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INNOVATION IN THE REGION OF TUSCANY

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1. Background context

The Tuscan production system is marked by the presence of a dense network of small-sized enterprises and by self-employment, within which a great wealth of local expertise and tacit knowledge has accumulated representing significant added value. It is thanks to this network that, over time, a wide and multi-layered variety of production systems has developed, on which to a large degree the regional industry's level of competitiveness rests. Tuscany is also a repository of a wealth of codified knowledge, with important local branch offices of scientific centres, universities, businesses and so on.

In general, the small size of the businesses as well as their product specialisation, often linked to traditional sectors, leads to an underestimation of the capacity for innovation and volume of research activity of Tuscan businesses. The features of the products and markets of these businesses actually generate numerous incremental innovations, which derive from small variations in the production process, do not require substantial technological discontinuity and spring from the capacity of firms to adapt their production to changes in demand.

Apart from this, however it is undeniable that there is a lag in the Tuscan system in the area of research and innovation activities, particularly in the private sector. This weakness must also be put into the context of the difficulties that Tuscan businesses have faced in recent years, in a scenario where even the international competitiveness of the Italian economy has been progressively eroded. However, between 2000 and 2005, Tuscany's competitiveness slipped in a more pronounced manner than in the rest of Italy.

The particularly significant losses in competitiveness recorded in Tuscany can be traced back to its production composition/specialisation, which is highly prone to foreign competition from new countries that have come onto the world market scene, and to the lag in the innovation process, especially in the business sphere (with very low levels of investment in research and innovation).

This is compounded by an ineffective knowledge transfer process, despite the fact that Tuscany represents one of the regions with the highest levels of public expenditure on research and hosts university centres with sectors of international excellence. The region has low demand for advanced services and there is a limited capacity on the part of intermediate structures to raise the level of potential demand.

The most critical issue in the Tuscan economic system is singled out in the ROP 2007-2013 as being the difficulty in linking the drivers of theoretical development and transferral of codified technical and scientific knowledge (research centres and universities) and the repositories of contextual knowledge (businesses). The relationship between these two spheres in Tuscany, except in rare cases, is complex, due to culture, interests and the mode of governance of the learning process.

This critical situation is confirmed by a series of figures. The indicator of R & D spending as a proportion of GDP in the region is fixed at 1.14%, following the national average trend. Overall spending on research and development is around one billion euro. The public sector (the public administration and universities) is the leader, alone generating 67% of regional expenditure in 2003. While in Europe the average expenditure of businesses in the Competitiveness Objective regions is 50% of total expenditure, in Tuscany the private contribution is 32% of the total. In contrast, R & D expenditure of the public sector and Tuscan universities is ranked third in Italy, straight after that in Lombardy and Lazio.

In 2003, research and development staff in Tuscany totalled 10,374 people, of which more than half were to be found within the universities, less than a third within business and the rest in public research institutions. Thus, through this indicator the weakness in the regional production system in terms of research and development activity is further highlighted. Only 29.3% of R & D employees

in the region are employed within private businesses compared to the Italian average (42%) and the average of the regions that come within the Competitiveness Objective (45.6%).

From a Tuscan regional development perspective, innovation plays a fundamental role. The challenge for regional development policies is that of setting in motion a dynamic innovation process. The progressive move to quality-based development is intended to be achieved by increasingly bringing Tuscan companies face-to-face with global competition.

In a region such as Tuscany, where there is a strong attachment to a traditional manufacturing identity, innovation policies must take into account three classes of objectives (Bellini, Lazzeroni, 2003):

- Technological innovation in traditional sectors;
- Reinforcing and entrenching already existing hi-tech businesses; and
- Establishing new clusters of hi-tech businesses.

2. Actors in the region and sectors of excellence

As mentioned, from the point of view of innovation, Tuscany presents a rather unique landscape. On one hand, it suffers from a low level of innovation while, on the other, its university centres demonstrate a highly-developed potential for advanced R & D activities and hi-tech industries. Research is very developed in the public sphere, while it is not so developed in the private arena.

The three hubs of innovative knowledge production in the region are essentially the university centres: Florence, Pisa and Siena. Pisa can also boast two schools of excellence (the Normal School and the Sant'Anna School of Advanced Studies), which are particularly active in the field of research as well as that of technology transfer. Both these institutes and the University of Pisa have made important progress in the field of research enhancement; the University of Siena was the first in 1998 to have a Liaison Office; and El.En (Electronic Engineering SpA) in Florence is the largest research spin-off ever created in Italy¹. From the point of view of content, in particular, Florence has developed experience in the radar, space and laser technology sector, Pisa has specialised in IT and Siena in biotechnology.

