



THE REGIONAL INNOVATION SYSTEM OF PROVENCE ALPES CÔTE D'AZUR

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1. Background: regional economic and innovation strengths and weaknesses

The regional scientific research context in PACA shows a high potential for innovation and surprisingly low innovation content among the regional production system. This gap between researches and economic sector is due to two main factors: the small size of companies and the lack of efficient links between research and productive system.

The PACA region's strengths are significant, especially concerning the research.

The Region is ranked third in France in this matter, after Ile-de-France and Rhône-Alpes. The regional research represents 7% of the national scientific potential in terms of resources, 7% of the national publications, 5, 5% of the national patents in 2003¹. PACA's potential represents 21 200 researchers (54% in the public sector)². According to the DIACT³, the PACA Region is rank n° 21 in Europe for publications and patents⁴. There are 400 research centres, dependant from one of the six universities, and some of the biggest national institutions of research⁵.

Whereas the number of public researchers is decreasing, the number of private researchers is increasing (-2% against +3%). 9 700 persons are working in private R&D in 2002 and R&D investment in 2002 are of 1 155 millions euros. Most of the private R&D expenditures are made by companies having more than 500 employees.

The more important sectors are aerospace (Eurocopter, Alcatel Space, Dassault aviation), computer sciences and communication technologies (IBM, SAP), chemistry, petroleum and pharmaceutical industries (BP, Virbac, Arkopharma), biotechnologies (TRophos, Innate, Pharma) and weaponry (Thales). Only 20% of the private expenditures in R&D are made by SMEs.

In addition, the regional territory is well doted in infrastructure, for transport and for immaterial communication (97% of the territory is covered for Internet high speed access, second region of France). Some zones suffer from the digital divide, especially in the hinterland and the mountain area.

Most of private companies are connected to the Internet (65% in 2002, but the connection rate is increasing very quickly, both for household and companies). Some companies use the Internet mainly to meet clients' needs and requests and the companies with an inner strategy towards NTIC are relatively few⁶.

The region demonstrates also high productivity rates: 4500 euro of gross domestic product per job above the national average (average except Paris). This high productivity is due to the presence of a highly capitalistic industry and a high level of qualification. Nevertheless, the wealth per inhabitant is under the national average (average except Paris), due to the importance of social transfers.

Both national and regional authorities (including local ones) developed many tools, organised and/or financed organisations aiming to support technologies and research results transfer. Therefore, the regional actors benefit of a wide range of entities to support their innovative processes: six university

¹ DRIRE PACA web site

² Source OST (2003 data), quoted in the "Schéma Régional de Développement Economique" PACA (2006)

³ Inter-ministerial Delegation for Territorial Planning and Competitiveness

⁴ DATAR, rapport 2004 "La France puissance industrielle – une nouvelle politique industrielle pour les territoires", in the "Schéma Régional de Développement Economique" PACA (2006)

⁵ CNRS (Centre National de la Recherche Scientifique), CEA (Commissariat à l'Energie Atomique), INSERM (Institut National de la Santé et de la Recherche Médicale), INRIA (Institut National de la Recherche en Informatique et en Automatique), INRA (Institut National de la Recherche en Agronomie), CNETS, IFREMER (Institut Français de Recherche pour l'Exploitation de la Mer), CEMAGREFF (Institut de recherche pour l'Ingénierie de l'Agriculture et de l'environnement), INRETS (Institut National de Recherche sur les Transports et leur Sécurité), ONERA (centre français de recherché aérospatiale)

⁶ as underlined by the "Schéma Régional de Développement Economique" (2006)

services in charge of research commercialisation, many incubators, six technopoles/science parks, many interface organisations (local, national, thematic, etc), competitiveness clusters, and the support of the national institutions and services (including the national services present on the regional territory)...

Despite this strong strategy to support research valorisation and technology transfers, the PACA region's weaknesses are mainly due to the gap between research and productive system.

There are persistent barriers between research and productive system, although there had been a lot of initiatives the last ten years to promote the "economic" value of public researches. But this strategy does not always benefit to the regional productive system, considering that the commercialisation strategy had no geographical boundaries. This gap is also generated by the limited knowledge, in the research system, of the economic actor's technological needs. The economic actors themselves do not have a good knowledge of the regional laboratories and research centres offers.

In addition, the cultural gap between private and public sector, as well as the heaviness and bureaucratic aspect of the support system, do not contribute to overcome the problem of innovation spread within the regional production system. Although the institutions, measures and support system are quantitatively important, measures are fragmented, and the support system lack of coordination and perceptibility. Moreover, the each financing institutions have its own exigencies⁷, which do not facilitate the SMEs access to funding for their innovation projects.

This gap can also be explained by the relatively small average size of the companies. Most of the companies have less than 10 employees (89% in 2004), and most of them are specialised in retail and services. Although there are some important ones (among which some dealing with international market, like Eurocopter), the PACA Region economic system suffers from the lack of the intermediate size companies. In addition, concerning big companies, headquarters are mainly outside of the Region (generally in the Region of Ile-de-France): PACA is one of the less independent region in France (rank 18 out of 22).

The average level of education and professional training of the active population and youth is not sufficient and does not enable the region to satisfy to the requisite of a knowledge driven economy. Nevertheless, the existing industrial jobs are more qualified than the national average, due to the lack of big production units and the introvert nature of regional industries (few manufacturing, and high level of automation).

Concerning internationalisation of the productive system, there are many barriers to internationalisation: the small average size of the companies, the lack of financial and human resources, a limited knowledge about the rules and the opportunities. 9 000 out of the 300 000 regional companies (3%) have export activities, and only 1 500 of them developed a real and structured internationalisation strategy:

- Some large group with an international market (Eurocopter, Thales, Coca-Cola, Alcatel, ST Microélectronics, Sollac, Gemalto, Ricard...).
- Some big SMEs (around 500 employees or more) with an international dimension (Robertet, Mane, Kerry, Virbac, Arkopharma, Avenir Telecom...).
- Some SMEs structured towards export, especially toward the European Union and the Maghreb/Africa (Moteurs Baudoin, Expression aromatique, l'Occitane, Continental Aramaine, ECA, Seres, Breuer...).

