. Its aim is to contribute to the long-term growth of the biotech sector in the region.



3.3. Cluster coopetition

Similar to the *Pôles de compétitivité* programme, the Swedish VINNVÄXT programme takes the form of a competition for regions whose aim is to promote sustainable growth by developing internationally competitive research and innovation environments in specific growth fields. The programme promotes renewal and the strengthening of competitive advantages through Triple Helix actors working towards realising a joint strategic idea. One of the aims of the VINNVÄXT programme is to create attractive environments. It is important to attract both internal actors in order to join the “strategic growth idea” and it is crucial to attract external actors in form of capital, resources and skills (companies, researchers, etc.).

3.4. Cluster performance

3.4.1. Learning Strategy

A Strategy for Learning was designed to optimise the VINNVÄXT programme and answer expectations coming from all its funding partners. This strategy is intended:

- To favour a better understanding on programme efficiency (system management);
- To ensure the development of complementary actions to the program (investment);
- To answer to extended requests on the programme efficiency (legitimacy);

- To reach this goal, a set of support activities has been developed within this Learning Strategy:
- Triple helix management course;
- Two meetings/year with process managers/thematic focus;
- Yearly assessments (annual reports with interviews and dialogue, impact indicators);
- Evaluation every third year by international teams looking at “the system” and “the content”;
- Communication program;
- Learning projects;
- Studies of common interest;
- Gender issues;
- Stimulation of internalization;
- Connection to other VINNOVA programs.

3.5.2. Indicators

The indicators used to measure the VINNVÄXT program’s performance rely on national datasets and information coming from members of the initiative. Growth indicators are probably the most important in the selection and the evaluation of the performance of *Clusters*. Then come R&D indicators.

Growth indicators:

- (Un)employment, mobility, competence;
- Start-ups, new products, patents, exports and imports;
- Economic results.

R&D indicators:

- Publications;

- Research/Industry cooperation;
- Attractiveness for researchers.

It is intended to foster the use of “soft indicators” to measure more systematically the level of development of regional governance, the degree of “trust” among *Cluster* members, the “social capital” and the development of innovative networks and co-operations.

Indicators assessing the level of attraction of the Research and Innovation environment to people, companies and money have allowed a proper impact analysis of the entire *Cluster* strategy.

3.5. Cluster impact

As far as VINNVÄXT’s effect on the promotion of regional growth is concerned, it is possible to identify the following three main effects:

- Initiatives within VINNVÄXT are consistently given high priority and are an established part of the Regional Growth Programme (RGP): a first important conclusion that may be drawn from an analysis of the actual regional growth programmes is that the initiatives are well established and given high priority;
- The Triple Helix approach is now taken for granted as a starting point for RGP initiatives: another effect that can be identified is that a shift seems to have taken place from the traditional type of partnership (“public-private”) to partnerships based on the Triple Helix. This implies both a greater willingness to establish integrated R&D environments and to identify functional partners if the resource does not exist in the immediate region;
- The Triple helix approach has brought greater “long-termism”, a stronger focus on growth and a clearer definition of roles: as far as policy learning is concerned, it can also be seen that policy learning at the regional level is taking place. This learning has been manifested, for example, in a clearer understanding – among a broad spectrum of players – of the necessary for focusing, growth and that promotion of regional development must be based on measures that stimulate innovation and long-term competitiveness.

VINNVÄXT has noted various effects that have taken place, above all in the “operations support” environment. Or, more accurately: the further from the core of the activity the respondent is, the more difficult it seems to identify specific effects. This is, of course, nothing peculiar or remarkable in itself,

since at this very point that many of the initiatives have focused activities, rather than moving out into a region on a board front.

One recurrent effect seen is that VINNVÄXT has created new constellations of players. One underlying factor in this phenomenon is to be found in the actual logic of VINNVÄXT. The Triple Helix model and long-termism have been regarded as an alternative, and something new, and have been seen as an attractive option for new players to commit themselves to.

To a certain extent following on from the previous point, it may be affirmed that one of the effects of VINNVÄXT has been to alter various relationships between players. In this context it is possible to assert that this mainly concerns relationships between different players in the different helices. So VINNVÄXT does not appear – and perhaps it is a matter of time, and of course it remains to be seen – to have changed anything internally within the players' organisations. Here, too, the same rule applies: the further from an initiative that a player is, the less VINNVÄXT affects the internal operational workings of the organization itself.

Finally, one effect that is recurrent is that VINNVÄXT is part of a longer process of change (characterized by focusing, prioritization, knowledge and innovation and – above all – growth). VINNVÄXT – and the effects it has had – is thus an interaction between different processes. A further aspect of this effect, is that VINNVÄXT demonstrates that a small financial investment can generate strong mobilization if allocated to the right players and activities, and phased into existing development processes.

Not all the effects identified are found to be beneficial. A player may quite clearly identify an effect, but regard it as being negative in the innovation environment. In simplified terms, two types of criticism may be identified, each closely bound up with the other:

- Criticism of the overall logic of VINNVÄXT, or certain aspects of its logic;
- Criticism of a specific initiative.

In the first case, the criticism may arise for example because in certain circumstances the competition element was more likely to reward those who are “good” at completing applications, rather than the projects that are actually growth-driven.

The VINNVÄXT logic is also criticised on the basis that the conditions for engaging enterprises are complicated in the initiatives where the enterprise base is comprised of small businesses. A third criticism centres on the fact that VINNOVA – and VINNVÄXT – if anything create duplicate activities rather than new ones, or supplement an already existing regional structure.

3.6. Summary of good practices

- A long term funding for Clusters incentives provided to Clusters (10 years) leaving them the time to develop and build projects;
- very well-developed selection process: 35 people involved in reading, interviewing and selecting winners from the more than 200 applications;
- the promotion of a high competition between the regions with only 11 Clusters financed since launch;
- at least 50% of the funding dedicated to needs-driven research and development;
- a strong focus on the “triple helix” concept (companies, research and education, public authorities);
- one major indicator: the growth potential (of the companies, for the regions);
- design, implementation and follow by one strong national innovation agency: VINNOVA;
- Strong link between Clusters and their territories.

4. Hungarian Pole Programme

The Hungarian Cluster Programme is well known among the European Cluster policy makers for its advanced accreditation system (three stages of Cluster development, combining with different types and sources of funding for different activities). As one of the most advanced countries in Eastern Europe, Hungary is indeed an interesting country to benchmark especially from the Portuguese point of view, which shares similarities in terms of economic development.



We have therefore chosen to focus on the description of this programme especially its Cluster accreditation system, but also its implementation by a dedicated Cluster agency: MAG, as well as its Cluster internationalisation strategy.

4.1. Cluster programme

4.1.1. Context

In Hungary territorial imbalances are rather large with Central Hungary dominating the country in terms of GDP, R&D capacity, employment opportunities, etc. Both the Hungarian government and the EU Commission considered it important to launch a multipolar territorial development policy, of which *Cluster* development policy is an integral part. The role of Budapest and the Central Hungarian Region is unique in the Hungarian economy: it is ranked 1st in *Cluster* portfolio strength across the EU – 10 regions in 2001, while the other regions ranked 20 – 38th. Indeed Hungary was among the first countries implementing *Cluster* policy in the Central Europe region.

