

Innovation for Growth and Jobs

Notes for a Comprehensive Approach

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The renewed Lisbon agenda aims at preparing Europe for globalisation. The triangle of knowledge, bringing together research, innovation and education is at the heart of this agenda in order to create new competitive advantages which are crucial to sustain the European social model. Innovation turns knowledge into added value, leads to new products and services and should become the main engine for a smarter growth with more and better jobs. Over the recent period, innovation policy has gone through important developments but a new momentum is needed to strengthen this engine.

1. Preparing Europe for Globalisation

The renewed Lisbon agenda aims at preparing Europe for globalisation. The Community Lisbon Programme combined with the National Reform Programmes are now underway, developing the following tools (see Table 1):

- regarding the external action of the Union, trade policy, cooperation policy, the external representation of the eurozone and the external dimension of the community policies such as research, transports and environment;
- regarding the single market, the opening of markets in energy and services, the integration of financial services, the construction of trans-European networks and the national enforcement of the directives;
- regarding the competition policy, enforcing competition rules and reducing and redirecting State aids;
- regarding research policy, supporting the European research council, networks of excellence, infrastructures, human resources and opening up the national programmes;
- regarding the innovation policy, supporting innovative companies with technical and financial incentives, providing risk capital, developing innovation networks;

- regarding education, promoting a convergence of standards in high level and in vocational education, supporting European mobility and developing lifelong learning strategies;
- regarding employment and social protection policies, enforcing basic standards, raising the employment levels, improving adaptability, managing industrial restructuring and ensuring adequate, adaptable and sustainable social protection.

This is a quite ambitious agenda, but it is important to underline that some important uncertainties are still hindering its full implementation, notably the WTO agreement, the final shape of the services directive, new resources for research, the Community patent or the mix of reforms concerning the labour market. In the meantime, the knowledge triangle is being strengthened by new measures such as (see Table 2):

- in research, the European research council, the technology platforms and the Era-nets;
- in innovation, the European networks of innovation clusters and the reorganisation of the innovation supporting services;
- in education, the European Institute of Technology, the recent developments of the Bologna process and new proposals to reform the universities

2. Building a European innovation policy

More particularly, the innovation policy has gone through quite relevant developments in the European Union with the recent mid-term review of the Lisbon strategy (2005), a stronger focus was put on the central role of the innovation policy in the general structure of this strategy:

- the Lisbon Community Programme, which encompasses all the actions taken at European level, includes not only a more ambitious Framework Programme for RTD but also a Community Programme for Competitiveness and Innovation;
- the European Investment Bank and the European Investment Fund were invited to deploy new instruments to support innovation in the framework of their Initiative *Innovation 2010*;
- the Community Strategic Guidelines for the Cohesion Policy, to shape the regional policy and the next generation of structural funds, are also giving a strong priority to innovation policy;
- the recent reform of the Stability and Growth Pact introduces more concern with the quality of public expenditure and encourages Member States to redirect their public budgets in

order to foster public and private investments in key priorities such as R&D, innovation, education and training;

- the Community framework for State aids is being reviewed in order to turn them into a more horizontal approach, focusing on R&D, innovation and human capital;
- last, but not least, the same happens with the integrated guidelines for the Lisbon Strategy, which were discussed by various formations of the Council of Ministers and finally endorsed by the European Council of June 2005 in order to provide the frame for the national reform programmes to be implemented over the next three years.

Taking into account these building blocks, the following table summarises the state of the art in the building process of the European innovation policy. The need to strengthen this process is confirmed by the common approach on innovation recently adopted by the European Commission (COM (2005)488), as well as by the Spring European Council of March 2006 and its requirement to develop a comprehensive approach on innovation policy.

3. A new momentum for the European innovation policy

Innovation turns knowledge into added value, leads to new products and services and should become the main engine for a smarter growth with more and better jobs. Over the recent period, innovation policy has gone through important developments but a new momentum is needed to strengthen this engine.