The region also hosts local branch offices of important research centres of the principal national institutes (CNR, INFN and INFN). In particular, CNR has only recently opened one of its largest research centres in the country in Pisa (the CNR Research Area)² and has for many years had a number of research centres only exceeded by those in Lombardy and Lazio.

The Tuscan university and research system has, in recent years, worked alongside the region in the capacity of instigator of technology transfer activities and in the formation of partnerships with private industry and other public research centres.

¹ The spin-off enterprise is a business established to facilitate technology transfer and the use of the products of research that have been developed within a university and conducted by a university researcher. In the majority of cases, the spin-off uses a patent owned by the university. The spin-off is constituted by university researchers, the University and one or more external bodies and has its own legal personality separate from its founders. Spin-off enterprises received a boost after the passing of Legislative Decree no. 297/99 and Ministerial Decree no. 593/2000, which enabled access to financial assistance (from the Research Assistance Fund – FAR) for industrial research projects or programmes put forward by companies established or to be established by universities, professors and researchers authorised to do so by specific university regulations.

² The following institutes are situated in the CNR Research Area: the Institute for Chemical and Physical Processes, the Institute for Informatics and Telematics, the Institute of Neuroscience, the Institute of Clinical Physiology, the Institute of Geosciences and Earth Resources, the Institute of Computational Linguistics and the Institute of Information Science and Technology “Alessandro Faedo”. Local branch offices of the following institutes are also located in the area: the Institute of Biophysics, the Institute of Biology and Agricultural Biotechnology, the Institute of Chemistry of Organometallic Compounds, the Institute of Electronics and Information and Telecommunications Engineering, the Institute for Composite and Biomedical Materials, the Institute for the Study of Ecosystems, the Institute of Neuroscience and the Institute of Biomedical Technologies.

In addition to universities and local institutes of national research centres, there are also other significant actors in the field of innovation and technology transfer. These actors are located throughout Tuscany (not just in the three most important provinces in terms of innovation). They include the following³:

Pisa

- the Navacchio Science and Technology Centre: this is a facility housing dozens of hi-tech businesses which is situated close to Pisa. It was established with the aim of creating the necessary conditions for growth in market competitiveness of SMEs by linking the innovation needs of SMEs with the supply of technological expertise from centres of excellence and the research system. In particular, the centre services new or consolidated businesses, in the ICT, microelectronics, biomedicine, robotics, energy and environment, and the wood, furniture and furnishings services sectors.
- the Pisa Research Consortium (Consorzio Pisa Ricerche - CPR): supports technology transfer and innovation activities within local SMEs. It participates in various European projects and among its members boasts the various universities of Pisa (the State University, the Normal School and the Sant'Anna School), the CNR and the INFN, the main local firms and local, provincial and regional administrations.
- PONT-TECH: This is a consortium company operating in the field of industrial research and technology transfer with headquarters in Pontedera (Pisa), which grew out of a joint initiative between public and private actors. The following are members: the Sant'Anna School, the Municipality of Pontedera, the Provincial Administration of Pisa, the Employers' Association of Pisa, the National Federation of Craftsmen, Piaggio & Co SpA, the University of Pisa and other municipalities. The objective is to promote research activity and the technology transfer of research for industrial applications.

Siena

- Etruria Innovazione: This is a publicly-owned joint-stock company for the promotion of technology transfer and innovation in central-southern Tuscany, established in Siena in 1997. It supports local and territorial authorities in modernising their systems.
- the Siena Research Consortium (Consorzio Siena Ricerche): Another consortium of particular importance in Tuscany, with close links to the University of Siena.

Florence

- Firenze Tecnologia: a special agency of the Florence Chamber of Commerce which acts as an institutional facilitator for technological innovation processes.
- Apre Toscana: carries out awareness, assistance and training activities within research and technological innovation programmes, particularly the Framework Programme for Research and Technological Development.

Leghorn

- the Leghorn-district Science and Technology Centre (PST): this is a limited-liability company established in 1996 from within the Leghorn Industrial Port Company (SPIL) with the aim of pursuing innovation and technology transfer to SMEs in the Leghorn district.
- the Magona Technology Centre Consortium: established in 1997 in Cecina (Leghorn) by public and private members to promote applied chemical research.