4.1.2. The Pole Program and its objectives

The Hungarian Pole Program is a comprehensive economic development program that harmonises the sources of several operational programs of the Hungarian NSRF5 (ERDF) 2007-2013 with total funds worth €1.5 billion. The national *Cluster* development policy forms part of the Pole Program.

In the framework of the Pole Program, Hungary developed a unique three-stage *Cluster* development model providing different support schemes for cooperations and *Clusters* according to their

development level. The accreditation of *Clusters* was intended to place them at the appropriate stage of the *Cluster* development model but also to entitle selected *Clusters* to preferential treatment and dedicated support sources.

The main targets of the Pole Programme are the following:

- Promotion of internationally competitive enterprise networks;
- Specialization on high value added, innovative activities of the industry value chain;
- Strong cooperation first among enterprises, but also with universities and local authorities (the triple helix concept and localization advantages);
- Strengthening the regions through developing the business environment of the pole cities.

The two pillars of the Pole Programme are the Enterprise development and the Horizontal Economic Development actions.

The current *Cluster* policy originates partly from the first *Cluster* support schemes, but the complex *Cluster* policy was developed as a pillar of the wider development policies. On this strategic level, no single coherent *Cluster* definition and policy targets were formulated, and *Clusters* were mostly mentioned as regional economic development actions.

4.1.3. Governance: MAG (Hungarian National Development Agency)

The Pole Programme is managed by MAG (Hungarian National Development Agency) which is the main intermediary organization in the field of economic development programmes financed by both national and EU funding. MAG is “controlled” by the MFB Zrt. (Hungarian Development Bank).

MAG is responsible for the selection/funding of R&D projects between the members of the *Clusters*, whereas the animation structure of the *Cluster* organizations is financed at a regional level, and co-financed by the ERDF.

4.1.4. Description and mechanisms: the Cluster accreditation system

MAG has introduced a multi-stage model to support *Clusters* that represents the different stages of development of *Clusters*:

- Stage 1 corresponds to starting initiatives with no track record;

- Stage 2 corresponds to developing Clusters that have a developed formal and meaningful operation for at least one year;
- Stage 3 corresponds to Accredited Innovation Clusters.

These are not stages of the *Cluster* life cycle. The policy target of the Pole Programme is 3-dimensional (cooperation, innovation and critical mass). As there is formal application to the support schemes, the *Clusters* must organize themselves and decide on which measure they apply for.

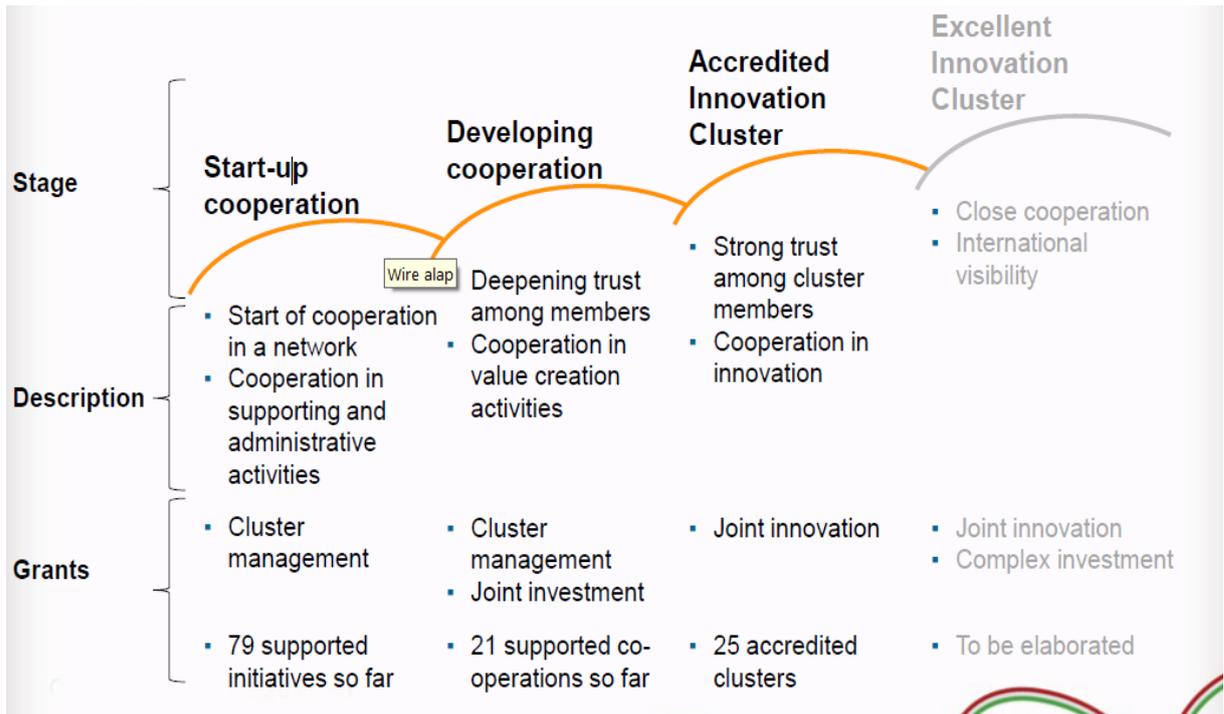


Figure 2 - Hungarian multi-stages accreditation system.

The aim of stage 3 is to select the *Clusters* that:

- Are able to reach significant international and domestic performance;
- Have further potential remarkable opportunities;
- Are not « budget chasers », there must be a real project;
- The accreditation of Clusters is a rigorous expert evaluation process with the aim of selecting the most promising initiatives.
- Due to the EU development funding sources, the accreditation Clusters are expected to play an important role in Hungary's sustainable development.

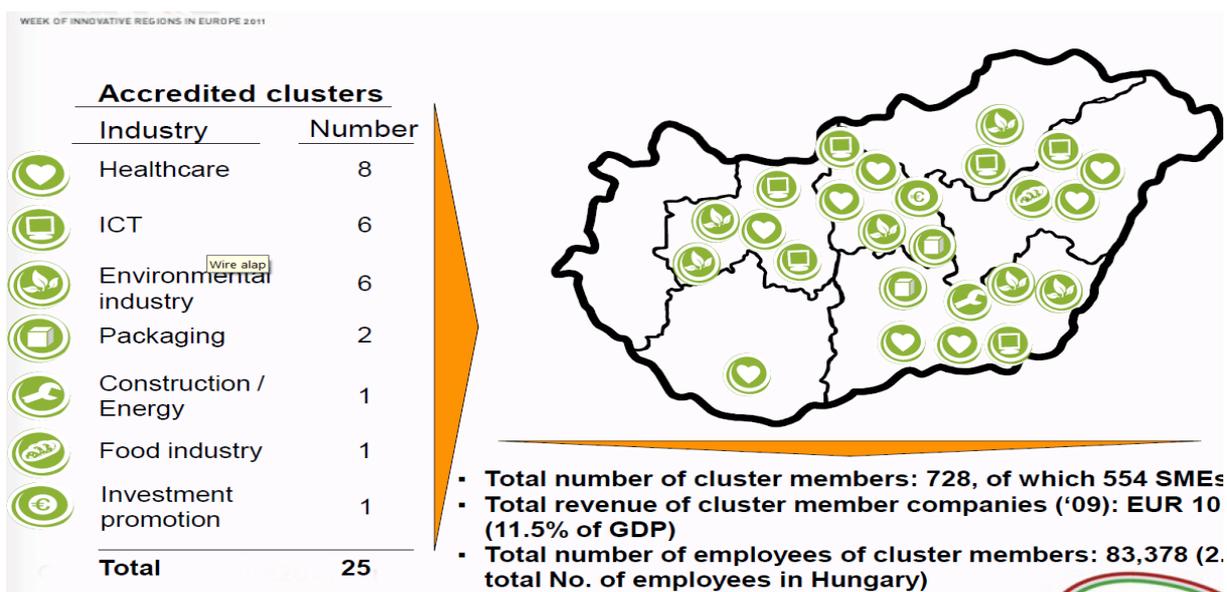


Figure 3 - Map of accredited Clusters.