This new momentum should be given by a stronger focus on market opportunities and a more effective connection between innovation, research, education and jobs creation. As the Aho Report suggests and the European Council of March 2006 has pointed out, we need a more comprehensive approach to innovation.

New market opportunities can be better explored and exploited:

- regarding the European internal market, some examples can be given by activities such as: health services, pharmaceuticals, tourism, cultural industries, urban renovation, environmental technologies, urban renovation, food safety, fashion, transports, telecommunications, software, manufacturing systems;
- regarding the external markets, the opportunities are even more diversified but, taking into account the comparative advantages of

the European economy, they can be particularly relevant in activities such as: transports, telecommunications, manufacturing systems, pharmaceuticals, environmental technologies, tourism, cultural activities, education and health.

It is up to business to identify and grasp these opportunities, but these initiatives can be supported by a better coordination of trade, cooperation, public procurement and standardisation policies, which can create market opportunities with research, innovation and education, which can enable their full exploitation.

The new market opportunities should be faster translated into new products and services, by more effective innovation mechanisms and more abundant knowledge resources, comprising research capabilities, skilled labour force and specialised management expertise. European networks for growth, innovation and jobs should be encouraged and some leading European initiatives could be launched in some areas such as health, urban renovation or environmental technologies. This process should be particularly followed up by the Competitiveness Council of Ministers and by more permanent strategic platforms in some sectors, in order to build a new competitive capacity of the European economy. Some of the existing mechanisms, such as the technology platforms, the Innova clusters and the sectoral high level groups, already provide some relevant elements in this direction (see Fig. 3).

4. Developing clusters and partnerships for innovation

Apart from improving the general conditions, the European and the national policy can also focus on special catalysts to speed up the innovation process. For example, the approach based on clusters should aim at developing partnerships for innovation, jobs creation and competence building, involving all the relevant actors: companies, research institutions, education and training institutions and financial bodies.

A cluster can be defined as a set of companies connecting between themselves and with institutions of knowledge production and diffusion in order to build new competitive factors and new competences and to increase the added value. A cluster can be identified and developed at different levels according to the main policy purpose:

- at local/regional level, if the purpose is to strengthen the concrete and personal relationships which underpin all clusters;

- at national level, if the purpose is to improve the framework conditions for clusters which are spread over the national territory;
- at European level, if the purpose is to improve the framework conditions for clusters which are present in various Member states.

The main policy objectives for supporting clusters development are:

- to create a self-sustained process of cooperation for competition, gathering companies, education, research, business support and financial institutions;
- to identify a critical path to develop a network and key-connections in order to add value;
- to speed up the transition to a knowledge intensive economy;
- to improve the comparative advantages in a globalized economy.

The main cluster activities which can be supported as partnerships for innovation are:

- the cooperation between enterprises regarding areas of common interest such as trade, e-business, organisation of the supply chain, diffusion of new technologies and certification;
- the development of joint research programmes;
- the development of joint training programmes;
- the development of joint business support services;
- the support to start-ups.

A critical path to developing a concrete cluster can be discovered by asking how is it possible to add more value building on the already existent competence. For instance, if we take the general human needs as a broad reference for associating clusters of economic activity (see Fig. 2):

- competences in tourism should be combined with the competence in cultural activities, sport and environment in order to develop the area of *leisure*;
- competences in construction, furniture, electronics, urban management should be combined in order to develop the area of *habitat*;
- competences in clothing, footwear, new materials and design should be combined in order to develop the *fashion* area;
- competences in car industry, transports and logistics should be combined, in order to develop the area of *mobility*.

In the meantime, other horizontal competences are required to develop all the clusters of activities, such as electro-mechanic equipment, information and communication technologies and biotechnologies. These can also be considered as horizontal clusters.

5. Fostering innovation capacity building at national level

The critical process of building innovation capacity begins at national level. Against the background of these policy developments at European level, it is important to identify the new possibilities for the innovation policies at national level, taking into account the diversity of national settings.