These three categories represent 20% of the exporting companies, but they achieve 80% of the regional exportations.

The most important challenges identified in the "Schéma Régional de Développement économique" are:

⁷ All this analyses was made by the Region, in the "Schéma regional de développement économique" (2006), pages 89 to 90.

- Support, strengthen and foster cooperation between companies, but also between companies and research.
- Reinforce and improve the cooperation between institutional players, such as to obtain a better organisation and articulation of the support and services provided, as well as to ameliorate interface with the private sector.
- Encourage and support international exchange.
- Encourage and support the international development and visibility of the innovation stakeholders and clusters.
- Sustain innovation process (both technological and organisational).
- Anticipate economic changes.

2. Innovation policies and instruments

Preliminary remarks: devolution process in France and its characteristics

To understand the regional innovation policies and instruments, it is necessary to briefly explain the decentralisation process in France. Although this process is in progress since the 80s, the national level remains very present, including within regional and provincial territories, through its “deconcentrated” services. In addition, if Regional Councils have an elected body, they are not entitled to enact laws nor to impose their views, policies or strategies to other territorial levels and none of the regional strategic plans is legally binding. According to the French Constitution, there is no hierarchy between regional, provincial, communal, and other intermediate territorial levels of governments. Therefore, each level can play a role, according to its material compulsory competences and its willingness (for non compulsory competences), in many fields. Regulation is made through a contractual process, especially through the “contrat de projet” (ex-Contrat de plan Etat-Région), thereafter referred to as “state-region contract”, which sets for 5 years the joined state and region policy and financing for the territory. This process includes in principle the provincial and municipal levels, but relationships between these levels remains complex.

Policies and actions at the national level

French national policies and actions for research and innovation has evolved over time: from a centralised system with the creation of the CNRS⁸ after the war, to a more decentralised one with the recent creation of a new national innovation framework, strongly oriented towards competitiveness and a knowledge based economy, with strong incentives for innovation and technologies transfer, innovative SMEs development, research results commercialisation, but also through important reforms within the public research and academic sector.

To achieve these objectives, the State created/reinforced:

- The Agency for Industrial Innovation (AII), to support large companies on large industrial programmes.
- The National Agency of Research (ANR), to fund research projects (public, private or collaborative) according to governmental priorities, through the Research and Technological Innovation Networks.
- The CDC Enterprises plays a major role to fund innovation for SMEs.
- OSEO (national agency supervised by Ministries of Research and Industry) has been created and reinforced to support enterprises creation and innovation within the industry, to promote the commercial marketing of public research results, to promote innovation in general, in order to foster the economic growth. It is the main actor and coordinator of financial innovation support measures at the regional level.

⁸ Centre National de Recherche Scientifique

Apart from this institutionalisation process, laws and action plans had been implemented to modernise the French academic and research system and to encourage linkages with the economic sector.

Following the 1999 law about research valorisation and commercialisation, the Ministry of Research launched 19 National Technological Research Centres between 2000 and 2004, bringing together public and private partners with common field of activities and research⁹. The 1999 law also allowed the creation of research results marketing services within universities and public research centres¹⁰, facilitated researchers mobility from public sector to enterprises, defined financial, legal and fiscal advantages for young innovating enterprises. It had been completed by measures to improve the patenting rate of public researchers.

The 2002 Innovation Plan aims to offer a general framework for partnerships between research and socio-economic actors, deepening and reinforcing some of the 1999 law initiatives.

Those laws and initiatives had been completed by the 2005 Research Pact and the 2006 Research Act. They define the following priorities:

- Reinforcement of evaluation in the public research system.
- Development of project based funding.
- Reinforcement of linkages between public research and innovation.
- Creation of the PRES¹¹ such as VALORPACA. These new tools aim to pool activities and resources of universities, private or public research centres and to reinforce the visibility and attractiveness of the French higher education system. The visibility is indeed considered as crucial in a context of very strong international competition, which requires critical size.

To enrich its strategy, the State defined a more global innovation strategy, with peculiar attention to SMEs.

The SMEs Pact (2006) aims to reinforce the relations between innovative SMEs and large companies, and is completed by other measures sustaining SMEs, like the Innovation Development Contract of OSEO (2005), or the Gazelles programme (one of the five SMEs growth programme launched by the Ministry in charge of SMEs).

To fill the cultural gap between research and socio-economic actors, a range of initiatives have been set up, like the CIFRE (convention to support the recruitment in the private sector of PhD candidates to develop an applied project) and the CORTECHS (support programme for the recruitment of technicians on innovative projects, especially in SMEs and SMIs).

The State also initiates, directly (through ministries) or indirectly (through its agencies) call for projects to promote innovation, collaborative projects and technology transfers. This kind of measure often gives labels and subsidies to innovation projects, technology transfer, coordination organisations, research collaborative projects, etc.

Among the most significant:

- The Competitiveness Clusters (see the box below).
- The Carnot Award (included in the Research Pact) aims to encourage partnership between private and public research and business, so that the public research results can be used by enterprises and SMEs, to develop innovation and cultural changes and, doing such, progress towards better cooperation between public research and private sector. The “Carnot” label is given to entities that can demonstrate a capacity to create efficient collaboration with socio-economic actors. The label gives higher visibility and allows to get financing from the ANR. There are 33 institutes with this label, 7 of them are in the PACA Region.

⁹ The two regional CRNT are Energies, in Marseille Etang de Berre, and Telius (NICT) in Sophia Antipolis.

¹⁰ The people in charge of public research results commercialisation belong to a national network, CURIE, that encourage and support exchanges of good practices.

¹¹ Pôles de Recherche et d'Enseignement Supérieur

- The National Agency for Research made also a call for projects to gather actors working on technology transfers and innovating projects development (such as regional incubators, valorisation and commercialisation services in universities, etc).