In order to become potential beneficiaries, *Cluster* organisations need an accreditation at Stage 3. However, having the accreditation ensure automatic access to financial support. The accreditation call is open throughout the year and the final decision on the accreditation is taken by an Accreditation Committee. The accreditation certificate is valid for 2 years, after that it has to be renewed.

With the accreditation title, *Clusters* get the right to apply for the calls for proposals which are open exclusively for accredited *Clusters* or for their member companies. In the framework of these calls, the *Clusters/Cluster* members can get state aid for their joint RDI projects. In this system, the calls for proposals are open for all sectors among which some of them have a preferential treatment.

The accreditation process provides for:

- Sole right for applying for dedicated Pole Programme sources;
- Advantages and preferential treatment in many calls for proposals;
- New members of the Cluster (joining the Cluster after the accreditation) can benefit from the above advantages.

The goals of the Accreditation Committee are the following ones:

- Evaluation of the forms and content of the co-operations in the Cluster;
- Analysis of the type and number of Cluster members;

- Examination of market –proven success with emphasis on the export activities and high added value;
- Analyses of R&D activities and high added value;
- Analysis of the Cluster’s vision and strategy;
- Filtering the co-operations without relevant content.

The accreditation model is based on quantitative and qualitative criteria that have been established by experts and have been tested on operating *Clusters*. The model is a coherent evaluation system grouped into five subcategories and its aim is to select co-operations which focus on market-proven activities.

Up until now 25 *Clusters* have been accredited and most of them operate in the South Great Plain and Central Hungarian region. The fields in which most *Clusters* operate is healthcare and ICT.

An objective of the *Cluster Accreditation Pole* programme is to identify, by 2013-2015, five to ten successful Pole Innovation *Clusters* in Hungary able to reach a significant market presence and share in Europe.

4.2. Cluster performance

The evaluation model is based on quantitative and qualitative criteria with the aim of selecting the most promising initiatives.

- Cooperation in the Cluster;
- Members of the Cluster;
- Business performance of the SME members;
- R&D performance;
- Strategic and operational plan.

4.3. Cluster coopetition

MAG and the Hungarian Ministry of Economy and Trade are both partners of a Central Europe project (*ClusterCOOP*) bringing together *Cluster* development agencies and ministries from other Central Europe countries (Slovakia, Czech Republic, Poland, Slovenia).

This project is based upon the statement according to which the current level of support activities for transnational cooperation within the Central Europe area is much lower than desired. There is therefore a need to identify industries which, through *Cluster*-cooperation, could be the ultimate driving force for national/regional economies. These policy makers need to help *Clusters* better exploit their innovation capacities and improve their competitiveness so that in the long term, their development and effective cooperation improves the position of the CE Region in the European Economic Area.

The objective of the *ClusterCOOP* project is therefore to enhance the framework conditions for efficient transnational *Cluster* cooperation between their countries and regions in two fields, and will work to:

- enhance existing and create new synergies among national/regional *Cluster* policies and funding frameworks;
- facilitate emerging industry development through cross regional *Cluster* cooperation and Promote the flow of information between, and provide a common knowledge base for *Clusters* of CE to facilitate their networking and cooperation.

Several activities have been carried out, such as:

- transnational working groups between policy makers;
- thematic matchmaking road shows between *Cluster* managers;
- establishment and training of *Cluster* Contact Points in order to help *Clusters* of the Central Europe area to collaborate together.

4.4. Cluster impacts

In 2010, a methodology for a complex analysis for the effects and results of the Hungarian *Clusterization* have been elaborated. The analysis consists of the following steps:

- Data collection from the selected *Clusters*;

- Mostly top-down approach (many initiatives were initiated by local authorities-agencies and most started with state aid);
- Most Cluster initiatives still need support just to survive, although the original target was to reach self-sustainability;
- The activity of many Clusters is constricted on the supported targets;
- Cluster are established in diverse organisational forms (companies, associations, foundations);
- The better Clusters are usually located in the more developed regions;
- Some measures tried to set difficult criteria, but then there were few applicants or many applications were withdrawn.

The risks of the Pole Programme are the following ones:

- There isn't an adequate coordination with other operational programs and support schemes;
- The Cluster initiatives are continued/launched just to make use of soft money (the Pole Program was also a political promise, primarily to the main cities);
- The findings of Cluster mapping were not integrated in the Pole Programme;
- Insufficient use of soft data in the selection process;
- Cluster measures might not be attractive enough to incite enterprises to cooperate.

The policy aim is that by 2013-2015, 5-10 successful pole innovation *Clusters* will operate in Hungary, all of them will reach a significant market share in their respective markets in Europe and all of the successful pole innovation *Clusters* will be an organic part of the global industrial value chain.

4.5. Summary of good practices

- A *Cluster* policy that has proven its efficiency in a developing Central Europe country;
- A selection process that guarantees a high selectivity of the *Clusters* to be funded: is based on a three stages accreditation system, which ensures at stage 3 possible access to funding;

- Organisational benefits: a *Cluster* programme put in place by one national innovation agency: MAG, which simplifies coordination with other programmes;
- *Cluster* policy makers having an international vision: MAG and the Hungarian Ministry of Economy participating into European projects to share policy practices and *Cluster* internationalisation.

5. PRIDES (PACA Region *Cluster* programme)

The PACA Region *Cluster* programme is one of the most advanced regional *Cluster* programmes in France. Although some regions have put in place their own regional *Cluster* programmes, most of them rely on the national *Pôles de compétitivité* programme to identify and fund their *Clusters*. PACA



Region has on the other hand designed its own *Cluster* programme (PRIDES) which complements the funding given to its strongest *Clusters* through the *Pôles de compétitivité* Label. In addition, PRIDES are currently used to help the region defining its Research and Innovation Smart Specialisation Strategy. The programme is also specific in the sense that it expects some responsibility from the funded *Clusters*: a social and an environmental dimension.

We have therefore chosen to describe this regional *Cluster* programme highlighting these specificities and developing on some major *Clusters* examples.

5.1. *Cluster* programme

5.1.1. Meaning of PRIDES:

- Pôle (= “Cluster”) a network of businesses within the same sector and/or value chain around a collective development project managed by a coordination structure
- Régional: the network is on a regional level
- Innovation: innovation in all its forms (technological, commercial, managerial, social) is the network's banner
- Développement Economique: the creation of wealth and sustainable regional employment is the network's goal
- Solidaire: taking into account the interests of all the business stakeholders (workers, local area, the inhabitants...) is an important obligation

5.1.2. Objectives and governance

PRIDES (*Pôles Régionaux d'Innovation et de Développement Economique Solidaire* - Regional poles for innovation and fair economic development) are certified businesses' networks aimed at developing collaborative projects supported by the Regional Council of Provence-Alpes-Côte d'Azur. PRIDES were created in 2006, after the launch of the call for projects "Regional poles for innovation and fair economic development", set out in the SRDE (Regional Economic Development Scheme).