Lucca

- the Services Centre for the Economy of Lucca (LUCENSE): was instituted in Lucca in 1984 by public authorities and entrepreneurs with the aim of promoting the economic development of the Province of Lucca, in particular by supporting innovation and technology transfer.
- the Shoe Manufacturing Services Centre (CE.SE.CA): is a public-private consortium company established in 1984 for the purpose of providing advanced services to businesses

³ Information sourced from A. Piccaluga, A. Primiceri, 2005.

in the shoemaking sector. As well as experimentation and new technology transfer, the consortium is also involved in training and internationalisation.

Pistoia

- the Enterprise and Innovation Centre (CII Pistoia): began in 1987 as a Business Innovation Centre to support new businesses. It currently operates as a Services Centre in a vast range of matters, including professional training.

The provinces and municipalities of Tuscany are also significant actors in the field of innovation, through offices which have responsibility for promoting innovation and technology transfer activities within their areas of jurisdiction in consultation with the regional administration.

Within the region, the organisations dedicated to supporting internationalisation are different from those that deal with innovation, including, for instance, at the level of special agencies of the chambers of commerce or employers' associations.

The following chart aims to outline the links between the Tuscan regional administration and territorial actors in the field of innovation. The region is, on one side, linked to the academic and research world (mainly the three most important provinces: Siena, Pisa and Florence), while on the other side it is linked to enterprises through direct aid mechanisms. Assisted by universities and research centres, the regional administration attempts to establish direct links between the research world and enterprises. Within this framework, the region also engages the involvement of provinces and municipalities as significant actors within their respective territories.

