RIM

Réseau des Instituts de la Méditerranée

METAPROJECT

TOWARDS A CONVERGENCE OF INNOVATION AND INTERNATIONALISATION REGIONAL POLICIES AND ACTIONS IN THE MEDITERRANEAN BASIN

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Contents

The Metaproject concept: this paper is a Metaproject to the extent that it covers the gap existing between the level of a policy paper (macro level) and the project level (micro level). It is based on an analytical and prescriptive study with a more pronounced orientation to put forward ideas for concrete actions.

Edited by Andrea Stocchiero (CeSPI) on the basis of the following background papers:

1. "The economic and innovation context of the Mediterranean area", Pierfrancesco Salemi (CeSPI)
2. "The Lisbon strategy and the Neighbourhood Policy for the internationalisation of innovation systems in the Mediterranean", Battistina Cugusi with the collaboration of Massimo Macaluso (CeSPI)
3. "Background fiche on the European initiatives and networks on innovation and research", Battistina Cugusi (CeSPI)
4. "The regional innovation system of Latium", Battistina Cugusi (CeSPI)
5. "The regional innovation system of Piedmont", Renato Lattes e Raffaella Giordano (Istituto Paralleli)
6. "Innovation in the region of Tuscany", Raffaella Coletti (CeSPI)
7. "The regional innovation system of Provence Alpes Cote D'Azur", Angélique Pelleau (Institut de la Méditerrané)
8. « Internationalisation and innovation policies in Catalonia – Prospects in the Mediterranean », Francesc Badia – IEMed (Coordinator), Diego Guri – COPCA, Albert Castellanos - CIDEM
9. "Internationalisation and innovation policies in Andalusia: which prospects in the Mediterranean?", Antonio-Martìn Porras Gomez (Fundacion Tres Culturas del Mediterraneo)
10. "Italy and innovation: organisational structure and public policies", Raffaella Coletti (CeSPI)

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INTRODUCTION

This document responds to the priorities established within the PARM (*Plan d'Action des Régions Méditerrranée*)[1]. It represents a further step to address the priority issue of Mediterranean innovation. It aims to contribute to the convergence among Euro-Mediterranean regions in coherence with the Lisbon Agenda and with the objectives of the Euromed partnership and the European Neighbourhood Policy (ENP).

In particular, RIM sustains that an integrated approach to regional internationalisation and innovation policies can contribute to a "technological jump" in the promotion of the Mediterranean innovation capacities in the globalisation scenario. Based on an innovative approach (i.e. **Trans-local Innovation Systems**), the RIM partners have been able to identify main areas of convergence and common actions as well as key actors and strategic sectors. The close link between internationalisation (attraction of foreign investment, foreign direct investments – FDI – and delocalisation processes, the building of "long" chain by industrial districts and Small and Medium sized Enterprises – SMEs - clusters, trade in goods and services and human mobility) and innovation represents a new fundamental characteristic of the global development processes in which the Mediterranean must participate.

As conclusion, a menu of several proposals are launched, including territorial marketing, networking among public and private agents involved in economic development (particularly SMEs) and research. A first action to be undertaken is the opening and strengthening of the dialogue among regional officers and territorial stakeholders, as well as with other levels of governance (national/ministries, supranational/European Commission), to converge policies for the Mediterranean integration in the global networks of innovation generation and transfers.

THE TRANS-LOCAL INNOVATION SYSTEMS APPROACH

Trans-local Innovation Systems (TISs) is a new concept that goes beyond the concept of Regional Innovation Systems (RISs). A generally accepted definition has still not been adopted, but such approach could be applied for those processes relying on the inter-regional cooperation between different territories to construct trans-local innovation systems in the Mediterranean.

Actually, innovation is increasingly dependent on interactions between global and local levels, between flows and loci. Trans-local linkages are essential for an actual and effective transfer of knowledge and innovation appropriation and generation. That is occurring more and more through the interaction between global pipelines and local buzz[2]. The *glocalisation paradigm* frames multiple connections between tacit/local and codified/international knowledge as well as through new trans-national networks of epistemic/cognitive communities distributed in diverse locations and along links in research and productive chains. "Learning can be organised across a series of geographical scales and along a range of different dimensions. And the effects of proximity in nurturing collective learning can be generated through organizational and relational networks as well as locally bounded ones"[3]. In open global/local societies the borders of territories and the division between external and internal dimensions are blurred. The openness increases the possibilities of knowledge combination, hybridisation, innovation.

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[1] Document elaborated by the RIM.

[2] Bathelt et al. (2004) define local buzz as "the information and communication ecology created by face-to-face contacts, co-presence and co-location of people and firms within the same industry and place or region", while pipelines refer to channels of communication used in distant interaction, between firms in cluster and knowledge-producing centres located at a distance (Bathelt H., A. Malmberg and P. Maskell (2004), "Clusters and knowledge: local buzz, global pipelines and the process of knowledge creation", in *Progress in Human Geography*, 28, n.1).

[3] D. MacKinnon, Cumbers A. and K. Chapman (2002), "Learning, innovation and regional development: critical appraisal of recent debates", in *Progress in Human Geography*, 26, 3.

Globalisation has disarticulated the local systems in their interplay with Multinational corporations and global buyers, as well as with the international production fragmentation – delocalisation processes due to the outsourcing in low-wage countries. Local clusters are becoming trans-local clusters in networks of flows: "clusters are nodes within extra-territorial networks of production and knowledge flows in a number of industrial categories", or "cluster complexes transcend regional and national borders". Trade and off-shore services have increased. Financial flows are global. Scale and science based, as well as mature/traditional sectors, are more and more reliant on intermediate imports that embodies knowledge, information and communication technologies. Furthermore … "Untraded knowledge flows and user-producer relations may be expanded longer further that is usually understood" [4].