This document summarised the characteristics of the PACA region including:

- the need for the players and businesses to anticipate change;
- the central place of innovation within the economic dynamic and regional strategy;
- highly specific economic characteristics of the PACA region.

The diagnosis enabled five strategic challenges to be identified: to make the region:

- socially responsible;
- responsive;
- international;
- learn to innovate;
- enterprising.

Therefore, the main aim of the PRIDES was to reinforce businesses' competitiveness, and to create sustainable employment in the region (the unemployment rate was 10.8 % on annual average between 2000 and 2008). In 2009, these networks brought together more than 3000 SMEs in 29 certified PRIDES from various regional industries, and activities. They're expected to create 200 000 jobs.

The PRIDES *Cluster* programme shows synergies with the French national *Pôles de Compétitivité* programme. Indeed, certain *Clusters* from the PACA receive both PRIDES and *Pôle de Compétitivité* Label. Actually, all the 81 *Pôles de compétitivité* based in the PACA region also have the PRIDES label.

5.1.3. Description and budget

As other the *Pôles de compétitivité*, PRIDES support collaborative projects and collective actions. From 2006 to 2008, 60 collective actions and 11 research projects have been supported.

In 2008, the Regional Council allocated €50m to the PRIDES. The direct beneficiaries are PRIDES, and the final beneficiaries are the businesses which belong to the PRIDES.

The co-funding of the governance structure of the PRIDES mounted to 7 M€ in 2009 including 3.5 M€ from ERDF. The co-funding of the animation of collaborative R&D projects and collective actions undertaken by the PRIDES represents 3 M€ per year, and 0,9 M€ for the training of the employees. Grants to collaborative R&D projects partners (coming from regional calls for projects and OSEO for smaller projects, or Fond Unique Interministériel for greater projects supported by *Pôles de Compétitivité*). In addition, individual funding (0% loan up to 300 k€) is provided for the development of PRIDES enterprises members.

5.1.4. Key facts and figures

In 2012, PRIDES represented:

- 4 430 members including 3 112 businesses;
- 2/3 SMEs;
- 170 000 regional jobs;
- 11 competitiveness Clusters;
- 506 collaborative R&D projects (2009-2011).

Their role is defined as follows:

- Structuring of regional networks around a shared strategy and around a well-balanced governance (roadmaps, white books, mappings, guidelines...);
- Structuring of the relationships between companies and the world of the research (Platforms, innovation centers, living labs...);
- Supporting SMEs' growth (more than 90 collective actions per year).

5.2. Cluster organization: Pole Pégase

In total, 29 associations have been labelled PRIDES and they help structure the economic landscape in order to make the region more competitive.

We have chosen to focus on the aeronautics and aerospace *Cluster*: Pole Pégase, which covers the region's aeronautic and

aerospace sector (first industrial sector in PACA with 8 testing centers of excellence, 1700 researchers, 30% of the regional R & D). It is a dynamic *Cluster* in PACA region which holds both the Pôle de compétitivité and PRIDES labels.



5.2.1. Description

Pégase has a brief to develop a competitive eco-system in synergy with the network of major companies, research and test centres and the web of existing SMEs of forthcoming innovative ventures in the PACA region. The network brings together more than 300 actors, including 190 companies mainly SME but also a dozen major clients, and 18 000 jobs which represent 80% of the workforce of the aeronautics and space in the PACA region.

The aeronautics and aerospace *Cluster* has built its strategy predicting the development of social needs relating to airborne and space-bound activities. Protection, surveillance, communication, goods and people transport are constantly evolving needs. They represent real growth opportunities for the aeronautics and aerospace sector.

Its missions are the following:

- Surveillance mission: development of new low-cost and autonomous aircraft, primarily drones, surveillance missions of industrial, cultural and natural sites;
- Intervention missions: rapid-reaction aircraft development (drones, helicopters, etc.) for missions in inhospitable, polluted environments, or those that are inaccessible over land;
- Transport mission: development of new low-cost and environmentally-friendly means of people transport (ground effect vehicle, electrically-powered plane) and new possibilities for transporting exceptionally heavy or bulky loads such as pipelines or bridge piles. The airship's enhances navigability enables it to come into action in areas where communications have been cut off, for example by natural disasters.

5.2.2. Concrete outputs

The *Cluster* shows high performance results, in terms of jobs creation:

- 75% of SME members of the Cluster have created jobs between 2007 and 2009;
- A trend of 450 jobs per year by SMEs from the Pole between 2007 and 2009;
- 80% of SMEs seeking to recruit in the coming months.

... but also in terms of investments to promote innovation:

- 158 projects approved by the Cluster;
- 71 projects funded with a budget of € 210 million;
- These projects received a grant of € 102 million overall.

5.3. Cluster cooperation

In PACA region, there is a good example of collaboration between different *Clusters*: the project "Sustainable Solutions for Coastal Cities".

This project, funded by the regional authorities (Nice and Toulon) consists of four PACA *Clusters* (SCS, Mer, Risques and Capenergies, both PRIDES and *Pôles de compétitivité*) putting together their efforts to find sustainable solutions for coastal towns challenges.

Indeed, coastal cities are complex systems including sustainable development, which involves a variety of activities and skills, based on the implementation of many technologies and transverse technologies. The promotion of these concepts and their application to real situations requires work simultaneously on all the issues to address in a comprehensive manner. Actions on these issues individually by the four *Clusters* provide sectoral responses to the needs of coastal towns.

Two managers within the *Clusters* staff have been appointed to this project, each one responsible for a specific territory. They are key facilitators of this regional network. Under the authority of the Steering Committee, their role is to:

- encourage the development of projects and demonstrators in the field of "Sustainable Solutions for Coastal Cities" and the implementation of service development aid, in close connection with the territory covered by the interpole that will be assigned and identifying projects that integrate into a comprehensive vision of sustainable coastal town;

- animate thematic working groups in coordination with 4 poles;
- continue the strategic reflection on the key markets, the challenges of the territories covered and participate in the development of international strategy;
- monitor and encourage the development of technology platforms;
- ensure the promotion and representation of the interpolated at various conferences and meetings in coordination with 4 poles.

They thus ensure the implementation of the actions necessary to conduct the strategy defined by the Steering Committee.

This project being relatively recent, no concrete output have been identified.

5.4. Cluster performance

5.4.1. Selection of the PRIDES

The selection of PRIDES projects shows the expectations of the programme in terms of *Cluster* performance.

It is done with respect to relevance of:

- the economic project:
 - the prospects of employment creation;
 - critical mass for the number of enterprises in the network;
 - strategy and « road map »;
 - consistency and dynamics of the planned cooperation projects...
- the partnership project
 - governance balance;
 - role and place of SME's in the management of the PRIDES;
 - diversity of partners;

- network animation, fostering new projects...
- the social project
 - social et environmental responsibility of SME's ;
 - job quality;
 - social partners concertation;
 - environment taken into account.

5.5. Cluster impact

5.5.1. A social and environmental dimension

For the PACA region, social and environmental responsibility is a vector of attractiveness and business performance.