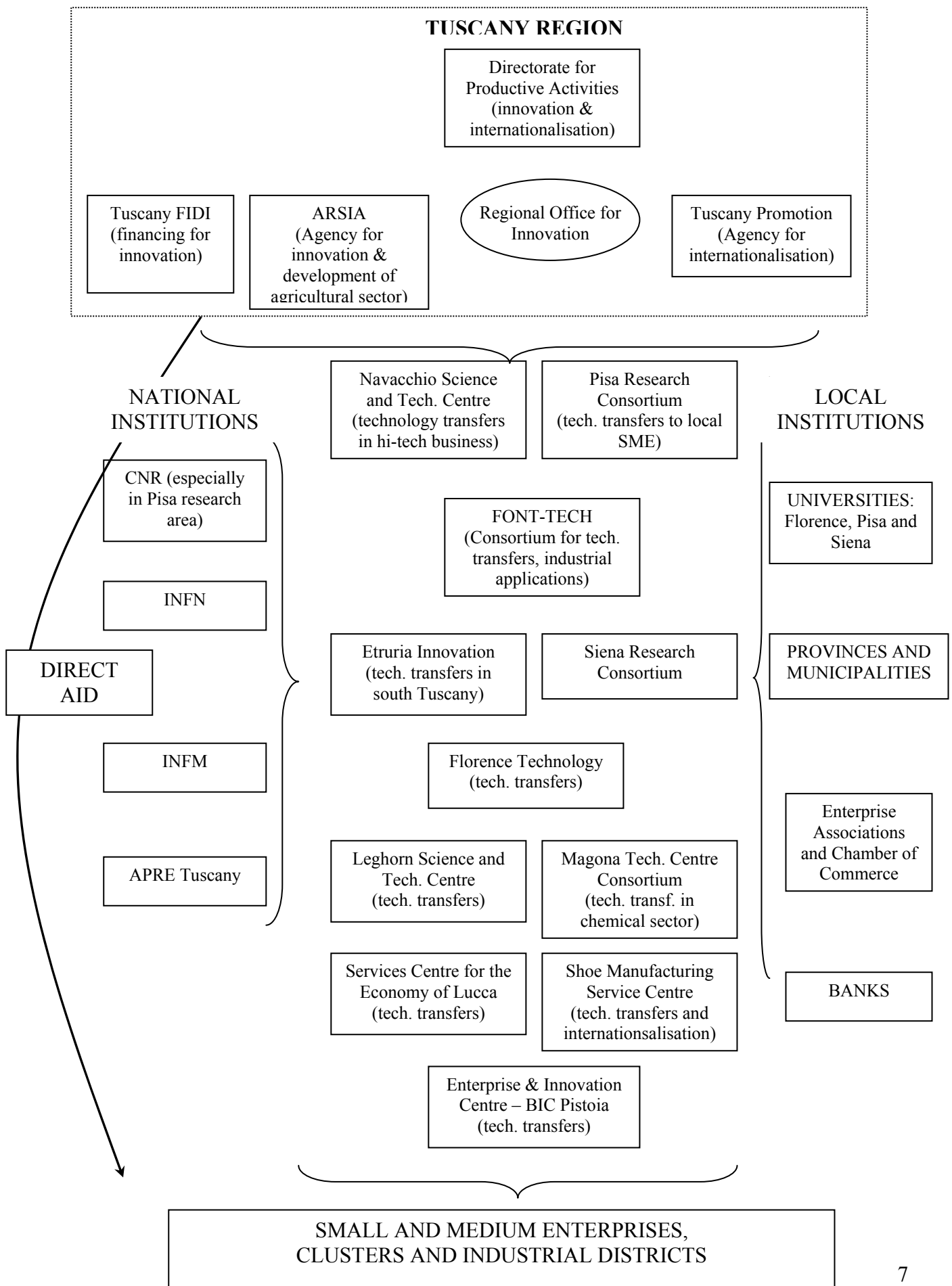
3. The actors in the regional system

The attention which the region of Tuscany pays to the issue of innovation is evident first and foremost from the institutional actors put to service in this field.

The Regional Minister for Productive Activities has, among his various responsibilities, that of innovation and technology transfer in the production system. He also oversees the promotion and internationalisation of the production system.

Within the region, there is no specialised agency or authority dedicated to innovation, but there is a regional office for innovation which functions as a hub for all the programmes and projects implemented and put forward in this field with European, national and regional funds. Among others, this office manages European funds under Objective 2 Programme and the Regional Operational Programme (ROP), regional funds, CIPE funds, funds under INTERREG (replaced in 2007-2013 by funds under the new objective 3 of Cohesion Policy and ENPI for internal and external cross-border cooperation respectively), projects within the 6th (and now 7th) Framework Programme as well as other specific projects and networks targeting innovation and development of the knowledge society. For instance, the office is responsible for the Erik Network project, managed by the region of Tuscany together with the region of Emilia Romagna. The project has the aim of coordinating, comparing and finding synergies between the innovation policies of the 51 European regions (of which 13 are partners and others are associates or observers) which base their development strategies on the knowledge economy.

TUSCANY REGIONAL INNOVATION SYSTEM DIAGRAM



As is the case at the national level, the actors operating in the field of innovation are diverse and distinct from those which deal with internationalisation, including at the regional institutional level. Both, however, answer to the Regional Ministry for Productive Activities. Toscana Promozione, a regional agency which aims to support Tuscan businesses to compete internationally, has no jurisdiction in the area of innovation.

Although without specific and dedicated responsibilities, the regional financing body Fidi Toscana is a significant actor in the area of innovation, administering many financial incentives granted by the region.

Pursuant to Regional Law no. 37/93, the Regional Agency for Development and Innovation in the Agricultural and Forestry Sector (Arsia) was set up. The agency is an operational technical body of the region in the field of agriculture. It acts as an intermediary between the production system, the research sector and the owners of particular technologies, develops process and product innovation promotion and transfer measures and carries out technical assistance activities.

Finally, we make a small digression regarding e-government and the information society in a regional context. Regional Law no. 1/2004 (*Promotion of e-administration and the information and knowledge society within the regional system. Regulation of the Tuscan regional data transmission network*) is an important example of the support offered by the region to the information society, in an attempt to adapt the Tuscan public administration to the latter. This is accompanied by various activities, among which the principal one is the e.Toscana Programme. Tuscany is very strong in the area of ICT as applied to the public administration for governance of the territory and this field rightfully comes within the sectors of excellence of the region for cooperation purposes. It could provide a particularly interesting field for cooperation with southern Mediterranean countries.

4. Innovation and internationalisation policies at the local and European levels

Since the beginning of the 1990s, faced with a process of de-industrialisation, an economic system with modest technology levels and a weak capacity to spread innovation, but also a considerable scientific and technological potential existing within the territory, the region of Tuscany began to tackle the problem of innovation. In particular, in 1994, it established the Tuscany Hi-Tech Network Project, that was developed until the end of the 90s.

On one hand, the goal was to bring the initiatives in the areas of Florence, Pisa and Siena, where there were already initiatives aimed at organising existing potential, within a common framework. On the other hand, it was aimed at enhancing and revitalising the existing entrepreneurial tradition, creating opportunities for interaction between the business sphere and the world of research. From an operational point of view, the network fostered projects for interaction between the hi-tech research and development sphere and traditional Tuscan sectors, and in particular those for traditional products (textiles, clothing, leather, hides, footwear, furniture etc.), cultural heritage, the environment, agriculture and innovative products in significantly entrenched fields in Tuscany (such as biomedical and pharmaceutical technology, advanced instruments and materials, robotics and information technology).