The Competitiveness Clusters Policy

The Competitiveness Clusters have been designed by the state to reinforce its industrial policy and stimulate economic growth using innovation process and partnerships, with a territorial concern. They were officially launched in September 2004.

The selection criteria are the following:

- Capacity to create new activities, with high value added.
- International visibility.
- Quality of the partnership and governance.
- Economic development strategy for the territory.

The aim is not only to stimulate R&D, but also synergies and cooperation between actors belonging to the same territory when they have activities in the same field. The synergies come from complementary and active partnership between research, high education actors and economic and industrial players.

Members of the cluster benefit from direct subsidies, tax incentives, access to funding sources under privileged conditions (e.g. guarantees).

There are three calls for projects per year, and financing and support for the selected collaborative projects. The cluster governance association is caring out the selection of its R&D projects proposals. At the national level, the funding is gathered in a unique inter-ministerial fund.

The State, as said previously, is very present in the French regions. Two ministries acting towards innovation have regional services:

- The Ministry of industry, with the DRIRE (Regional Directorate for Industry, Research and Environment).
- The Ministry of Research, with the DRTT (Regional Delegation for Research and Technologies).

Both are implementing the national policies within the region.

The ADEME¹² is another national actor present on the regional territory. It is an industrial and commercial public agency, under the joined supervision of the Ministry of Ecology, Sustainable Development, Spatial Planning and the Ministry for the Higher Education and Research. It aims to encourage, coordinate, facilitate the operations to protect the environment and manage the energy. In its field of competences, it also acts towards innovation and technology transfers.

The SGAR (General Secretary for Regional Affairs) is playing an important role, according to its responsibilities for structural fund management.

The State also implements “structuring projects” of research in the PACA Region, like the Cancéropole, Genopole and ITER.

Policies and actions at the regional level

The Region made two strategic plans that take into account innovation: one about economic development (“Schéma Régional de Développement Economique”), the other about research and higher education (“Schéma Régional pour l’enseignement supérieur et la recherche”).

The two documents acknowledge the need for SMEs and SMIs to benefit from the regional innovation system. After an analysis of the regional situation and the regional actors identification, both plans propose priorities and actions. None of these proposals is law binding, and most of the Regional policy is defined (and financed) by the state-region contract.

According to the 2006 “Annual Innovation Policy Trends and Appraisal Report”, 14, 6 % of the previous state-region contract was dedicated to “higher education and research” support. PACA

¹² Environment and Energy Management Agency

belongs to the five first French regions for the budget share dedicated to research and technological development¹³.

The state-region contract 2007-2013 fully acknowledges the importance of innovation for the region and its economic development.

Therefore, many measures are set up for skills improvement, technology and research results valorisation, marketing and transfer. All together, they constitute a kind of “bi-level common policy” to enhance relationships between research and economic actors and to facilitated high value added projects. They also support the creation/reinforcement of regional interface actors, which encourage and spur on technologies and research results transfer.

The State-Region contract for 2007-2013 proposes three priorities, for a total of 473 millions euros.

The first priority aims to reinforce and modernise higher education and research centres (skills centres¹⁴). More than 373 millions euros are planned to rationalise the territorial organisation of the regional research, through different actions:

- Encourage and facilitate linkage between different teams and entities.
- Support to thematic groups on a limited number of “sites”.
- Concentrate tools and resources.
- Improve the territorial coherency at metropolitan scale as well as at regional scale.
- Support and reinforce the PRES, the Thematic Networks of Advanced Research¹⁵ (RTRA) and the Carnot Institutes.

The second priority is the reinforcement of the relations with economic sector (valorisation and commercialisation of research results, technologies transfer, partnership and interface entities, Competitiveness Clusters, PRES, etc...). The contract planned around 32 millions euros to finance the facilities of the technologic platforms, partnership platforms and CRITT. Other 55 millions euros are planed to support coordination and interface initiatives/organisations like:

- Regional actions of animation and coordination (Méditerranée Technologies, the Technologic Diffusion Network...).
- Common actions to research valorisation and commercialisation, especially the creation of PRES, like VALORPACA.
- Actions lead by interface actors such as the CRITT, technologic centres, etc.
- Actions lead by the Competitiveness Clusters and the PRIDES.

The third priority aims to sustain actions towards scientific, technical and industrial culture development, with more than 18 millions euro to:

- Support the network of regional actors and reinforce the CCSTI¹⁶ as a regional leader for animation in this field.
- Create emblematic places, with national and international visibility.

The State and PACA Region take on a commitment to stress efforts on structuring projects that ensure national and international visibility and attractiveness.

The main regional policy about SMEs and innovation is the PRIDES. All the regional Competitiveness Clusters received the PRIDES label. This label gives access to regional financing (in addition to the national ones). The regional financing is provided to:

- Finance the animation and governance organisation of the Cluster.
- Support actions towards the development of one or the other five regional priorities.
- Support enterprises belonging to the Cluster.

¹³ Annual Innovation Policy Trends and Appraisal Report, France, 2006

¹⁴ “Pôles de compétences”

¹⁵ Réseaux Thématiques de Recherche Avancée

¹⁶ Centres de Culture Scientifique, Technique et Industrielle

The two first actions are financed through a contract between the region and the Competitiveness Cluster.

The PRIDES which are not also labelled as Competitiveness Cluster have only regional funding.

There are 17 PRIDES. All of them signed with the Region a “convention d’objectifs”, for three years, with an annual financial contract. The financial contracts for 2007 were mainly supporting coordination and collective actions.

According to the economic development and SMEs service within the Regional Institution, only the PRIDES which are also Competitiveness Cluster (“double label”) are really innovative. The others have widely less innovative content.

Nevertheless, the concept of “PRIDES” is interesting: it adds other dimensions to the Competitiveness Cluster as defined by the national level. Whereas Competitiveness Cluster are based on R&D, the PRIDES are founded upon 5 complementary priorities/tools:

- Innovation.
- Internationalisation.
- Appropriation and use of technologies.
- Human resources (through formation and training).
- Social and environmental responsibility.