In the ISO 26000 definition, social and environmental responsibility is the responsibility of a company vis-à-vis the impact of its decisions and activities on the "society" and the environment through transparent and ethical behaviour that:

- contributes to sustainable development including society and the welfare of society;
- takes into account the expectations of stakeholders;
- respect the laws and in accordance with international norms of behaviour;
- is integrated into the entire organization.

These principles are reflected in particular through the values of the company and its governance.

The Regional Council relies heavily on PRIDES to support the development of the social and environmental responsibility in its territory.

A call for projects "social and environmental responsibility" targeted at PRIDES was launched in 2008, two years after the PRIDES were launched. The aim was to promote the development of "social and environmental responsibility" in SMEs, often small and have limited resources for strategic investment in the management of the organization.

A website, supported by the Regional Council, the State and the ADEME (energy efficiency agency) gathering information about the social responsibility of the enterprises in PACA Region has even been put in place: www.rsepaca.com

The positive impact of this measure is considered to have reinforced businesses competitiveness, improved innovative projects and developed sustainable employment. With 29 certified poles since 2006, some of them in emerging and high added value sectors, and the involvement 3000 SMEs, the measure is very effective in the region. It moreover contributes to the valorisation of research.

5.5.2. Role in the definition of the regional Research and Innovation Smart Specialisation Strategy (RIS3)

One of the main objectives of the PRIDES is to improve regional attractiveness and contribute to the development of a Smart Specialisation Strategy.

The Regional Innovation Strategy approved in October 2009 identified 5 main activity fields (Domaines d'Activité Stratégiques - DAS):

- Sustainable Building and urban ecology;
- Intelligent Mobility;
- Risks Security Safety;
- Food & Health;
- e-culture industries.

These activity fields have been defined thanks to the mapping of competences of the key actors in PACA, in which the regional *Clusters* have helped a lot.

They constitute the basis of the coming PACA RIS3. They will help to channel the public funding towards the priority market/business areas, improve the regional visibility, help building inter sectoral approaches and especially consolidate the regional *Clusters*, the PRIDES, to make them grow faster.

5.6. Summary of good practices

- A strong regional Cluster programme that complements the national Pôles de Compétitivité programme;
- Financial support for the animation process is important;
- Some examples of intra-regional Cluster collaboration financed by the local authorities;
- A strong focus on the social and environmental dimension of the companies members of the Clusters;
- Harnessing business actors to develop collaborative projects and assist with the definition of the regional Research and Innovation Smart Specialisation Strategy;
- The regional innovation agency has been tasked with the animation of the “innovation system actors” including the PRIDES to facilitate the emergence of collaborative projects.

6. Baden-Württemberg *Cluster* policy

The Baden-Württemberg region is one of the most innovative regions in Germany and Europe, especially known for its competences in the fields of energy and environment, automotive, ICT and creative industries. *Clusters* have naturally a central place in their innovation strategy. The Ministry of Economics has therefore put in place a strong *Cluster* programme to valorise these competences, and develop a tool to map these *Clusters* (*Cluster Atlas*). The best *Clusters* are also funded by the national programme (*SpitzenClusters* – Leading-Edge *Cluster* Competition) which completes the regional policy. Through its agency MFG specialised in the support to ICT and media *Clusters*, Baden Württemberg is also involved in European *Cluster* policies: for example it has adopted an accreditation system linked European *Cluster* Excellence Initiative system.



It is on the above mentioned aspects that we have decided to focus this case study.

6.1. *Cluster* programme

To activate further regional innovation potential, the Ministry of Economics launched a competition for strengthening regional *Clusters* in Baden-Württemberg in 2008. 36 submissions from all areas of the state covered a wide range of industries and areas of technology, including, for example, fields of competence such as microsystem technology, medical engineering, aerospace, packaging technology, biotechnology, automotive, surface technology, energy / environmental and nanotechnology.

6.1.1. *Governance*

The federal state government supports numerous activities concerning the formation of *Clusters*. The Ministry of Economics and Science promote regional networks and information platforms in various fields, such as the automotive industry and medical technology. The Ministry of Social Affairs, the Ministry of Agriculture and the Ministry of Environment are also supporting the formation of *Clusters* in their respective sectors. A report published by the Ministry of Science and the Ministry of Economics provides an overview of the individual measures involved.

In addition, sectoral agencies play a key role in the development and management of *Clusters*. In the ICT and creative industries sector – which represent respectively around 18 % and 16 % of the workforce in Baden-Württemberg – MFG is involved in the management and the animation of different *Clusters*.

For instance, regarding the Baden-Württemberg Creative Industries Network, which gathers 150 partners, MFG connects subsectors within Baden-Württemberg's cultural, creative and ICT industries. The Creative Industries Network highlights the huge potential of the sector and positions Baden-Württemberg as a key location for creativity. The initiative advises newly-established creative companies on appropriate funding options, provides information about sector trends and brings together key players from across the region. The interdisciplinary and cross-regional exchange of information helps smaller companies in particular to optimise their processes and facilitates joint product development. MFG is the lead agency and *Cluster* manager for the network, coordinates the activities of the individual partners, contributes activities of its own and is responsible for awareness raising.

6.1.2. Description

The *Cluster* policy of Baden-Württemberg consists of different policies and measures coordinated and delivered by several ministries. The state government initially identified 18 particularly important branches, technologies and cross-sectional competencies or services which are the future fields of *Cluster* policy. The *Cluster* policy wants to give more than financial support. It wanted to pool competencies in a flexible, demand and timely way. Therefore the ministries in charge focus on communication, transparency and the ability to cooperate. In a tighter market and location competition, *Cluster* policy aims to enhance the local competitiveness to favour innovation leaps. The *Cluster* policy focuses on value chains and enterprise cooperation. By focusing on value chains and enterprise co-operation, the *Cluster* policy wants to strengthen regional strengths.

Baden-Württemberg's *Cluster* policy is also successful beyond the state's borders. Initiatives from the state of Baden-Württemberg have performed above-average in several national competitions organised by the German Federal Ministry of Education and Research (BMBF), such as the Spitzen*Cluster*-Wettbewerb (*Clusters* of Excellence Competition) or the Gesundheitsregionen der Zukunft (Health Regions of the Future). Out of the ten winners from the BMBF *Clusters* of Excellence Competition, four originate from Baden-Württemberg or have a connection to the state. The state also supports the *Clusters* of excellence with substantial funding for the purpose of establishing an efficient *Cluster* management. Baden-Württemberg also achieved an outstanding result in the Health Regions of the Future competition, with two representatives from the five national winners.

6.1.3. Cluster mapping

The Ministry of Economics has commissioned the Institute of Economic Research in the Southwest – ISW Consult – to draw up a regionally oriented *Cluster Atlas* on behalf of the State of Baden-Württemberg for the first time using a moderated process. An Atlas setting out regional *Clusters* is particularly appropriate in the case of Baden-Württemberg, given that this federal State may lay claim to a diversity and density of economic activity within its regions which is unmatched in all but a tiny minority of countries around the world. This Atlas could be considered as a true prototype.

The Atlas intended to:

- Provide an ordered overview of regional Clusters;
- Provide basic information regarding the relevant underlying circumstances of regional Clusters;
- Provide a foundation for practical application of customer policy-related measures and projects;
- Assist in determining possible affinities between Clusters, as well as additional possible regional, supra-regional and cross-border networking;
- Permit the monitoring of regional Cluster policy and provide an important source of information for Cluster evaluation.