Also in Italy, analysts point that the old short chains in industrial districts have been supplanted by new long value chains. Delocalisation processes may have negative impacts on local economic systems but they can represent opportunities of new sustainable development trajectories through the re-organisation of the division of labour at trans-national scale. The firms of industrial district "…are thinking again the value system, identifying which critical competences they have to maintain inside, which are those to outsourcing locally, and which are to internationalise in contexts offering long lasting efficiency and production quality "[5].

Migration is another increasing form of knowledge transfer and innovation, "…migration patterns are correlated with export growth and that social ties alongside networks of unrelated (in terms of ownership) business are important factors in the development of trade patterns. Thus a growing social connection between places occurs alongside trade increases (determining cause and effect is difficult), but it is suggestive of a flow of tacit knowledge on business, capabilities and markets"[6].

In this sense there is a growing literature that analyses the internationalisation of the innovation systems[7]. "… innovative firms often consider the world for new knowledge, depend on global markets, technology and skilled workers elsewhere, and innovation processes increasingly surpass national borders as a result of enhanced cross-border technology transfers via technology-intensive trade, an increasing number of international strategic technology alliances, multinational companies pushing on the transnational organisation of R&D, and the involvement of marketing, manufacturing and R&D units of firms in innovation process"[8].

Mediterranean regions demands for increasing territorial sustainable competitiveness through innovation (knowledge economy with social cohesion). Considering on the one hand the general weakness of RISs but the existence of high technological areas[9] and potential knowledge of Mediterranean territories (in terms of human and environmental/historical/artistic/creative capital as well as research capacities - see next pages), and on the other hand the glocalisation process of knowledge and production (see above), it comes out the opportunity to promote the building of trans-local innovation systems (TISs)[10] among Mediterranean regions. The enhancement of local

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[4] B. Wixted (2006), *Cluster Complexes: A Framework for Understanding the Internationalisation of Innovation Systems*, Centre for Policy research on Science and Technology, Simon Fraser University, Vancouver, Canada.

[5] S. Micelli, Chiaravesio M. and E. Di Maria (2003), *Processi di internazionalizzazione e strategie delle imprese distrettuali tra delocalizzazione e innovazione*, Conferenza Istituto nazionale per il Commercio Estero "Internazionalizzazione e frammentazione della produzione nei distretti industriali", Roma 20-21 marzo 2003.

[6] B. Wixted (2006).

[7] B. Carlsson (2006), "Internationalisation of innovation systems: A survey of the literature", *Research Policy Vol 35 (1).*

[8] Kuhlman S. and J. Edler (2003), "Scenarios of technology and innovation policies in Europe: Investigating future governance", *Technological Forecasting & Social Change, 70.*

[9] One can indicate some areas like Barcelona, Marseilles, Lyon, Rome, Turin, Florence (A. Vanolo (2003), *Per uno sviluppo policentrico dello spazio europeo*, Franco Angeli).

[10] It refers to the "… strategy of firms seeking and combining external, trans-local and international knowledge with their own. In these cases, firms construct global pipelines, making use of internet sources, seminars, research magazines, academic contacts, resource persons in research institutes, global inter-firm alliances, and discussions with suppliers, clients

potentialities combining complementarities at trans-local level could contribute to the integration of the territories in the global scenario. What is difficult to do at local level, because of the lack or weakness of innovation drivers and relevant SMEs clusters, especially in SMCs, may be pursued at trans-local level putting together capacities and opportunities through inter-regional and inter-national cooperation[11].

This challenges the traditional way of thinking to innovation policies separated by the internationalisation ones. Internationalisation and innovation are interdependent, and polices should spur the virtuous circle of the circulation of flows (material and immaterial) among territories in the global nertworks, reducing the waste and the drain of human capabilities. The coupling of innovation and internationalisation policies should comprehend local and external territories. "The division of labour process will have a positive result if and only if all the territories achieve to develop, growth and become competitive and innovative, each of them with their own specialisations"[12].

Finally the glocalisation process and the creation of TISs entails new governance (and power) aspects[13] that involve regional governments[14] at trans-national level. They have to incentive SMEs and in general local human capabilities in upgrading, technology transfer, innovative generation through the interaction with actors and drivers of innovation of other territories, as well as with global networks and the negotiation with Multinational companies[15]. "The regional development is conceptualised as a dynamic outcome of the complex interaction between territorialized relational networks and global production networks within the context of changing regional governance structure"[16]. More again "…a multi-regional system of innovation emerges, as firms interact with other firms and actors across regional borders. Such is important feedback for policymakers, who may seek inter-regional cooperation whenever they pursue the policy objective of embedding innovative firms"[17].

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and competitors elsewhere. Global pipeline strategies thus comprise learning-by interacting with trading partners located elsewhere in the world …, and learning-by cooperation in networks, with firms involved in the same branch, chain or a related industry, and with academics, consultants and other "strange ducks". (Visser E.J. and O. Atzema (2007), *Beyond clusters: Fostering innovation through a differentiated and combined network approach*, Utrehct University). But they must have strong scouting, interaction, negotiation and absorptive capacities. Elements that are difficult to find in Mediterranean SMEs. In this case a public-private strategy opportunity to build those capacities via interregional cooperation exists.

11 The idea of trans-local innovation systems is similar to that of innovative polycentrism put forward by Vanolo. "From a perspective of polycentrism as "decentralized concentration", industrial clusters represent the nodes of a reticular and polycentric territorial structure. The aim of an "innovative polycentrism" corresponds on the one hand with the promotion of several innovative clusters, and on the other hand with the promotion of functional interactions between the clusters as a medium for the diffusion of knowledge and enhancing competitiveness through potential synergic effects." (A. Vanolo (2003).