The human resources, as well as the social and environmental responsibilities, are the main differences and enrichments, compared to the Competitiveness Cluster approach.

Apart the state-region contract and the PRIDES, the Region implements other measures to reinforce innovation and research. It created, in association with a bank (Caisse d’Epargne) and CDC Entreprises, a regional venture fund society, PROXIPACA FINANCE, which provide funds to SMEs.

Many other measures are implemented to foster innovation processes:

- Support to collaborative projects between research centres and industrial partners (if they are not already financed by the state).
- The offer of regional grants for innovation, including PhD grants.
- Support for the organisation of scientific conferences and events which help to increase the international dimension of research.
- Support internationalisation, through the support to scientific cooperation programmes twinning laboratories in the Provence-Alpes-Côte d’Azur region with foreign laboratories and to Post-doctoral grants for foreign researchers in the region's laboratories.

3. The actors in the regional administration

Regional administrations’ organisation changes from one region to another. Concerning the PACA Regional Council, there is no official and formal interaction between the direction of international and European affairs, and the services in charge of innovation and SMEs, even though they may have international and European actions.

This situation is called to change in a close future. Indeed, due to the role of the Region as Managing Authority of the Med program, it is planned to develop European projects in every regional field of competence and to reinforce the Region presence in Europe and in the Mediterranean Space. The PRIDES will be used to build concrete projects (Mediterranean “clusters” policy).

Regional innovation and SMEs policies are basically shared between two main services:

- The first one is in charge of SMEs within the Economic Development Directorate. In relation with its competence, this service implements actions about SMEs in general and, according to the needs, SMEs and innovation/internationalisation (one or the other, rarely both). The regional policy on SMEs doesn’t have explicit link with the innovative process. The main link is

due to the shift of the subsidies regional policy, skipping from material investments to immaterial investments. Of course, innovation falls in the second category and may, as such, be supported by this service.

- The second one is in charge of the regional innovation policy within the Research and Higher Education Directorate, and work on issues related to technology transfers, research results valorisation and commercialisation. They may, according to this field of competences, implement actions to develop innovation within the SMEs, although SMEs are not, as far as this service is concerned, an exclusive priority. According to the regional strategy and the state-region contract, the links between research and economic actors are crucial. Therefore, the service supports initiatives in this sense, as well as it encourages economic initiatives of public researchers.

The Region, in association with the State and the regional economic sector, created the MDER PACA (Regional Development Agency of Provence-Alpes-Côte d'Azur). With the commitment of regional actors (infra-regional institutions, consulates, local authorities, regional government and business groups), the MDER aims to promote the regional economy. It:

- Assists businesses and business partnerships to re-locate in PACA.
- Supports business activities and companies already based in PACA (specifically helping them to remain competitive and safeguard employment opportunities).

MDER makes the linkage between local businesses and IFA (Invest in France Agency) and is in close relation with the regional chamber of commerce, Méditerranée Technologies and six sub-regional development agencies.

Apart from the MDER and PROXIPACA, the Region did not create a specific organisation for economic development nor for innovation support. Still, the Regional Council is strongly committed to support innovation process and, thus, finances many regional and local actors whose activities are oriented towards innovation process.

4. The actors in the regional and local area systems

The regional and local actors of the regional innovation system are very numerous in the Region, which is in the meanwhile a strength and a weakness. It is a strength because the regional system is rich of innovation support organisations, but all those organisations hardly constitute an organised system. Innovation actors are sprayed upon the regional territory, without any coordinating frame. This abundance without coordination blurs the overall transparency and visibility. It also complicates the stakeholders access to information about support measures and multiplied the procedures, considering that each organisation developed its own procedural frame.

Therefore, the Regional Council is working on the regional innovation system organisation. The creation of a regional innovation network is planned, to articulate and create synergies between the 230 regional organisations. According to the regional services, a real qualitative jump is at stake. The Region is working with Méditerranée Technologies (see below) to identify the actors and to create this network.

It is quite complex to draw a full picture of the regional and local actors: the lack of a central coordinator diminish considerably the regional system “legibility”. We try to present hereafter some of the local and regional actors, without pretending to exhaustiveness.

Five technological centres provide assistance, services and support for the SMEs development. They had been created by the successive state-regions contracts and, in their specific thematic, help and encourage SMEs to use technologies that can improve their performances. They are doing animation activities, selling expertise and services to companies.

- CARMA: high tech materials, Sophia Antipolis.

- CLAIRE: laser and their industrial application promotion (Aix-en Provence).
- CT2M: Mediterranean Technologic Centre for Mass (Saint Chamas).
- CCRM: Micro-waves Ressources Common Centre (Marseille, Château Gombert).
- IMQ: Mediterranean Quality Institute (Toulon).

They associated themselves for the Solaris Project, to build a coherent network that gathers technology transfer organisations.

Two Innovation and Technology Transfer Regional Centres¹⁷ (CRITT), respectively specialised in “food processing and research” and “chemistry, plastic and material”.

Six Technology platforms: they aimed to facilitate the SMEs access to new technologies. Each of them constitutes a network which gathers education institutions, engineering higher education school, universities and CRITT. Members provide to each other an access to equipment, training and expertise, and are backed by research centres. The existing platforms are specialised in mechanic, energy and gas, food research and processing, maritime engineering, mountains biological resources valorisation, multimedia.

Three incubators benefit of the Research Ministry label: the inter-university Incubator Impulse in Marseille, the PACA Est. Incubator (Nice and Toulon), and the Multimedia Incubator in la Belle de Mai (Marseille). In addition, the Region has other “pépinières d’entreprises”¹⁸, like “Marseille Innovation” (that counts more than 50 start-up), or Sophia Antipolis (where 80% of the ICT enterprises had been created less than 10 years ago).