Figure 4 - Cluster mapping.

The initial collection of data on the regional *Clusters* in Baden-Württemberg took place in close cooperation between contact partners in the twelve spatial planning regions and the Baden-Württemberg Ministry of Economics. The *Clusters* and potential or planned *Clusters* consequently reflect the current assessment within the regions.

Several analyses provided the point of departure for the work. Although this provides an overview regarding regional *Clusters*, they neither provide a basis for comparison nor are based on any statistically uniform foundation. Subsequently, intensive personal surveys carried out of representatives in the twelve regions and the associated coordination processes became the central foundation for the collection of data for the *Cluster Atlas*. The findings gained in this way were supplemented by evaluation of relevant written and digital documentation from the regions. The regionally categorized company archive of ISW Consult and in-depth web and database research as well as internal empirical specialist information relating to Baden-Württemberg formed additional sources of information. The *Cluster Atlas* cannot be a static document, as new findings are continuously added, both about already registered *Clusters* and also new *Clusters* and *Cluster* initiatives. As a result, the Atlas requires continuous updating.

The essential determining criteria for regional *Clusters* are the following one:

- Thematic market-specific proximity;
- Geographic or spatial proximity (fast accessibility, capacity for easy coordination);
- Adequate number and density of companies;
- At least national sales potential for products or services and consequently high export capability from the regional point of view.

These central points allow the creation of a corporate *Cluster* culture capable of engendering spatial cohesion. It is only by combining geographical and contextual proximity that it is possible to create scope for the implementation of shared ventures.

Modern *Clusters* are also characterised by their geographical proximity to applied research, universities and colleges. These are really important for the innovative development of products and consequently for adding value within the *Cluster*.

Involved members of the *Cluster* profit more from cooperation than they would if acting alone. A *Cluster* initiative can be launched in order to bring together the *Cluster* stakeholders to work systematically and in an organised way towards a common goal.

6.2. Cluster organization

In Baden-Württemberg alone, over 100 *Cluster* initiatives have been established in recent years. Three examples are described below:

6.2.1. MST BW

The *Cluster* is comprised of 350 members including 12 higher education institutes with 40 micro systems professorships and 18 other research institutes boasting over 1200 scientific employees. Its industrial members



include Bosch, Daimler and Roche Diagnosis. **Roughly one in seven patents granted worldwide in the micro systems field come from this *Cluster* region.** MST BW has been selected as one of five winners of the highly prestigious leading Edge *Cluster* Competition resulting in an 80 million Euros grant award. The professional association MST BW (Mikrosystemtechnik Baden-Württemberg) is commissioned by the state of Baden- Württemberg to act as the central contact party for microsystems engineering and as

coordinator of the SpitzenCluster (leading edge Cluster) MicroTEC Südwest. In the field of microsystem technology, MST BW represents the interests of industry, research facilities, and universities in Baden-Württemberg.

6.2.2. Bwcon

Bwcon is the top business initiative promoting Baden- Württemberg as a high tech location. As one of the most successful European technology networks in computer industry, bwcon connects more than 480 companies and research institutes. More than 4600 experts are benefiting from systematic *networking* via the bwcon hub.



The added value generated by bwcon is to be found in the possibilities offered by new cooperation projects and connection. Bwcon has been created by industry giants including IBM, HP and Alcatel – Lucent.

6.2.3. CyberForum

CyberForum is one of the biggest and fastest growing IT-networks in Germany and part of the biggest Software-Cluster in Europe. As a non-profit association founded in 1997 it is a support organization for start-ups and young entrepreneurs in the



Region of Karlsruhe. Its rich set of key stakeholders largely exceeds 900 members, including State/Regional public authorities, SMEs and large enterprises. The region of Karlsruhe is one of the most prominent European ICT Clusters according to the European Cluster Observatory. Leading edge projects have contributed to the local development of technologies that will shape the future of Internet and mobile services. Addressing successfully these emerging trends is enabling the Cluster to gain and maintain global visibility. Furthermore CyberForum is coordinator of the regional IT initiative to foster research and innovation in the field of business software (Smart Business IT).

6.3. Cluster coopetition

Innovative products and services represent essential competitive advantages in a market that is more and more characterised by internationalization and globalisation. A very important prerequisite for innovations is an intense cooperation between regional universities, research institutions and companies. Cluster initiatives enable this interdisciplinary exchange of knowledge and experience. That is why, Cluster policy takes higher and higher priority on a European, federal and state level. In Baden-

Württemberg, the Ministry of Economics considers *Cluster* policy a key component of its innovation and economic policy.

Innovations in the ICT and creative sectors frequently occur at the interfaces between different disciplines and user industries such as the Creative Industries network Baden-Württemberg. In the context of this initiative, MFG Baden-Württemberg and about 50 partners are *networking* the sub-sectors of Baden-Württemberg's cultural, creative and ICT industries systematically to strengthen the sector-specific and interdisciplinary dialogue.

The network is funded by the Baden-Württemberg Ministry of Economic Affairs with resources from the European Regional Development (ERDF).

The Creative Industries Network is a powerful initiative that will cast a spotlight on the industries' enormous potential and position Baden-Württemberg as a leading location for creative industries. Regular information – for example concerning financing options, start-up projects or sponsorship programs – and matchmaking events will establish dialogue even between different sectors. A more intensive exchange will help IT, media and creative enterprises in the southwest optimise their existing value creation processes, so that new products and services can be developed and marketed jointly with partners.

6.4. Cluster performance

In July 2012, Baden-Württemberg was the first EU region that launched the regional level “*Cluster Excellence Quality Label*”. This *Cluster* label program has been launched on the basis of the criteria and assessment process developed within the European *Cluster Excellence Initiative* (ECEI). The label “*Cluster Excellence Baden-Württemberg*” is meant to contribute to professionalizing management structures of *Cluster* initiatives and promoting existing quality in the region (and help reduce the number of *Clusters*).

In Baden-Württemberg, the Ministry of Finance and Economic Affairs is officially awarding the label, while external service providers ensure an independent evaluation procedure: GmbH coordinates the assessment and MFG Innovation Agency for ICT and Media Baden- Württemberg provides a coaching programme for interested candidates. Eligible candidates are Baden- Württemberg *Cluster* initiatives and networks that are mapped in the *Cluster Atlas Baden- Württemberg*.

The application of indicators and the assessment procedure in an extensive *Cluster* labelling program is one great success of ECEI and could be a blueprint for other regions to follow.

6.5. Cluster impact

Success factors upon which the applications in the *Cluster* competition have been evaluated were:

- Benefit for stakeholders, business and the region (in terms of results and outcomes on Innovation capacities and competitiveness of companies and sustainability of the region);
- Innovative character: technical, organizational, societal or process oriented;
- Benefit for the employment and location development;
- Impacts on the value chain in relevant markets;
- Intent to collaborate;
- Regional consensus.

The start-up phase is completed and the *Clusters* in Baden- Württemberg have seen first success at a federal and state level. It is the goal of *Cluster* policy to continue and build on this at a regional and state level. One focus is on support for and evaluation of regional *Cluster* initiatives, to promote them and their sustainability and independence.