12 S. Micelli, Chiaravesio M. and E. Di Maria (2003).

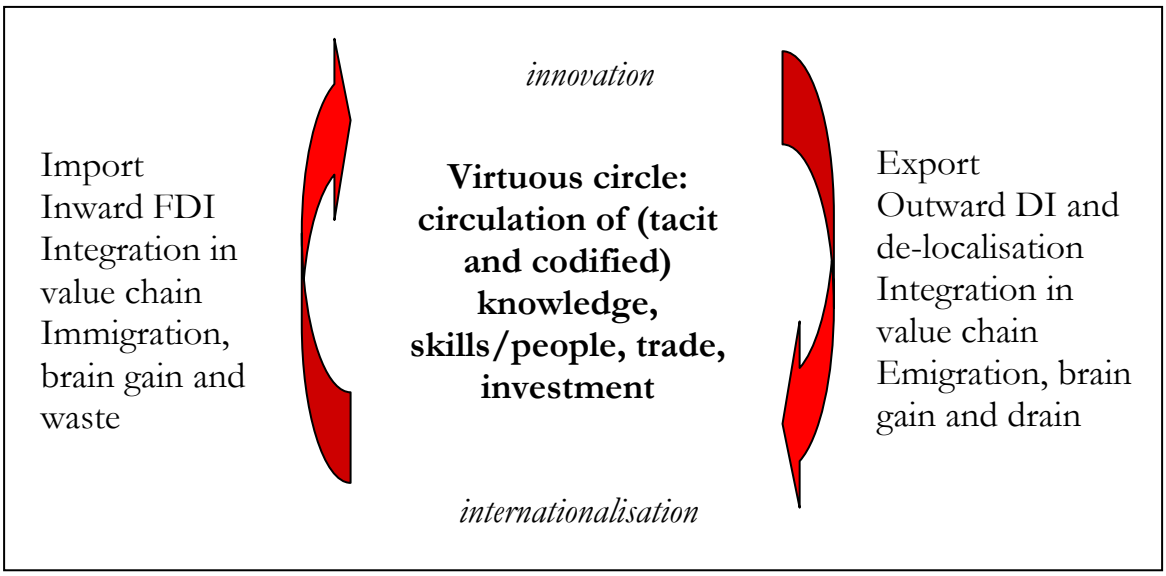
13 Global value chains have different forms of governance: the market (product standardisation), networks (reciprocal dependence), quasi hierarchy (in which there is an asymmetry of competence and power in favour of one party, frequently the global buyer), and hierarchy (vertical integration in a Multinational company). J. Humphrey and H. Schmitz (2002), "How Does Insertion in Global Value Chains Affect Upgrading in Industrial Clusters?", in *Regional Studies*, Vol. 36.9.

14 Several analysts put in evidence the new regional role at international level due to the globalisation effects on the national sovereignties (V.E. Parsi, 1998, Interesse nazionale e globalizzazione. I regimi democratici nelle trasformazioni del sistema post westfaliano, Jaca Book, Milano; M. Keating, 1998, New regionalism in Western Europe. Territorial restructuring and political change, Edward Elgar Publishing Limited, London; P. Perulli, a cura di,1998, Neoregionalismo. L'economia arcipelago, bollati boringhieri, torino).

15 "Borrowing and adapting technologies that the technological lead countries control today is an important key to development. The combination of reverse engineering, licensing, sending scholars abroad, inviting foreign firms and experts and engaging in international scientific collaboration may be difficult to achieve but all these elements need to be considered in building the national innovation system. When building such systems it is a major challenge to develop national strategy that make it possible to select technologies and institutions from abroad that support innovation and competence building" (B.A. Lundvall (2004), *National Innovation Systems – Analytical Concept and Development Tool*, paper presented at the DRUID Tenth Anniversary Summer Conference 2005, Copenhagen, Denmark).

16 ESRC Research Project (2003), *Globalising Regional development: A Global Production Networks Perspective*, GPN Working Paper 3, ESRC Research Project "Making the Connections: Global Production Networks in Europe and East Asia

17 Visser E.J. and O. Atzema (2007).



MEDITERRANEAN CONTEXT

In recent years, the Southern Mediterranean Countries (SMCs) have made significant progress attracting FDI and increasing trade. It results from a progressive liberalisation of tariff barriers, in some cases also accompanied by a reduction in non-tariff barriers. Total trade flows, which had remained stagnant until the beginning of the 1990s, picked up starting from 1995. On average, growth in total trade was 60% between 1995 and 2005, exceeding world trade growth which was 46%. However, this positive development has not substantially altered the world market share of the SMCs. Indeed, this share went from 1.2% in 1995 to 1.3% in 2005, remaining in any case below the share held in 1980 (2.3%)[18].

Furthermore, one of the problematic aspects of the SMCs' trade relations with all their partners is the high degree of concentration of exports and imports and the heavy polarisation of the structure of comparative advantages (based on mining products, agricultural raw materials and tourism), which leads to greater trade vulnerability and volatility when faced with possible demand shocks

While the EU still plays a major role as trade partner with Southern Mediterranean economies - with an overall share of over 50% of their total imports and around 60% of their exports, a significant drop has been registered since 2001, as a consequence of the greater role assumed by Asian competitors but also of the growing influence of the Gulf economies in the wake of the oil boom.

FDI has mostly flowed to some specific sectors, namely: energy, telecommunication (service outsourcing), banking services, tourism, public works and transport. These are all sectors where SMEs are not directly involved. Thus, scarce technology transfers towards local producers are registered, and also, such sector concentration has a questionable impact in terms of environmental and social sustainability.