The six technopoles/science parks are grouping in the same space higher education, research and economic actors. They have been created to foster the exchanges between those actors. The regional science parks are Agroparc in Avignon (food research and processing), Mediterranean Europole in L’Arbois (environment), Château Gombert (engineering sciences) in Marseille, the Technologic and Science Park of Luminy (biology and life sciences), Sophia Antipolis (NICT, multimedia and biotechnologies) and the project of Toulon Var Technologies (marine sciences and technologies).

Competitiveness Clusters aim to create a real “ecosystem for growth”, gathering in a defined space, research, universities, SMEs and big businesses working in the same field. They aim to create a partnership process to obtain synergies and international visibility around common innovating projects. The Competitiveness Clusters are the following:

- “Solution communicantes sécurisées” (information and communication technologies), world cluster.
- OPTITEC (optics-photonics), national cluster.
- CAPENERGIES (sustainable energies), national cluster.
- MER PACA (marine and submarine technologies, biotechnologies, ICT, shipping, risk management), world cluster.
- PASS (perfumes, cosmetic, aromatic plants uses), national cluster.
- “Gestion des risques et vulnérabilité du territoire” (security, risks, defence, territory), national cluster.
- TRIMATEC (nuclear technologies valorisation), national cluster.
- ORPHEME (emerging pathologies and orphan diseases), national cluster.
- PEGASE (aerospace), national cluster.

¹⁷ Centres Régionaux d’Innovation et de Transfert de Technologie (CRITT)

¹⁸ Incubators without the ministerial label

The SPL¹⁹ (Local Productive System)

The SPL (similar to Italian industrial district) are an organisation that gathers enterprises and institutions geographically close, working in traditional high quality economic activities. The SPL aims to help them to remain competitive in a globalisation context. The policy is supported by the DIACT, in partnership with all competent ministries. The SPL can be, after call for projects, supported by national funding. Four regional SPL are supported by the state:

- Industrial Bigarreau Sector.
- Clothing and fashion (Marseille).
- Perfume and medicinal plants (Grasse).
- Flavour and scents (Pays de Haute Provence).

Many associations/actors are acting, locally or regionally, to improve exchanges between all actors and to support innovating projects and processes. For instance:

- Telecom Valley (Côte d'Azur) represents a real cluster of Information and Communication Sciences and Technologies, counting around 100 members. It facilitates communication and exchange in the community, encourages partnerships, supports innovating processes, promotes the community and its businesses.
- Club Hi-Tech SA has been created in 1982 by the CCI²⁰ Nice Côte d'Azur, Nice Sophia Antipolis University and the INRIA²¹ to encourage and facilitate linkages between research, industry and university, so as to promote synergies and common projects. It brings together professionals and researchers of biology, life sciences, health sciences, computer sciences and electronic sciences.
- ARIST (Technological and Strategic Information Regional Agency) is a service set up by the Regional Chamber of Commerce and Industry, supporting SMIs or industrial actors for their technical and legal (industrial properties, patents) needs, as well as their innovating or technological projects.
- POPSUD is a federation of regional actors doing R&D in optic and photonic (private companies and public research centres). There are more than 138 highly committed members, and each of them plays a key role in industrial development or research and higher education in optics, photonics and image processing. POPSUD promotes the common field of expertise, provides pooled technological tools and shared platforms for the benefit of companies and laboratories. It also participates to European projects about clusters (OPTITEC project leader).
- The Association for the Research on Components and Secured Integrated Systems (ARCSIS), whose mission is to ensure the reinforcement of regional industry of the micro-electronic.
- Bioméditerranée is a regional association launched in 2004, which gathers the members of the life sciences regional community.

Instead of making a “catalogue” of all the local actors, we focus on Sophia Antipolis, Méditerranée Technologies and Toulon Var Technologies, three different kinds of organisation, to show the diversity of the local and regional actors in a more detailed way.

Focus on Sophia Antipolis Foundation: internationalisation and innovation processes at stake

Created in 1984 and declared as a public utility, the Foundation Sophia-Antipolis fulfils a fundamental task on the Sophia-Antipolis site: the scientific and cultural organisation and animation, including the development of national, European and international dimensions. The foundation:

- Is enabled (since 2004) to create research foundations around research projects. These sheltered foundations encourage public/private partnership for the funding of research.

¹⁹ Systèmes Productifs Locaux

²⁰ Chamber of Commerce and Industry

²¹ National Institute of Research for Computer Science and Control

- Organises symposiums, seminars, and thematic breakfasts, and supports professional clubs (Sophia Open Source, Sophia Croissance...).
- Provides all the information to facilitate the exchanges and the existence of a dynamic community (monthly news letters, executive supports for employment...).

Internationalisation is considered as a very important issue. Thus, the Foundation leads many activities in this field²². A specific department had been created to implement the international strategy. The international relations and European affairs department takes part in the expansion of European and international activities and welcomes international delegations. It is in charge of pursuing relations with international organisations, signed cooperation agreements, participation at international conferences, activities involved in the area of bilateral and multilateral cooperation and therefore the promotion of international networks.

Concerning European projects, the foundation is participating to programs launched by the European General Directorates Businesses, Regio, Research and Europa. For instance:

- Europe Innova Cluster Mapping aims to carry out an extensive cartography of the European competitiveness clusters and to reinforce people's awareness of clusters (beginning in September 2006, 24 months - Innovation policy, DG Enterprises).
- ISTOK: aims to reinforce/create relationships between European and Russian players in the domain of SICT (beginning in November 2006, 21 months - International cooperation policy - DG INFSO).
- MEDNET^U aims to create a Euro-Mediterranean University and a distance learning centre for both university education and professional training. The network is constituted of 31 universities and training organisations, in 11 countries across the Mediterranean (beginning in July 2002, 48 months).
- STAIRS aims to improve the mechanisms of technology transfer of research institutes, in order to reduce the launch time of new technology and to accelerate high growth markets (beginning in September 2006, 24 months).
- SWAN aims to create multimedia training scheme about Intellectual Property, with eight European Public and Private partners. The training will target innovation and technology transfer professionals (beginning in October 2006, 24 months, programme Leonardo da Vinci).
- Mutual Learning Performance (MLP) The platform was designed to gather regional policy makers and to enable them to share their experiences in the fields of research and innovation, in order that "the errors and successes of one region may fuel the experiences of all the other regions" (initiative launched by the IRE network in April 2006).