The main strengths of the project are to be found in its attempt to foster a regional innovation policy and establish regional coordination of the Tuscan scientific community. Its weaknesses, on the other hand, can be traced back to the nature of Tuscan businesses and the region's social context, which have little propensity towards innovation and collaboration with universities and centres of research; the different approach of universities, which view the relationship with businesses in a negative light; limited financial resources, which the region has reduced as compared to expectations; and finally, fading consensus, political weakness and shortcomings in territorial representativeness (Bellini, Lazzeroni, 2003).

With the Bassanini Law (1997), Legislative Decree no. 112/1998 (which assigns specific powers to the regions in terms of design and implementation of industrial and technology policies) and, to a growing extent, the reform of Chapter V of the Constitution in 2001, the regions acquired important powers with respect to innovation and technological development. All this within a context, even at the European level, in which the Regional Innovation Systems approach has been increasingly embraced and the regions are seen as key actors for economic recovery and the spread of innovation (see, in this regard, the “Regions for Economic Change” project). Since 2000, regional measures in support of innovation have hence spread to all the Italian regions and have also expanded within Tuscany.

Objective 2 Programme 2000-2006

In the Objective 2 Programme 2000-2006, innovation is identified as an essential point on which to focus policies. In particular, in Priority Axis 1 “Development and reinforcement of SMEs”, a goal was set of increasing the competitiveness of Tuscan enterprises, which is lower than in other more advanced areas. The reasons identified for this low competitiveness include a low capacity for innovation. Overall, the priority axis was aimed “at supporting the development of businesses and the territory they belong to by fostering the creation of new SMEs, their expansion and improvement, which will be supported through a series of diversified incentives for growth, particularly in terms of training and innovation, based on a sustainable development perspective and having regard to the principle of equal opportunity.”

Within the priority axis, there were four measures that could also be accessed to improve innovation:

- Measure 1.1: Aid for productive and environmentally-friendly investments by industrial and cooperative enterprises. The measure aims to facilitate the consolidation and sustainable development of industrial and craft businesses and cooperative enterprises, through support for tangible and intangible investment by businesses.
- Measure 1.3: Financial engineering. This measure aims to provide entrepreneurial operators with a package of initiatives geared towards ensuring capital consolidation of existing or developing businesses, as well as an incentive to start up new businesses, particularly in hi-tech and innovative sectors.
- Measure 1.7: Innovation transfer to SMEs.
- Measure 1.8: Subsidies for industrial and pre-competitive research.

There are no specific measures dedicated to internationalisation. The other measures of the priority axis deal with development and consolidation of enterprises within the region⁴.

As far as the programming for the period 2007-2013 is concerned, it is enshrined in two fundamental regional programming documents: the Territorial Orientation Plan (TOP) and the Regional Development Programme (RDP)

The TOP contains the charter for the region and the regional strategy. The charter component sets out a set of rules and principles aimed at guaranteeing the environmental and cultural sustainability of the development options in the RDP. The strategic section sets out the methods for administering the region’s heritage in order to support its intrinsic dynamism. Thus, the TOP outlines the social, economic and cultural modifications, transformations and preservations that the region may at the same time benefit from and act on.

⁴ For the purposes of innovation, Measure 2.8 (Actions to support the information society) is also significant. It is the measure through which the region offers support for the adoption of advanced computer and data transmission services by the public administration and SMEs.

Specific attention is paid to research and technological innovation in the regional strategies, within the context of which efforts are made to strengthen links between the Tuscan university network and the region's business community in order to reinforce the level of technological innovation and give rise to new business opportunities so as to increase the level of competitiveness of the entire system.

RDP 2006-2010

Tuscany's RDP 2006-2010 is an instrument which implements the government's platform and provides project-planning guidance to be followed in multi-annual sectoral programming.

The document sets out 12 priority challenges for the 2006-2010 legislature. In relation to innovation, the following challenges are particularly significant: the production challenge ("moving towards a regional integrated district"), the internationalisation challenge ("network-building") and the innovation challenge ("investing in research and further training"). The concept of the Regional Integrated District is based on the desire to forge a network between individual local business systems, production centres and large and medium-sized enterprises, in order to develop the necessary critical mass to generate innovation that can be disseminated throughout the region. This is a new competitive paradigm based on forging links between sectors, actors, businesses, local areas, research centres and the credit system on a regional scale. The goal is to foster innovation policies and links with the national and European contexts, increasingly transforming businesses into international competitive players capable of innovating and becoming dynamic drivers of change.