Specific to innovation, we notice that, SMCs (except for Israel) do not play a significant role in the field of technological innovation on a regional level, let alone globally. Despite relatively good level of human resources, spending on R&D with respect to GDP is particularly low and it is mostly publicly-funded and invested in universities and research centres that are scarcely linked to the productive sector, and less again to local SMEs. In the majority of SMCs, despite the spread of new technologies

[18] For further information, please consult background material, in particular "The Economic and Innovation Context of the Mediterranean Area", P. Salemi, CeSPI (2007).

has slightly improved, research and economic sectors still operate separately and the financing opportunities of innovative activities are underdeveloped.

In the case of the North Mediterranean the Lisbon strategy indicators at regional level show the lower performances of Southern European regions compared to Northern European regions. Notwithstanding the presence of high technologic and research excellences in some metropolitan areas and provinces, the fragmentation of the small and medium size enterprises and the difficulties of the universities in approaching the market determine high difficulties in technologic transfers and absorption.

In this framework, we could find some elements that point towards a new role for the European Union in promoting a competitive sustainable development within the Mediterranean Basin. The Mediterranean regions can have an effective role in encouraging economic, social and institution innovations, that overcome the Washington Consensus approach based simply on free trade and attraction of FDI. Innovation is a complex phenomena that should respond to common values and objectives: the EU is looking for innovations that could spur economic competitiveness in a model that includes social cohesion and sustainable development. **We could then think of a Lisbon/Goteborg Agenda for the Mediterranean.**

In fact, some factors can be identified for which a common framework could contribute to the achievement of the knowledge economy with social cohesion in the Mediterranean Basin. Compared to other world regions, both North and South shores are relatively less advanced towards the new knowledge-economy frontier. In Southern, and in many Northern, Mediterranean regions, the main actors on innovation are the Multinational Companies which bring FDI to territorial economies, but spill-over effects remain scarce. In the meantime, the regional innovation "systems" are non existent or suffer from very weak linkages between Universities and SMEs.

On the other side, in the Mediterranean exist a great potential of human capabilities that is willing to participate in the creation of new social, economic and cultural values. Some Interreg projects with important partnerships with Southern Mediterranean actors have demonstrated interesting pathways in this sense. Some North Med regions present important research capacities as well as competitive clusters that can constitute the nodes of trans-national networks involving South Med partners[19]. Some SMCs are promoting and implementing new programmes to create innovation drivers: the National Programme for Research and Innovation in Tunisia, the National Innovation Policy in Morocco, the creation of clusters among enterprises and research centres, incubators and techno-parks in Egypt, the Jordan Education Initiative, and other. Research and innovation capacities are identified in agro-food technologies, biotechnology, water desalination, new materials technologies and ICT-based educational systems.

[19] See the background papers on the regional innovation systems in Andalusia, Catalunya, Latium, PACA, Piedmont, Tuscany.

NEW OPPORTUNITIES OF EU POLICIES

EU policies, both internal and external, offer several interesting instruments for the promotion of such concept of Trans-local Innovation Systems among Mediterranean regions[20].

Firstly, EU internal policies linked to competitiveness promotion (Lisbon Agenda) include Regional Innovation Systems (RISs) as an objective and instrument. In fact, the EU holds a multi-actor approach to innovation policy. Innovation depends on the environment/context in which interactions between innovation actors take place. This multi-actor framework is to be managed through a multi-level governance system. Therefore, complementarity and coherence between the different levels is essential. Within this framework, regions are considered to be key players representing the proper level to deal with innovation. Within the local context, the systemic dimension of innovation is emphasised, which springs from the presence of a multiplicity of actors that conform the RIS, namely: businesses, associations of businesses, chambers of commerce, public research institutes, private R&D laboratories, training institutes, technology transfer agencies, professional training organisations, government agencies, regional and local public administrations and so on.

Specifically, RIS is an objective/instrument of the Structural Funds and 7th FP on Research, as well as the CIP (Competitiveness Innovation Framework Programme). There are other instruments that deal with related issues, especially relative to facilitating access to capital for innovative start-ups. Furthermore, these programmes have been given an external dimension, they have been open to third countries.

On the basis of the recommendations in the Aho Report entitled "Creating an innovative Europe"[21] , the new programming of Structural Funds (the ERDF, the ESF and the Cohesion Fund) will represent one of the principal instruments for the implementation of research and innovation policy, acting on the various innovation drivers identified by the strategy itself. The FP7, with its four specific programmes (Cooperation – 32.4 billion euro, Ideas – 7.5 billion euro, People – 4.7 billion euro and Capacities – 4 billion euro), encapsulates more than any other programme the basic approaches to promoting innovation under the Lisbon Strategy. It places particular emphasis on technology transfer by encouraging SMEs and associations of SMEs to outsource research activities to universities, research centres or other businesses with a higher degree of specialisation (the Capacities programme) or to create partnerships between businesses and universities (the People programme), and encouraging the development of research-oriented business clusters which involve various actors within the territory (such as universities, research centres, businesses and regional authorities).

Complementary to the FP7 is the Competitiveness and Innovation Framework Programme (CIP) which aims to foster the competitiveness of businesses (particularly SMEs) and all forms of innovation, accelerate the development of the information society, promote energy efficiency and the use of renewable energy.