The Foundation has also cooperation agreements with many countries:

- Denmark: cooperation agreement with Business Kolding. BK developed a competitiveness cluster in Denmark on renewable energy and sustainable development (especially wind power). This agreement will mainly provide cooperation in research, common projects and exchange between the high education organisations of the two countries.
- Morocco: partnership agreement with Fès-Boulemane Region in January 2006, to support the creation of a technological park in Fès.
- Egypt: partnership agreement with the Egyptian Ministry of Communication and Information Technology (following an action plan established in 2005). The convention aims to share the Foundation Sophia Antipolis' know-how in terms of interface, to facilitate links between Sophilopolitans and Egyptian players, and to establish innovative training schemes.
- Korea: partnership agreement with the Korean Ministry of Construction and Transport is in the process of being signed. It aims to reinforce links between the Korean technological parks and

²² Pluri-national symposiums, delegation visits, and representation during assignments abroad, European projects, active partnerships with numerous countries of different continents and active participation in three international networks dedicated to innovation

Sophia Antipolis, through language apprenticeships for the students, joint events about the development of competitiveness clusters and distance learning schemes.

- India: cooperation agreement with the Pune Technology Park, to promote and further establish bilateral activities in science and industry. The agreement anticipates the staff exchanges between the two parks, the creation of a summer university, the organisation of a seminar on management and innovation (covering the topics of intellectual property, technology transfer, and the financing of young innovative companies). A board was designated to follow the progress of the agreement. The members are: Pune Park representatives, Sophia Antipolis Foundation, Indian embassy in France, French embassy in India, French Ministry of Industry and French Ministry of Foreign Affairs, Indian Government (Department of Science and Technology).

Focus on Méditerranée Technologies: promotion and support to innovation and technology transfer at the regional level, with a strong European concern

Méditerranée Technologies is one of the main regional key-players among interface and coordination entities. It has been created (and is co-financed) by the Regional Council and the State in 1988, with the financial support of the European Union. The board of directors associated 50% of public stakeholders (state, territorial level of government) and 50% of private stakeholders (industrial actors). Méditerranée Technologies is focusing on a few technologies and sectors, according to the territorial economic strengths²³. It has a major regional mission of interface for the research valorisation and transfer and for technological monitoring and transfer, as well as a role of information about regional, national and European measures and support programmes.

It aims to coordinate the regional economic sectors concerning innovation, including new technologies anticipation for the SMEs. Méditerranée Technologies helps SMEs to know and use the results of public researches and to be beneficiary of technology transfers, through a network of technological development. Méditerranée Technologies also helps industries and research centres in their strategies to obtain European financing (Research Framework Programs) and to join European networks.

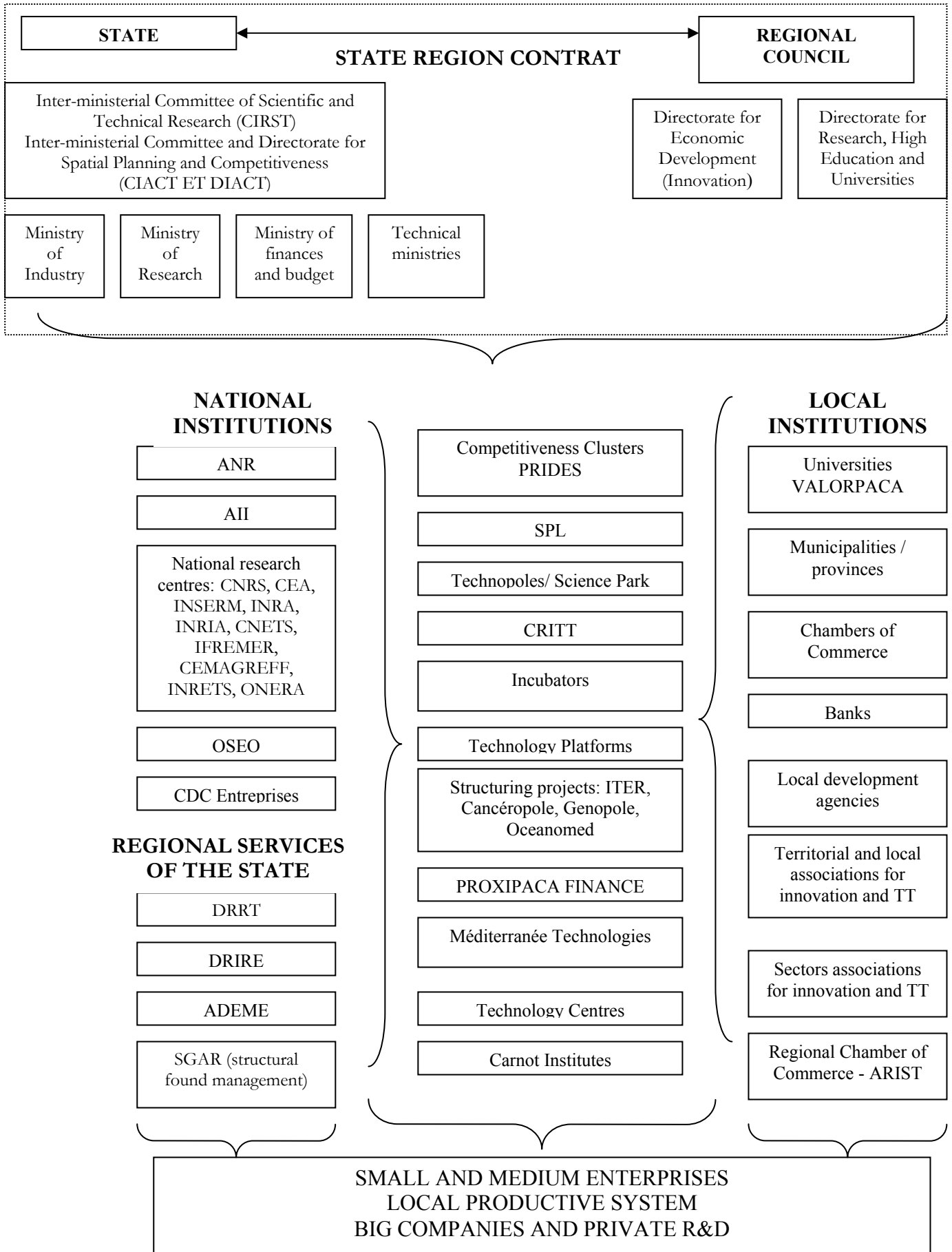
The geographical scope is not only European, but also euro-Mediterranean, because Méditerranée Technologies had been conceived to contribute to the positioning of the PACA Region as a nexus of the euro-Mediterranean relationships.