In light of the above, in some ways the Regional Integrated District represents the framework that encapsulates the innovation (building a regional area of innovation and research) and internationalisation (extending production chains) challenges. Given that the attainment of the European objective of *regional competitiveness and employment* is based on research and innovation, it is to be expected that programmes and projects favouring research and innovation would be included in EU programmes for 2007-2013.

The project-planning priorities in the RDP are divided into four Regional Strategic Programmes, divided along the lines of the regional government's priorities: Competitiveness of the regional integrated system and the territory; Citizenship, employment, cohesion, culture and quality of life; Environmental sustainability of development; and Governance, knowledge, participation and security. The programmes are, in turn, divided into Regional Integrated Projects (or RIPs). In the case of the "Competitiveness of the regional integrated system and the territory" programme, the relevant projects are as follows:

- A regional area of research and innovation;
- Internationalisation, cooperation, promotion and marketing of the territory;
- The Regional Integrated District: a system of industrial policies
- Innovation and sustainability in tourism and business supply;
- Innovation and quality in the rural, agricultural and forestry system;
- A system of economically significant local public services;
- Territorial accessibility and integrated mobility; and
- Development of a coastal logistics platform.

This set of Regional Integrated Projects constitutes the project-core of the RDP 2006-2010 and delineates its operational priorities including with respect to sectoral programming, thereby establishing the means of integrating the latter with the RDP. In this manner, the RDP, from the point of view of the legislature's policy choices, links the government's platform with priority interventions to be implemented within sectoral plans and programmes. The concept of integration is based on the multi-sectoral nature of some of the approaches enshrined in the RDP 2006-2010.

These are complex and cut across various sectors, thus potentially involving numerous instruments and resources.

The total resources available for implementation of the Regional Integrated Projects is about 15,000 million euro, of which around 3,700 million is covered by the region's multi-annual budget, around 1,200 million by further additional resources again from the regional budget, around 1,200 million by European and national funds, 7,700 million by agreements and arrangements already in existence albeit needing finalisation, and by further resources of around 900 million euro. Through its own resources and European and national funds already allocated to the RIPs, the region of Tuscany appears to be in a position to cover little less than 50% of the necessary funds. Its ability to pursue the abovementioned objectives flows from its capacity to trigger equivalent resources through its relationship with the national government, local institutions, with cooperative governance actors, with the market and with public and private operators interested in the development "blueprint" proposed by the RDP.

While the Regional Integrated Projects are not the only activities which the Tuscan region is developing through sectoral plans and programmes, by setting out the priorities, they make explicit the strategic orientations that the RDP bestows on multi-annual sectoral programming. The RDP, by outlining the legislature's priorities and a rough estimate of the resources allocated to their implementation, provides a general guidance document for initiatives to be implemented and the allocation of resources for the period 2006-2010.

As can be seen, within the RDP innovation and internationalisation are more closely linked than in the past, both from a conceptual and hence interpretative point of view of interventions, but also operationally by envisaging a regional integrated district and, more generally, in the decision to place instruments for innovation and internationalisation alongside each other to achieve the region's competitiveness goal.

ROP 2007-2013

EU programming comes within this framework: the ROP Objective 2 of the Tuscany region for the period 2007-2013 also makes reference to the Community Strategic Objectives and the Lisbon Strategy, as well as its Italian derivative (the PICO), and envisages consistency between the objectives defined at the national and regional levels in the Regional Development Programme (RDP) 2006-2010 and in the Territorial Orientation Plan (TOP).

The ROP explicitly makes reference to the link between the issues relating to innovation and those relating to internationalisation, commencing from a problem that is typical of the Tuscan system, namely that of the size of enterprises. The regional territory is divided into clusters of enterprises and districts, which have till now cooperated in providing small-scale solutions. What now seems necessary is that a long-term strategic alliance and cooperation be put in place on specific investment projects, enabling the district to extend the value chain. Indeed, it is inevitable that manufacturing will seek out cost economies in production factors, but Tuscan businesses should master the intangible aspect of production, represented by the product design, formulation and prototyping and research and innovation stages, which would enable them to position themselves in the highest and most profitable segments of the market. It is in this way that the link between innovation and internationalisation is made explicit: the former is conducive to the latter, for the purposes of maintaining the region's competitiveness.