Secondly, on the external side, the EU-Mediterranean relations are framed within the Euro-Mediterranean Partnership and the European Neighbourhood Policy. Association Agreements attribute an important but not primary role to research and development within the economic cooperation underlying the Euro-Mediterranean Partnership. However, the objectives also pursued within the EU's borders, such as the promotion of synergies between training and research, the reinforcement of research capacity, the stimulation of technological innovation and the transfer of new technologies and know-how, resurface here - dedicating an area for cooperation and for the promotion of exchanges of

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[20] For further information, please consult background material, in particular: "From the Lisbon Strategy to the Transnational Cooperation for the Internationalisation of Innovation Systems in the Mediterranean", B. Cugusi, CeSPI (2007)

[21] *Creating an innovative Europe*. Report of the Independent Group on R&D and Innovation appointed following the Hampton Court Summit and chaired by Mr. Esko Aho, January 2006: http://ec.europa.eu/invest-in-research/pdf/download_en/aho_report.pdf.

know-how and best practices between European partners and other partners from the southern shores of the Mediterranean.

Then, the European Neighbourhood Policy Instrument (ENPI) - the financing instrument of ENP – appears to be few focused on innovation, it has adopted a traditional aid approach. However, there are some elements that provide interesting insights from which the internationalisation of innovation within the Mediterranean region can be further promoted.

Particular to internationalisation of innovation, we have identified the following opportunities.

- Action Plans of Morocco and Tunisia indicate measures on innovation for SMEs upgrading. While the Action Plans have a similar structure for nearly all the partner countries on the southern shores of the Mediterranean, the link between innovation and businesses is dealt with in a more detailed and heterogeneous way in the Actions Plans of Morocco and Tunisia. Indeed, in the latter cases, the list of actions is extended to the creation of services for SMEs to stimulate business opportunities and innovation, but also to interaction with European partners through the development of partnerships with European businesses (Tunisia), the establishment of SME networks and investment support structures, and the fostering of dialogue between those operating in the research sphere and end-users.
- Regional programmes (Eumedis and Medibtikar). EUMEDIS is aimed at contributing to the expansion and improvement in quality of the Euro-Mediterranean Information Society. To this end, it funded the creation of Mediterranean focal points for the development of the information society and online interconnectivity between the European research network and Mediterranean research networks, as well as pilot projects for business creation in various relevant sectors, with a special focus on SMEs. Whereas, MEDIBTIKAR (or Innovation, Technology and Quality Programme) promotes competitiveness and innovation among Mediterranean business sectors through capacity-building activities for various actors and it points to spread the culture of innovation and reinforce the legal framework.
- The new Cross-Border-Cooperation (CBC) in ENPI opens spaces for trans-national cooperation on innovation (see the draft of the Mediterranean Sea Basin Operative Programme), with the recognition of the regions' role. It will promote trans-national cooperation in the field of research and innovation with the aim of encouraging the introduction of innovative practices within local production systems. To this end, the programme will favour activities that are aimed at creating trans-national networks between production clusters and at promoting cooperation activities between partner regions as well as encouraging the involvement of other categories of actors within the territory, including: businesses, research institutes, technology parks and services centres.
- The interregional component of ENPI will also promote innovation and technological transfer from EU regions to Neighbouring partners through other programmes related to technical assistance, training and awareness-raising, such as Twinning, TAIEX, Erasmus Mundus and TEMPUS.

From the financial side, the loans of the Facility for Euro-Mediterranean Investment and Partnership (FEMIP) of the European Investment Bank support investments in Research and Development promoted by public and private entities (for example the construction of five technology parks in Tunisia), the access to education and training through the creation and extension of professional training centres, the financing to SMEs and start-ups in innovative sectors (private equity operations), the development of knowledge networks and the circulation of ideas by providing a platform for dialogue.

Finally, considering the numerous European instruments, the Commission is preparing a practical guide to go beyond complementarity toward coordination and the use "of funding from two different

Community sources for the same set of eligible costs"[22]. The same approach should be implemented also with external instruments, but the difficulties are paramount due to the different legal basis and methods. It remains looking for complementarities to sustain the creation of trans-local innovation systems among North and South med territories. However an important political and institutional innovation lies with the cross-border cooperation where internal and external resources converge in a unique fund.

NATIONAL AND REGIONAL CONTEXTS AND POLICIES[23]

As pointed out earlier on, the analysis of the national and regional contexts and policies within the Mediterranean Basin results in that exist elements for which trans-national cooperation for the internationalisation of local innovation systems may be a win-win strategy.

First, we find common weakness and potentialities. Scarce technology transfers due to fragmentation of SMEs and because of the relative incapability of the Universities to work with them. Low public and private R&D expenses together with scarce venture capital constraint the creation of innovative start-ups. But also several innovation poles, high technological areas, agencies and consortiums, FDI and global linkages exist.

Second, we register in Eu Med Regions that a shared priority is attached to the creation and support of Regional Innovation Systems and/or Competitiveness Poles. And, these new perspectives are also found among South Mediterranean Countries, especially in Tunisia and Morocco.

But, the current functioning of National and Regional Innovation Systems is in question. New challenges arise. Do exist real "systems"? How to re-organise and increase their performances? How to focus incentives on innovation to SMEs and stakeholders? How to make appropriate RIS to the different local contexts? How to internationalise RIS?

Multilevel Governance

From an analysis of multi-level governance frameworks of several Northern Mediterranean Regions (Andalusia, Catalonia; Provence Alpes Côtes d'Azur – PACA, Piedmont, Tuscany, Latium), we find different situations. Italian regions and Spanish Comunidades Autónomas have more power than France (and South Mediterranean countries) regions. They have competences on innovation and internationalisation. They may enact laws, define strategies and programmes, manage agencies and funds. But, both Italy and Spain present scarce efficiency and efficacy of multi-level innovation and internationalisation policies. In Italy the system is very fragmented and with a very low level of coordination, incentives to SMEs register low performances and resources are scarce. In Spain the central government adopts a top-down approach that is not usually fitting with the bottom-up and proximity approach that the Comunidades Autónomas are implementing, while inter-regional cooperation is being hindered by territorial tensions. There may be an excessive confidence on the promulgation of lofty objectives while downplaying the real implementation of policies.