Toulon Var Technologies: a local structure to support innovation and european cooperation

Toulon Var Technologies belongs to the European Business and Innovation Centres Network. This association had been created in 1988 by territorial institutions and entrepreneurs of the Var and is nowadays well known at the national and international levels, because of its presence within numerous networks and its activities as projects leader. It aims to support enterprises, technology valorisation, innovating and collaborative projects.

²³ Biology, life sciences, genomic and biotechnologies, Knowledge society technologies, Nanotechnologies and nano-sciences, multifunctional material based upon knowledge and new production process, Aeronautic and space, quality and security in food processing, Energy, environment and sustainable development, citizens and governance in knowledge society.

PACA REGIONAL INNOVATION SYSTEM DIAGRAM



5. Relations with central government

France is counting 22 regions, with competences for education and training, territorial planning, transports, economic development. The devolution process in France does not involve legislative capacity but “material” competences (i.e. thematic), sometimes shared between several levels of government. Regulation is made through a contractual process. As explained previously, the state-region contract plans all the investments and the joined priorities, policies and measures. The Region itself may sign contracts with under-regional levels and other stakeholders to finance specific actions and policies. Unlike the Spanish Autonomous Communities or the Italian Regions, the French Regions are not enabled to orientate under-regional levels policies, according to the constitutional principle of equality between under-national levels of government. The contracts offer therefore the possibility for the region to a regional coordinator: financing is provided to the under-regional levels, upon a basis of co-defined actions, in coherence with the regional strategy. All is based on consensus, contractual process and voluntary behaviour.

Concerning economic development policy, the State, according to the Constitution, is “leading the social and economic policy of the nation”, whereas the regional competence about economic is regulatory. The regional competence includes financial support: Regions can provide subsidies to enterprises, constitute technological centres and create innovation and technology transfer centres. R&D remains a state policy, and the regional interventions are implemented on a voluntary base, always complying with the national policy. Anyway, national and regional levels are very often associated as financing partners.

According to the law of the 12th of August 2004, the Region is coordinating all the economic policies on its territory, including the other territorial actors’ policies. But the initial proposition of “leader status” for the Regional Councils was not maintained in the approved law. Nevertheless, the other levels need the Region agreement to provide subsidies.

Regions can also, by way of experiment, elaborate a “Schéma Régional de Développement Économique”, in consultation with other levels. At the end of 2009, a critical analysis will conclude on the possibility (or not) to confirm the experimentation and on the opportunity to transfer (or not) economic development policy to the regional level.

The Region PACA considers, in its “Schéma Régional de l’Enseignement supérieur et de la Recherche”, that exchanges and coordination are not sufficient between national and regional policies. The Region deplores the fact that the state often does its own call for projects, without taking into account specific structures or initiatives pre-existing in some regions. This lack of coordination generates a superposition of structures, measures and initiatives without any coordination or real evaluation. The problem is that the State does not cover all the cost for some call for projects and stakeholders ask for additional fund to the Region.

6. What is the relationship between innovation and internationalisation?

The national level clearly sustains and encourages internationalisation of innovation.

The relationship between innovation and internationalisation is expressed at the national level through a long-term strategy of “economic intelligence” and “technological and scientific watch”. This strategy is carried out by specific services of the French embassies and by the ADIT²⁴, which gathers, processes and disseminates scientific and technological information for enterprises.

²⁴ Association for the Diffusion of Technological Information, agency under the co-responsibility of ministries of Research and Foreign Affairs

Internationalisation is also expressed through cooperation and a growing interest for foreign experiences and policies. Many national initiatives had been inspired by foreign experiences (like the competitiveness clusters). The State participates in bi-lateral or multilateral cooperation for research and innovation, researchers mobility... but most of those initiatives, according to the 2006 “Annual Innovation Policy Trends and Appraisal Report”, are focused on research rather than development activities. The most important mechanism used for bilateral support to innovation is the Eureka initiative.

International policy, in the strict sense of the word, remains the exclusive field of the state. Under-national levels are supposed to do decentralized cooperation. Most of sub-national actors are developing actions towards internationalisation as a way to empower their economical bases and attract new investment and activities. The link between innovation and internationalisation is mainly made so far through territorial marketing strategy, by the Region or other stakeholders, like the development agencies. All of them are using the regional potential of innovation for the external promotion of the territory. Internationalisation measures implemented by the Region consist also in supporting SMEs strategies to gain new market shares outside the regional and national territory: financing formation, “*prime à l’exportation*” and missions abroad (through the PRIDES). The regional support is also provided to the academic and research sector (regional grants for foreign researchers, for instance).

Internationalisation in the Competitiveness Clusters/PRIDES is not that developed yet. Although the Competitiveness Clusters were supposed to be a tool to attract foreign investment, this ambition is not achieved so far. Internationalisation is considered as a priority during the years to come. The governance associations are indeed strongly prompted to establish relationships with foreign clusters and Science Parks (not only in Europe).