However, as with the SPD 2000-2006, within the ROP there are no specific measures for internationalisation - it must come as an implicit consequence of innovation and development processes within the territory. Priority Axis 1 of the ROP is dedicated to "Research, development and technology transfer, innovation and entrepreneurship". The objective of strengthening competitiveness in the regional production system by fostering research, technology transfer and reinforcing innovation processes and entrepreneurship is a reference to this priority. In this manner, it is hoped that a regional system for transfer and innovation can be devised, through interventions

supporting private expenditure on R & D and by calling on the regional system's centres of excellence in research and technology transfer, which should constitute the linchpin of innovation and technology transfer strategies. The crucial and problematic point is identified as the creation of a shared culture of innovation and, therefore, not concentrating so much or only on creating new knowledge inasmuch as an environment conducive to the manipulation of innovations developed in other places.

Consistently with this, the activities envisaged are as follows:

- support for the implementation of joint research projects between groups of businesses, universities and research centres;
- support for making the direct transfer system conducive to innovation processes within the business sphere;
- support for programmes for business investment in innovation, even in the tertiary and services sectors, including incentives for investment in the acquisition of skilled services;
- support for spin-offs, the creation, expansion and development of businesses, through financial engineering mechanisms and including support measures for strategic services geared towards innovation;
- support of integrated investment programmes for research and innovation aimed at fostering business clustering processes, through forms of strategic alliance on specific projects, the creation of networks and other forms of cooperation; and
- aid to businesses for R & D into key enabling technologies and in hi-tech sectors.

Resources allocated to Priority Axis 1, for the entire programming period (2007-2013)

Priority Axis	ERDF contribution	National contribution	Total financing	ERDF co-financing share
Priority Axis 1	127,805,787	273,251,246	401,057,033	31.9%
Total	338,466,574	966,429,083	1,304,895,657	25.9%
Proportion of Priority Axis 1 of Total	37.8%	28.3%	30.7%	----

Source: ROP 2007-2013

Cross-border and transnational cooperation (the new Objective 3 and ENPI)

As can be seen, so far there has been no mention of the Mediterranean region in the documents considered. Nevertheless, the issues related to innovation are linked to the Mediterranean area under the new Objective 3 of Cohesion Policy (and in particular the Mediterranean Basin OP) and the ENPI Mediterranean Transnational Programme.

Together with the Italy-France OP (again pursuant to the new Objective 3) and with participation in the interregional component of the new Objective 3 (the previous strand C of INTERREG), these documents constitute the cross-border, transnational and interregional cooperation programmes in which the region is involved.

The Innovation office of the region of Tuscany hosts a working group which is the only point of reference for actors in the territory interested in putting forward proposals regarding innovation under the various Operational Programmes. Within this programming framework, the intention is to build on the experience acquired in EU and regional programmes implemented in Tuscany in relation to innovation, making use of what has been achieved and fostering forms of coordination rather than duplication.

The region is not just taking project proposals originating from the territory; it is also working on regional proposals for the near future, mainly based on the experience of recent years. Among these, it is worth mentioning the following:

- the region is interested in continuing with the Erik Network (www.eriknetwork.net), to be funded by interregional funds under the new Objective 3 (“European Territorial Cooperation”). The key focus of the network will be innovation. The main activities will include the organisation of a taskforce to implement projects and the involvement of research centres and universities, enterprises and the public administration;
- the region is keen to continue with the EuroMedSys Project, with a particular focus on the HabitatMed component (promoting sustainable development, consolidating the relationship between universities, research centres and enterprises) and the SerMed component (also possibly to be funded from different sources – such as from the 7th Framework Programme – and to be focused on cooperation with research centres, technology transfer and links between the research sphere and enterprises);
- the region is interested in carrying on with the experience of the District Project (www.district-rfo.eu) to be funded by funds dedicated to the interregional component (ex Interreg C) under the new Objective 3. From an innovation perspective, the project deals with connecting business networks, creating links between science and industry and industrial start-ups. In the future, the project will also include a component for the provision of technical assistance from “old” to “new” European regions;
- the region is working on a proposal for a “strategic project” focused on innovation, to be financed under the Italy – France OP, the Mediterranean Basin OP or ENPI. The project proposal MecSYs (Mediterranean Cooperative Systems) grew out of a series of meetings which began in June 2006 (which involved Italian Mediterranean regions, territorial actors, ministries and the Conference of Peripheral Maritime Regions of Europe (CRPM)). The aim of the project is to support and strengthen competitiveness of the Mediterranean production system by pursuing specific strategies. Strategic issues will be identified and a strategic approach aimed at producing long-term results will be adopted. The partnership will involve “Partners” and “Sponsors”, the latter being responsible for territorial animation and dissemination of results. At this stage, some issues have been identified, such as the issue of the size of Mediterranean enterprises, the need for a systematic reorganisation of centres for technology transfer, the development of innovative financial instruments and the use of benchmarking methodology. The project will be organized into three different stages: a start-up phase, an implementation phase and an integration (or follow-up) phase, with an evaluation of results and mainstreaming activities.