In France, the national level remains very present, including within regional and provincial territories, through its "deconcentrated" services. Regional Councils have an elected body but 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. Coordination is very difficult to implement due to the very large numbers of actors with different relationship's networks.

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[22] European Commission, Communication "Competitive European regions through research and innovation. A contribution to more growth and more better jobs", Brussels, 16.08.2007, COM(2007) 474 final (http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:52007DC0474:EN:NOT)

[23] For further information, please consult the background material, in particular the analysis of the Mediterranean Institutes on the regional systems of innovation.

As regards South Mediterranean countries, they are characterised by national policies with de-concentration (but not decentralisation) measures. Local Authorities have no capacities and resources on innovation and internationalisation policies. All is decided at central government level.

Consequently, further actions are needed to articulate a common multi-level governance, breaking the separation between the administrations (State-Region contracts in France and Framework Programme Agreements in Italy) to sustain trans-local innovation systems in the Mediterranean. National governments of SMCs have a decisive role on innovation policies. Mediterranean European Regions must collaborate strictly with their own National governments to cooperate with National governments of SMCs, trying to promote the involvement and the capacity building of their Local Authorities and territorial actors.

Innovation and Internationalisation links

Concerning the innovation and internationalisation nexus, we recall the importance of Multinational Companies. Internationalisation policies tend to be oriented towards exports promotion as well as to FDI attraction through territorial marketing.

Less internationalisation policies are directed to favour the circulation of knowledge and to support the insertion of SMEs in global value chain. Yet, the PRIDES[24] experience of the PACA region seems an interesting case of innovation and internationalisation policy. It is promoting the connection between local and external companies (for example in India) on innovation transfers and generation. The relationship between innovation and internationalisation is expressed also at the national level through a long-term strategy of "economic intelligence" and "technological and scientific watch".

In Italian regions, new concepts and measures arise that promote the linkages between internationalisation and innovation (i.e. Meta-districts). The national level clearly sustains and encourages internationalisation of innovation.

Also, we notice few interactions between innovation and internationalisation departments and agencies in regional systems, but increasing awareness on the need to converge. In fact, Catalonia has recently undertaken the merger between the two specific agencies for internationalisation (COPCA) and innovation (CIDEM), that should operate according a new strategic plan on innovation and internationalisation.

And the Mediterranean?

Overall, from the analysis of regional and national systems, the Mediterranean does not appear on the top of innovation and internationalisation priorities. However, some spaces of action do exist and are worth mentioning.

For instance, we find the Italian international research agreements with South Mediterranean countries. Under such framework, many projects have been approved in conjunction with Israel and in the Italian plan for the application of Lisbon Strategy there is mention that scientific cooperation agreements with Mediterranean countries (namely Morocco, Tunisia, Palestine and Turkey) "are currently being finalised". In addition, cooperation agreements with Egypt and Jordan are in the process of being definitively approved[25]. At regional level, some small cooperation initiatives have been implemented for the development of technology parks and innovation on the habitat and agro-food sectors in Morocco and Tunisia.

Catalonia promotes internationalisation in SMCs, with particular focus towards Morocco and Tunisia, both on market access promotion and value chain formation. Cooperation and technical assistance projects are implemented. Andalusia is very committed with policies and instruments to strengthen its

[24] Pôles Régionaux d'Innovation et de Développement Economique Solidaire

[25] For further information, please consult background material, in particular: "Italy and Innovation: Organisational Structure and Public Policies", R. Coletti, CeSPI (2007).

relationships with Morocco through the "Agencia Andaluza de cooperación internacional", but it presents flaws of a low focus on enhancing innovation abilities.

In PACA the regional directions and services are receiving a strong political push to implement projects in the Mediterranean context, particularly on the internationalisation of PRIDES. Nevertheless, and in spite of the political declarations and the intentions displayed, the economic and research actors of the innovation do not privilege the Mediterranean space.

This situation indicates the need for a more pro-active approach of the public actors, the regions, to sustain the Mediterranean priority and to promote the creation of TISs with SMCs.

CONCLUSIONS ON PROPOSALS

The present research concludes that inter-regional cooperation may be a stimulus to create trans-local innovation systems in the Mediterranean[26].

Basically, proposals to implement such approach should start with the identification of both key actors and strategic issues. As results, several alternatives appear depending on the combination of the different contexts and sectors:

- Firstly, because of wide technological and marketing gaps, territorial marketing seems to be more convenient than creating local innovation systems in SMCs[27]. Here, **the key actors are MNCs**. The option is to reinforce networking and promote inter-regional **cooperation on territorial marketing** among different locations in the Mediterranean countries, increasing local knowledge generation and value capture capacities[28]. This should be a win-win game for all the different locations: they should reduce competition on low cost factors enhancing local knowledge diversities (the richness of diversity). Such option includes devoting efforts to the identification of local potentials, complementarities and reciprocal support. The idea is to exit from a scenario of zero-sum game and to enter in a new competition and cooperation based on trans-national added value generation, from a declining to a rising game.
- Another option is to support "**cooperative internationalisation and innovation**". Here, the **key actors are medium/cluster enterprises that are commanding the delocalisation**

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[26] Also an analysis supported by the World Bank indicates that: "decentralised cooperation seems a suitable vehicle for technology transfer, local capacity building and contributing more effectively to knowledge economy. … Decentralised cooperation presents tremendous prospects for building local S&T infrastructure and capabilities, and for setting local innovation systems needs therefore a particular attention on the part of policy-makers." (A. Djeflat (2002), *National Systems Of Innovation In The Mena Region,* Knowledge Economy For The Mena Region, World Bank).