6.6. Summary of good practices

- A strong regional Cluster programme that articulates with the national Cluster programme SpitzenClusters;
- Good cooperation between the various State Ministries has helped create synergies and visibility for the Clusters;
- Strong focus on technology excellence and high quality research and communication activities;
- an agency specialised in the support to Clusters in the most promising sectors in Baden-Württemberg (ICT and creative industries): MFG;
- The implementation of the accreditation system linked to the European Cluster Excellence Initiative label;
- The mapping process of Clusters and the production and updating of a Cluster Atlas.

7. Some general policy conclusions

The following points highlight some of the general policy recommendations identified in these five case studies:

7.1. Governance

- Reinforce inter-ministerial coordination approach (industry/economy/research/regional development). Consider links with other policy areas (environment/energy) and societal challenges. But avoid complexity that hinders implementation!
- Integrate other policy objectives: public procurement, internationalisation;
- Ensure correct balance between local/national/regional actors (decentralisation trends);
- Provide closer linkages between financiers and managers of programmes and project selection;
- Create more linkages with policy making as part of a drive to a more « demand driven » and smart specialisation process (S3 DG Regio);
- Cluster managing bodies: adapting to « market conditions » and balancing support to emerging and existing Clusters.

7.2. Performance indicators

- An essential part of public policy making aimed at directing public funding to those able to maximise returns/outcomes. But more follow up is required: beyond projects to outcomes! A weakness for most;
- Seek opportunities to share indicators with other relevant policy programmes;
- Labelling and excellence tools will help refine Cluster « categories » (world/regional, innovation/research...). An approach that is present in most national programmes and some regional programmes;
- Generally a need to simplify procedures with some Scope to introduce an element of self-evaluation.

7.3. Inter Clustering and enhanced cooperation

- A priority for most national and regional programmes;
- A pre-requisite for internationalisation activities (Taking SMEs abroad);
- A European priority: DG Regio S3, DG Enterprise (KETs, Excellence Initiative) and DG Research H2020, RoK seeking critical mass and new label called Strategic Cluster Partnerships;
- Cooperation is seen as a means to reduce competition, duplication, create synergies and as a way to increase innovation capacity...
- Can also help introduce new concepts: user driven and open innovation, concepts such as design, service led innovations...
- Also requires a more professional approach to marketing and branding of Clusters;
- Help develop national sector strategies and bring together technology and market approaches. Currently a weakness for most Cluster national systems.

7.4. Cluster trends

- A key tool to support innovation and growth: an effective mechanism for mobilising and engaging with SMEs and other research/innovation actors: from triple to quadruple helix (+Users);
- Improve integration into local/regional ecosystems;
- Integrate Clusters: interClustering, cross fertilisation, emerging industries, meta-Clustering, strategic partnerships;
- Financial models and sustainability of Clusters: 50/50 co-financing, service driven models and greater autonomy;
- Governance: balance between national and regional perspectives varies but closely linked to local framework conditions;
- Cluster policies and programmes should evolve (rapidly) to remain relevant to business needs...
- A key role to play in the emerging S3 policy field and H2020.

8. Lessons for the Portuguese *Cluster* Programme

The previous chapters have illustrated the various *Cluster* programme experiences from six other case studies drawn from different locations across Europe. Five main thematic areas have been identified.

- Governance;
- Programme and Support Instruments Content;
- Internationalisation;
- *Cluster* Management;
- Funding.

Governance

All the case studies, whether it is at the national or regional level, illustrate the importance of close inter-ministerial cooperation. This needs to take place ideally at three levels: the design of the policy, the evaluation of the programme and the approval of project activities (depending on programme objectives). The recent national *Cluster* evaluation in France shows that the weakness of cooperation with the National Research and Higher Education ministry needed to be remedied and the Ministry has subsequently been included in the steering committee alongside the Finance/Industry/Planning Ministries. In the PACA region also in France the international affairs department helps the economic and innovation department select internationalisation business priorities for the *Clusters*.

In developing the Portuguese *Cluster* programme and by creating policy actor and departmental level synergies it will be possible to enhance the linkages with other government policy priorities such as key technologies, regional development priorities, research priorities, etc.

Clusters programmes tend to have a two to three year funding cycle (supported by evaluations). European project funding also tends to provide support over a three year period. The review of the case study material shows that in some cases funding is provided for 8 years (VINNOVA). A further issue to take into account is the duration of the structural funding cycle i.e. 7 years. But on balance a three year cycle with the scope for renewal for a further three years following an evaluation seems a good compromise for a *Cluster* programme.

Cluster ranking and categorization efforts have delivered mixed results. In Germany two distinct *Cluster* networks now exist. In France the original three categories (with no real precise statistical justifications)

survived for six years and some form of categorization will probably remain. Typically, this is based on the potential size (critical mass), reach (international versus regional) and maturity. In France the same funding opportunities exist for all *Clusters* but roughly 80% of the funding of R&D projects goes to 20% of the *Clusters* who are in the top category. If a categorization process is to work it must be based on clear and transparent criteria and preferably supported dedicated financial tools. Alternatively the current Bronze and Gold labelling processes would provide a European level recognition process (see below).

Evaluation exercises need to take place at both the programme level and at the *Cluster* organization level. Ideally the programme level evaluation should take place in the same study/process. Governance organizations must provide a clear evaluation framework with common indicators at the outset of the programme launch.

In addition to evaluation studies, independent labelling, for example via ESCA (bronze, gold and soon silver medals) can help provide outside recognition of the quality of the services provided. Such a recognition scheme is recognized at a European level (by DG Enterprise and Industry), and may help labelled *Clusters* to apply for and benefit from European funding. It results that an increasing number of *Clusters* are undertaking this benchmarking exercise over Europe. This approach has been developed in the Baden Wurtemberg regional *Cluster* programme.

Evaluations of individual *Clusters* can help identify areas of overlap or scope for greater cooperation. The latest French evaluation programme has illustrated how some *Clusters* could be “de-classified” or merged. Or alternatively, *Clusters* can be encouraged to work together through the signature of cooperation agreements. The current Portuguese evaluation also seems to point in this direction.

Programme and Support instrument Content

The case study material points towards four key messages for developing the content of the Portuguese *Cluster* programme:

- National and regional *Cluster* programmes need to be defined to reflect national and regional priorities. This cannot be a copy and paste exercise! For example in Hungary the main target is the internationalisation of SMEs (export), in Sweden it is the growth of companies, whilst in France the focus is often on supporting innovation through collaborative research projects (now shifted towards product innovations);
- Many programmes (France, Denmark, Sweden) have shown how *Cluster* members become more open to innovation through participating in *Clusters* and especially those that are encouraged to work with RDI organisations. Facilitating this process should be a core component of the Portuguese *Cluster* policy;

- *Clusters* by definition need to have a strong cooperative and collaborative focus. This will help justify both public funding and drive forward inter-company level cooperation's;
- Where relevant it will be interesting if the Portuguese *Cluster* programme reflects the priorities in key EU policy documents, such as H2020 and the main societal challenges.

Clusters managers and Cluster organisations

The *Cluster* manager is a key element of the *Cluster* policy implementation process and his/her role needs to be reinforced. Their priorities will be defined according to the Portuguese national *Cluster* policy programme and the needs of their members. Key issues that need to be addressed include:

- Improve *Clusters* managers' leadership and management skills, for example understanding the needs of their members (businesses), organising annual member satisfaction surveys or taking best practices from the European *Cluster* Excellence Initiative;
- Increase awareness among *Clusters* managers of the importance of establishing synergies with entities identified as being a priority in the policy initiative, for example actors drawn Scientific and Technological System (NSTS);
- Increase awareness among *Clusters* managers of the importance of improving the services provided to *Cluster* members and especially businesses;
- Seeking excellence, for example increase awareness among *Clusters* managers of the importance of qualifying for the ESCA sponsored "*Cluster* Management Excellence Label GOLD and BRONZE";
- Business planning and sustainability skills to ensure the *Cluster* can evolve from a public only funding model to a mixed funding model with 50/50 split with the private sector.