In conclusion, in addition to the above framework, there is Regional Law no. 35/00 “*Rules governing regional interventions in the field of productive activities.*” The law regulates intervention by the region (with regional funds) in the Tuscan economy, aimed at contributing to consolidating, expanding and diversifying the region’s production base and levels of employment with a view to sustainable development. Interventions may, among other fields, relate to research, development and business services and, in particular:

- product and process innovation;
- development and fostering of pre-competitive research; and
- real services, innovation transfer and the development of networks between the research sphere and the business world to foster growth and improvement in the Tuscan hi-tech production system.

At present, the region does not have a specific law on innovation, though it is working towards this goal. Indeed, on 9 May 2007, at the “Innovation of territories and venture capital: a comparison of models” conference held in Florence by Sviluppo Imprese Centro Italia (SICI), the president of the region Claudio Martini also announced the establishment of the Fondo Toscana Innovazione, a fund aimed at financing businesses that are highly-innovative in terms of product or process. The Fund should have resources of 40 million euro. In addition to the region of Tuscany, the Fund’s backers

include Fidi Toscana through SICI (in which it holds a stake), banking foundations and the region's chamber of commerce network.

In terms of regional laws, those on the topic of internationalisation are separate from those dealing with innovation. Nevertheless, as highlighted by the guidance documents, the idea underlying the fund is that innovation policies should have an impact on the internationalisation of businesses, facilitating a new international division of labour.

5. Relations with the central government

The Framework Programme Agreement (FPA) on the Information Society: was signed on 2 April 2004 by the Ministry of Economy and Finance, the Ministry for Innovation and Technology within the Prime Minister's Office, the Italian National Centre for Information Technology in Public Administration and the region of Tuscany. Through the FPA, around 5.6 million euro has been allocated to the region, distributed as follows (A. Piccaluga, A. Primiceri, 2005):

- development of e-government services in small individual or associated municipalities and mountain communities, for the completion and spread of the e.Toscana Programme and the technological upgrading of internal infrastructure (1,866,000 euro);
- establishment of infrastructure for authenticated and secure access to services (1,552,000 euro); and
- broadband data transmission services for small municipalities and mountain communities (2,217,500 euro).

FPA Supplementary Agreement I "Development of the Information Society in small municipalities and mountain communities": signed on 29 April 2005. The agreement provides additional resources to those mentioned above of around 3.5 million euro.

Protocol of Understanding between the Ministry of Education, Universities and Research and the region of Tuscany for the creation of a district in the ICT and product and process safety technology sector: signed in December 2005, the protocol aims to establish the district referred to in its title.

6. Some concluding considerations

Overall, examining the policies dealing with internationalisation and innovation within the region of Tuscany, the general objective appears to be that of "network-building" and, through this, achieving renewed competitiveness.

The first hurdle, as pointed out by various sources, is that of network-building within the region, namely between the business world and the research sphere but also between businesses themselves, given that the small scale of businesses requires cooperation to confront challenges posed by the market, both in terms of innovation and internationalisation.

The region has established an office dedicated to coordinating the various innovation instruments (regional, national and European resources) and geared to communicating with relevant actors in the territory. As with the relevant funding instruments, the structures dedicated to internationalisation and innovation appear to be totally separate. The real risk here is that this will lead to parallel – and not necessarily convergent – policies being conducted.

An exception to this are cross-border and transnational cooperation funds, where, in the case of the various Operational Programmes under Objective 3 in which Tuscany is involved⁵, innovation is a priority and the very form of the programmes as such implies operations on the part of the participating businesses which extend beyond national borders.

A possible option for the future could be that of experimenting with forms of convergence between the various structures and funding instruments, for instance, within the scope of the new Objective 3 programmes and the Mediterranean pilot area, which are facing similar problems to those experienced in Tuscany. As highlighted in this analysis, there is no shortage of important areas of excellence in Tuscany in the field of scientific research, nor is there a dearth of significant experience on the part of the region in coordinating programmes.

Sources

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⁵ Italy-France OP, Mediterranean OP and Interregional.