[27] **Four strategies for integrating in the global economy**

	Technology gap	
Marketing gap	Wide	Narrow
Wide	1. Access to technology and markets is a severe problem for local firms. Foreign direct investment is the preferred strategy.	2. Challenge is not technology, but marketing. Integrating into value chains co-ordinated by global buyers seems the best.
Narrow	3. Challenge is not marketing. Acquiring technology through licensing seems best option. Or joint ventures.	4. Technology and marketing gaps are narrow. Local firms can export own-designed complete products directly.

Schmitz H. (2007), Reducing Complexity in the Industrial Policy Debate, *in Development Policy Review*, 25 (4), Overseas Development Institute.

[28] "It is one thing for value to be created and enhanced in some regions, but it may be quite another for it to be captured for the benefit of these regions. The issues of power and control are critical in the analysis of value capture". ESRC (2003), *Globalising Regional development: A Global Production Networks Perspective*, GPN Working Paper 3, ESRC Research Project "making the Connections: Global Production Networks in Europe and East Asia.

processes. Efforts should be directed to invest in innovation that increase local productivity, added-value (and wage levels) in the international (inter-local) value chain. Resources should be channelled to the identification of the value chains between Med clusters/territories and of the needs of valorisation of the several drivers of innovation in the diverse links/locations in the chain.

- A third option is starting with the **internationalisation of the drivers of innovation** as **key actors**, including: technological agencies, consortiums, incubators, laboratories of university/enterprise and brokers[29]. Still, the success is conditional to the presence/creation of real linkages between the drivers of innovation and SMEs clusters. Some regions provide indications about how to proceed if this alternative is adopted. In a PACA proposal we find the idea on networking excellence poles. Also, Istituto Paralleli suggests the creation of an Observatory on the R&D initiatives of Universities and Consortiums. It is a basic information that is incredibly lacking but that it is necessary to identify opportunities of cooperation. Finally, we also mention the experience of CeSPI in supporting internationalisation of technology centre of the Marche region in Brazil to explore productive complementarities between SMEs in value chains[30].

These three alternatives are not exhaustive. For example a fourth option can be to rely on **another key actor: financial entities** to further increase access to capital. Based on the Region Tuscany proposal to create a Fund on Innovation or considering the EuroMed Fund of Lombardy, we could also think of a Med Fund or Venture Capital on Start-up or Spin-off of trans-national innovative enterprises[31].

In general, all options put (Euro-Med) **regional administrations** at the centre of **governance and strategic programming**, relying on the capitalization of knowledge/experiences. There is a strong need of capitalisation/evaluation because there are both success and failure stories to learn especially on experimentations (as it is the case in the Mediterranean area). More resources and supports are necessary to reinforce the learning processes and obtain useful information from the analysis of different contexts/sectors (see the box on the EC guidelines on innovative strategies and actions[32]). To this regards, we could think of creating an ERIK (European Regions Knowledge based Innovation Network[33]) among Med Regions to improve the exchange of experiences and coordination of initiatives, as well as the application of regional innovation scoreboard like the one managed by Filas Lazio.

Box. The key elements for defining and implementing a regional innovation strategy.

The design of a strategy based on foresight evaluation, through the involvement of the key actors, particularly financial actors, to build ownership. Evaluation should combine swot analysis on territories,

[29] "… the key actors …will in our view be private (or semi-public) brokers or intermediaries, who have the required social, technical, organizational, historical and institutional knowledge about entrepreneurs, firms, business activities and the relevant market and technology context. Their main task is to stimulate and enable timely transitions in the structure and spatial scale of intra and inter-firm networks. … They help internally and/or locally oriented firms respectively to externalise and globalise, and viceversa; they help externally and/or globally oriented firms respectively to localize and internalise." (Visser E.J. and O. Atzema (2007).

[30] R. Coletti, a cura di (2006) *Dinamiche territoriali e modalità di internazionalizzazione*. Secondo Rapporto CeSPI sull'Internazionalizzazione delle Regioni italiane. Stampa, CeSPI

[31] "… public start-up funding is important, as initial trust between firms and brokers is likely to be insufficient to censure private funding. Lack of previous experience and trust in the knowledge resources, competences and intentions of brokers is a market failure that may be mitigated by public intervention. Public funding is justified considering the positive externalities of future (yet uncertain) network innovation. It should decrease over time, however …" (Visser E.J. and O. Atzema (2007).

[32] European Union, Regional Policy (2006), *Innovative strategies and actions. Results from 15 years of Regional Experimentation*, European Commission working document, October.

[33] www.eriknetwork.net

benchmarking and future-oriented studies, indicators measuring demand and supply, to determine the potentially strongest sectors and market prospects.

A strategy carried out in partnership: defining a common vision, involving private sector from the beginning; leading the strategy through common committees and working parties.

A relevant communication activity to increase awareness, mobilisation and association of actors.

A continuous evaluation is the key to success. It makes possible to modify actions underway or even redirect the strategy in order to maximise the impact. It should be based on indicators and process analysis.

Furthermore, several **sectors** seem to be particularly attractive for the internationalisation of innovation within the Mediterranean Basin. In fact, the network should have some sector-specific focus. Here below we list some of them:

- Upgrading textile and clothing sector through a better integration in the value chain
- Reducing territorial dependence on textile sector, promoting production differentiation through start-up measures (trans-national incubators may be created: see the Habitatmed experience in Euromedsys[34] programme) and spin-off support.
- Upgrading the agro-food sector through innovation in quality, sustainable production and multi-functional rural development (see the Foodmed experience in Euromedsys programme).
- Support to sustainable tourism (several experiences in decentralised and territorial cooperation exist) as well as its interaction with the attraction of executives, businessmen and scientists[35].
- Innovating the management of basic urban and rural services (water, energy, waste management, mobility, communication,…) (several experiences in EuroMed and decentralised cooperation exist).