Internationalisation

The good practices clearly point towards the improvement and enhancement of the internationalisation profile and activities of the Portuguese *Clusters*. This is also highlighted in the work of the European *Cluster* Alliance (see Handbook on Internationalisation). Three particular aspects are important:

- Internationalisation support for the *Cluster* members themselves is a priority. For example support to SME exports and finding state of the art innovation and technology support. *Cluster* management teams must offer a range of relevant services to their members;
- Internationalisation for the *Cluster* management organisation itself, whether this is funded via EU projects or through national level initiatives, *Clusters* must open themselves to international good practices. It can also help develop cross sectoral activities (E-health, smart textiles) and develop supply chain initiatives (Aerospace *Cluster* network ...). The EU is currently developing and supporting a range of initiatives known as Strategic *Cluster* Partnerships in which four or five *Clusters* from a similar sector are encouraged to work together to access international markets;
- *Networking*: at present neither the Portuguese policy makers nor the *Cluster* organisations themselves are very present in relevant EU networks (only one Portuguese *Cluster* has been labelled to date). This limits access to new information, partnership, knowledge about new calls and programmes and can limit partner's ability to contribute and develop *Cluster* policies at a European level. A lack of presence can also hinder partners when trying to develop EU bids.

Funding

A variety of different funding regimes exist in Europe. But one key and constant message is that *Cluster* management organisations must be increasingly self-funding. Public finance tends to be heavily involved in the launch and set up phase but after a period of between 3-5 years at least 50% of the *Cluster* management costs should be covered by private resources (subscription fees, services, training, sponsorship, etc.). This provides both the basis for a sustainable strategy and ensures that the *Cluster* focuses its activities and resources on areas that provide a key value added service to members.

Public services or shared needs (delivery of a specific programme or initiatives) continue to be funded by public sector resources.

Finally, *Cluster* organisations can play a role in defining and delivering the priorities within regional S3 structural funding programmes, for example the focus on supporting innovative SMEs or identifying potential growth areas through cross sectoral activities. Other synergies between national, regional and local funding sources should also be examined to establish possible synergies. For example the PACA region in France has combined these resources to fund its *Clusters*.

9. Annexes

9.1. Annex 1: bibliography

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9.2. Annex 2: list of the persons interviewed

Best practice name	Contacts
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9.3. Annex 3: interview guide

Introduction to the evaluation project and the benchmarking process

N.B.: All questions will be asked but the responses and feedback will depend on the type of *Cluster* policy and its specificities.

CLUSTER POLICIES/PROGRAMME OVERVIEW

Policy Rationale

- What was the main rationale for putting in place the *Cluster* policy (support for national sector priorities, business innovation support, support drive towards more competitiveness, R&D support, European trend and launching collective initiatives?? bottom-up approach good practice observed in other countries?)
- When was the programme put in place?
- Who are the main Ministries and/or organisations behind the policy?
- What did the programme consist of (funding of *Cluster* organizations, funding of projects)?
- What was the budget dedicated to the whole programme and in details (funding of *Cluster* organizations, funding of projects)?
- Have other sources of funding been leveraged? European for example?
- Linkages to other policy areas.

Policy Launching

- How was the programme put in place? (call for tender? open call? how many calls? how was the information communicated to potential candidates?)
- How many *Clusters* were selected?
- What were the main criteria for selecting the *Clusters*?

Identify key aspects of policy implementation process notably financial/budgets.

- For example impact on the structuring of key economic sectors?
- Changes to project selection? Process enabling best projects to emerge?

CLUSTER ORGANIZATION

Initiative and growth

- When were the majority of the *Clusters* founded (independently from any *Cluster* programme)?
Pre dates *Cluster* policy?
- Is there a differentiated *Cluster* labelling process?
- What was the rationale for the constitution of the *Cluster* (call for tender from *Cluster* programme? industrial initiative?)
- Typically what has been the *Cluster* grow process (criteria: membership, animation team... funds managed, projects selected...)?

Cluster Descriptions

- What are the main *Cluster* focus, sectoral/technological?
- What are the main activities of the *Clusters*?
- How is the *Cluster* structured in terms of governance?
- How many members does the average *Cluster* have?
- What role and presence do SMEs have?

Funding

- What is the average annual budget of the *Clusters*?
- What is the approximate budget breakdown in terms of public / private funding?
- Where possible provide details:
- Public funding: part of local, regional, national programmes?
- Private funding: part of membership fees, consulting services, training, etc.?

CLUSTER COOPETITION

Intra Cluster coopetition (among Cluster members)

- How does the *Cluster* organization / programme encourage the collaboration between the members of the *Cluster*?
- What impacts on collective initiatives/behaviour?
- What incentives exist?
- How are the incentives structured? (Call for projects, direct funding?)

- What are the main purposes of the collaborations (R&D projects, joint marketing activities, matchmaking and other business purposes)?

Inter Cluster cooperation

- Does the programme encourage/is the *Cluster* involved in inter-*Cluster* collaboration?
- If yes at what level national/regional and/or internationally
- What is inter*Clustering* about (collaboration between the *Cluster* organizations or the *Cluster* members?)
- Does it target specific groups (e.g. SMEs?) or specific activities?

CLUSTER PERFORMANCE

Performance indicators (macroeconomic and microeconomic)

- What monitoring tools have been put in place?
- What are the main indicators used to assess the policy performance?
- What are the main indicators used to assess the *Cluster(s)* performance?
- How are these indicators assessed?
- How are they collected and at what frequency

Accreditation system

- Is there any accreditation/classification system put in place to qualify/classify *Cluster* organizations?
- If yes:
 - How is this system structured?
 - In which category is the *Cluster* interviewed classified?
 - Is there any articulation with the ECEI Qualification Label?
 - Has the *Cluster* interviewed got the ECEI Bronze / Gold label?

CLUSTER POLICY IMPACTS

Policy level impacts

- Has the programme ever been evaluated? If yes?
- When and how was it evaluated? Are the results publically available?
- What the main objectives/purpose of the evaluation

- Main findings of the evaluation
- Highlight the main lessons / conclusions. How were the results used (? programme restructuring? *Clusters* closed/merged etc.)?
- Has the *Cluster* policy played a role in the general competitiveness of the territory covered? How measured? What criteria were used?
- What impact on the management of national/regional R&D resources?
- If the *Cluster* policy has yet to been formally evaluated is there any unofficial results/feedback from current experiences? Perceived value added?
- What is the role of the *Clusters* as partners in the definition and implementation of the competitiveness and regional development public policies?

Cluster level impacts

- What are the impacts at the individual *Cluster* level? For example:
- Main activities of the *Clusters* funded
- Collaborative projects between R&D actors and companies
- Patents/new products?
- Enterprise/job creation?
- SME internationalization?
- Support to *Cluster* organisations (HR)?
- Contribution of the *Clusters* to the vocational training
- Are the current *Clusters*/networks sustainable?
- Etc.