Focus on the European dimension

The Region contributes to information dissemination about European policies and programs, including for innovation, research and SMEs. It also participates directly to many European projects, among which ARISE (Accelerating Regional Innovation Strategy Exchanges), that brings together six European regions and proposes to identify and implement evaluation tools to measure the impact of the regional innovation policies. This project, lead by the PACA Region with the support of Méditerranée Technologies, is one of the eight piloted projects launched by the European Commission (GD Enterprises and Industry) with the support of the “Innovating Regions In Europe” network. It associates Stockholm Region, Low-Austria, Kent, Toscana and Lithuania.

Nevertheless, the Region does not participate directly to all European projects involving the regional actors: the most important part of those projects involves other actors and innovation stakeholders.

We saw previously that Sophia Antipolis, according to its internationalisation strategy, participates to many projects, but others, such as Méditerranée Technologies, are doing the same.

Méditerranée Technologies participates, with the Region, to the ARISE project, but also to INNODEAL (analysis, diagnostics, evaluation, pilot project and learning processes towards joined innovation programmes) and CLUNET (clusters network). In addition, Méditerranées Technologies acts to raise European programmes awareness and practices in the regional territory. MT is providing engineering services and advices to support European projects conception (including Eureka programme, through a partnership with the DRIRE). The MedUp initiative aims to gather European professional projects and support organisations, to provide services which help SMEs and research centres to conceive European projects and partnerships. Workshops had been organised and, after the participation of more than 60 SMEs and research centres, 15 projects had been prepared and 12 submitted to call for projects.

Many other interface organisations are participating to European project, like POPSUD, member of the European Network of Optical Clusters (ENOC). This project, launched in 2005 for 30 months, is financed by the GD Enterprise (Europe Innova, 6th FP) and associates POPSUD to others interface organisations, in Spain, United Kingdom and Italy. It aims to develop a methodology for the “networking management” to reduce barriers to innovation in optic and photonic, to define the best practices and to integrate them in other clusters management.

Toulon Var Technologies participated to numerous European projects, like BlueBioNet. This project aims to create a network of maritime regions, with the support of the "Regions for Knowledge" initiative (KnowREG). It promotes the use of applied biotechnologies, through common projects and technologies transfer. It targets commercial partnerships between private partners, research partnership between scientific organisations, and crossed cooperation between all those regional organisations. The project is associating TVT to an Andalusian partner, a German partner and a Scottish partner. TVT also participated, between 2001 and 2004, to TRITEC (5th FP) to create transnational tripartite alliance between big companies, SMEs and venture capital companies. TRITEC elaborated tools methodologies and networks to facilitate this kind of partnership. The partners were Portuguese, British, German and Italian.

According to the DIACT, 140 000 French projects had been financed by European funds between 2000 and 2006. The PACA regions benefited of 335, 5 millions euros, for more than 3 300 projects. The priority “Enterprises research and innovation” represents 33, 47% of the total European funding in the Region²⁵

7. What is the role of the Mediterranean in innovation and internationalisation policies?

Concerning the Region Council, the Mediterranean zone is becoming a concrete and not only a political priority, since the President has been elected the President of the Inter-Mediterranean Commission of the CRPM and since the Region became Managing Authority of the Med program. Yet, the practical “content” of this priority is not defined, although it appears that services in charge of innovation will try to use both programs, MED and CBC program of the ENPI, to support their actions. The President Michel Vauzelle always recalls on the importance of the Mediterranean, and strongly disagrees²⁶ with the notion of “neighbourhood” in the Mediterranean space, considering the Mediterranean as a whole. For historical, social and demographical reasons, he always insists on the importance of Mediterranean political cooperation. Accordingly, all regional directions and services received a strong incentive to implement projects and actions in the Mediterranean context (whatever is their field of actions), and the PRIDES will be associate to this movement.

At the national level, the Mediterranean is also a subject of high concern for the new presidency, although the content of the “Union Méditerranéenne” proposal is not defined yet: it seems that this priority is more the result of a geo-political concern than of a real will to go forward with a social and economical integration.

In spite of the political declarations and the intentions displayed, which claim the importance of the Mediterranean space, the actors of the innovation do not privilege it. In the Mediterranean space the scientific and the technological win out over the proximity.

²⁵ DIACT, with Infocentre Presage data, Septembre 2007

²⁶ A he did on Monday the 1st of October 2007, in the opening speech for the conference “Which sustainable Mediterranean Agriculture for 2020?”, in Marseille

8. Cooperation projects proposals for the Mediterranean Regions

On the base of IM researches and interviews for this questionnaire, and IM previous experiences, three possible common actions to build a Mediterranean Lisbon Strategy have been identified.

Promote and support a common regional research strategy at the Mediterranean scale

In this proposal, we suggest that the Regions identify a list of research sectors that are, according to them, particularly relevant for the Mediterranean context. We already can imagine some, such as water management, renewable energies, environment, maritime resources, etc.

Regions will organise common calls for proposal. Each Region will take in charge the process for its territory (promotion of the initiative, communication, identification of stakeholders). The territorial stakeholders of each territory will elaborate, in association with their counterparts in other Regions, a common proposal to reply to the call. The financing will be, after approval, given by each region to its own territory stakeholders.

Creation of a common regional forum on competitiveness and SME

We propose to create a forum that associates the Regions and promotes intensive experiences exchanges and analysis on innovation and SME (long term approach).

Such a forum could be very operational, with the association of all regional agencies that play a role in innovation and technologies transfer for SME. It could be even possible to open a network of opportunities for the Mediterranean stakeholders and SMEs: a SME in one region could benefit from the support provided by an agency present in another region (information about local stakeholders and research centres, support to create a subsidiary company on the other regional territory, etc.).

Creation of a common structure on European found management and use

It can be possible to create a common structure (network), conceived as a common think-tank and know-how data-base about European founds (structural founds, framework program, and all relevant programs to fulfil the objectives of the Lisbon strategy).

This structure could gather regional innovation stakeholders, and keep up with European programs as well as stakeholders' needs, so as to identify the most relevant European programs. The target has of course to be SMEs and innovation process.