The identification of sectors depends on the competitive advantages of the territories involved. In this sense, there is a inescapable need to implement specific ex-ante assessment/diagnostic (data and information collection and analysis) on local/sector combinations in South Med regions/territories. This is crucial to nurture a sharing process for identifying priorities of action on trans-local complementarities between South and North regions.

Considering all the preceding elements, **RIM suggests that inter-regional cooperation to build trans-local innovation systems in the Mediterranean should be based on**:

- Supporting a network and integrated programme (a structural project) at different levels[36]:
    - At operational level through **networking innovation drivers and/or other key actors (MNCs, medium/cluster enterprises, financial entities, …) according to the combination and complementarities among sectors and territories**.
    - At strategic and capitalisation level, building on analysis/benchmarking of experiences and collection of basic information[37]. At this regards, considering that in the new Med program of territorial cooperation 50% of the budget will be dedicated to

[34] www.euromedsys.com

[35] The background paper of Tres Culturas Foundation proposes to "try to emphasize the interaction leisure-tourism-innovation, to transform the south of Europe into a "new California" (a long time purpose proclaimed by Andalusian president Rodríguez de la Borbolla in the late 80s). It seems to offer serious possibilities of realization, as it shows the tremendous success of the technological park of Málaga, in which it has been proved the attraction exerted by a good weather and leisure opportunities on executives, businessmen and scientists.

[36] See the IM proposal in the background paper on a common regional forum on competitiveness

[37] "Innovative approach of data gathering using students as scouts and trying out mini-questionnaires in close interaction with firms may be helpful" (B.A. Lundavall, 2004)

competitiveness, and on the basis of the Baltic region experience, **the RIM proposes to create an «umbrella or capitalisation project» for building a concrete platform among regions to implement real evaluations as a mutual learning process**. This umbrella project should monitor the projects which will be financed, create a framework for mutual learning and building new concepts and orientation to support policy and new project's ideas. In the case of CBC in ENPI a specific project aimed at collecting and generating basic information on territorial drivers of innovation in the South Med countries is needed.

- At policy level, there is the need to work together national and regional institutions according to the partnership principle and considering the governance conditions in the different Euro-Mediterranenan States. **A Med Council on Innovation and Sustainable Competitiveness** could be created, putting together the political representatives of National and Regional administration with competences on innovation and internationalisation. It should indicate the priorities and guidelines for the creation of trans-local innovation systems, supported by basic information and proposals collected and elaborated by a common networking of private and public stakeholders.

- Involving key actors, SMEs clusters and drivers of innovation (regional agencies, universities, banks …) from the beginning
- Implementing a Med/Global approach: inviting stakeholders from Japan, USA, China, …according to the chosen sectors.
- Following a basic phase of evaluation of different pilot projects, a generalising phase may be put forward with more important public investment and/or incentive measures to SMEs/research laboratories[38]
- Concentrating on institutional capacities to design and manage innovation and internationalisation programmes through a trans-local twinning initiative between North Regions and South Local authorities.
- Externalising EU programmes, that is opening the access of EU "internal" projects to the participation of South Med Regions: e.g. Districts[39], Clunet and Inno-deal[40],…)
- Developing an integrated approach on European Funds (CIP, 7th FP on Research, Territorial Cooperation and CBC in ENPI, Regional Cooperation in ENPI – Euromedsys, Medibtikar, Erasmus Mundus and Twinning), considering the new interest of the European Commission to support the coordination on the utilisation of the funds[41].

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[38] See the IM proposal on common call for trans-regional innovating projects, that are acting towards priorities shared by the Mediterranean Regions

[39] District is an Interreg Regional Framework Operation focused on Knowledge Economy and Technological Innovation funded under the Interreg IIIC South Zone Programme. The partnership includes lead partner Tuscany and other three partner regions West Midlands (United Kingdom), Saxony (Germany) and Västra Götaland (Sweden).

[40] Inno-deal project aims at sharing information and good practices on start-up and spin-off programmes, particularly on the financial dimension. It is supported by the 6th FP on research. The lead partner is Filas (the financial agency of Latium Region) and it is participated by Mediterranee technologies of PACA region. Clunet Network supports the learning and networking of incubator and internationalisation policies of 62 clusters. The project foresees the realisation of pilot action of trans-national cooperation on innovation for the cluster growth. Filas is the lead partner, and Tuscany and Mediterranee technologies of PACA region are included in the network.

[41] See the IM proposal on the creation of a common structure on European Fund management and use

The actions should be part of **a comprehensive human sustainable development approach**, considering the increasing role of migrants in flowing knowledge across the Mediterranean[42], as well as the empowerment of women and young[43] in the building of the knowledge society; the support to innovation for environment protection, the generation and promotion of sustainable technologies (particularly on energy efficiency), and tacking into account environment as a cross-cutting issue in all the programmes on innovation and internationalisation. In this sense synergy should be created also with the European Social Fund, the scholarship scheme supported by the ENPI Interregional Programme, the new thematic programme on Migration and Development, and environment programmes like LIFE + as well as Euro-Med environment regional cooperation.

[42] "… international inwards and outwards mobility of highly trained workers is important because such movements of people may be one of the most important vehicles of bringing new technology and new ideas into the system" (B.A. Lundavall, 2004). The background paper of the Istituto Paralleli indicates the need to promote the mobility of students to create bridges and knowledge flows between South and North Med territories.

[43] Arab Human Development Reports, UNDP, various years. The background paper of Tres Culturas Foundation underlines the "Promotion of North-South cooperation in education issues. We can't envisage a coherent Moroccan innovation policy with a literacy rate of 52% and primary school attendance of 86%"