The National Reform programmes to implement the Lisbon strategy over 2006-2008, complemented by the National Strategic Reference Frameworks can offer a unique opportunity to define national strategies of transition to knowledge-intensive economies with a central role to be given to innovation policy. The key question for each Member State is how to develop this process, adapting the European agenda and, more precisely, the integrated guidelines for growth and jobs and for cohesion to the specificities of its national innovation system. Some of these specificities should be particularly underlined to justify the diversity of national strategies to a knowledge intensive economy:

- the industrial specialisation patterns, the relationship with the global economy and the position in the international division of labour;
- the predominant types of companies and their need “to climb the ladder of innovation”;
- the institutional framework regarding, in particular, the corporate organisation, the education and training system, the research system, the financial system and the labour markets regulations;
- the quality of the infrastructures;
- the educational levels and the specific skills of the labour force;
- the organisation of the civil society and the instruments to manage change.

Recent experiences suggest there is a critical path to develop an innovation policy as a catalyst to the transition to a knowledge intensive economy:

- 1/ to use the European agenda as a leverage to introduce this strategic goal in the national agenda;
- 2/ to spread a richer concept of innovation, taking into account its different dimensions: technological and organisational, in

- processes or in products and services, based on science or in learning-by-doing, using or interacting;
- 3/ to highlight the implications of the innovation system approach for the coordination of policies;
 - 4/ to define the priority areas of an innovation policy and prepare a tool box of operational measures;
 - 5/ to open the access to this tool box in order to support innovating projects and companies whatever their sector;
 - 6/ to focus on some clusters in order to illustrate the advantages of developing partnerships for innovation, as a good practice which can be followed by other clusters;
 - 7/ to dynamise the national innovation system, by focusing on the missions and the interactions among its bodies, including the flexibility of labour markets;
 - 8/ to reform public management with implications for innovation;
 - 9/ to spread skills for innovation and to train innovation managers;
 - 10/ to improve governance for innovation, by improving the internal coordination of the government and the relevant public departments, by creating public awareness and by developing specific consultation and participation mechanisms with the civil society.

The already very rich comparative analysis on innovation systems, which is available, shows that they operate in quite different ways. Sometimes, the main source of innovation is science and technology but, in other cases, it is learning-by-doing, learning-by-using and learning-by-interacting, leading to less codified kinds of knowledge. The purpose of policy-making should be to improve the mix of these different sources of innovation in each concrete situation, by developing appropriate instruments to foster these different sources. Therefore, the innovation instruments can range from joint research projects between companies and universities to diffusing learning organisations in companies. The tool box of innovation policy instruments should be rich enough to deal with different sources of innovation in order to ensure the appropriate policy-mix for each concrete situation.

Last but certainly not least, the critical problems of improving governance for innovation should also be underlined: the coordination between the different public policies which are involved (enterprise, research, education, employment, regional and macroeconomic policies); the different ways of networking with the civil society; the public-private partnerships; the administrative capacity to foster innovation capacity; the need to build coalitions for innovation.

Table I **PREPARING EUROPE FOR GLOBALISATION – THE TOOL BOX**

POLICY AREAS	EXTERNAL ACTION	SINGLE MARKET	COMPETITION POLICY	RESEARCH POLICY	INNOVATION POLICY (ENVIRONMENT, ICTS)	EDUCATION TRAINING POLICIES	EMPLOYMENT SOCIAL PROTECTION
INTERNATIONAL	<ul style="list-style-type: none"> - WTO - IMF, WB - UN-Development 	<ul style="list-style-type: none"> - Relationship with third countries 		<ul style="list-style-type: none"> - International Cooperation 	<ul style="list-style-type: none"> - International Cooperation 	<ul style="list-style-type: none"> - International Cooperation 	<ul style="list-style-type: none"> - Common Labour Standards
EUROPEAN	<ul style="list-style-type: none"> - Trade Policy - Cooperation Policy - External dimension of community policies 	<ul style="list-style-type: none"> - Products - Network industries - Services - Financial Markets - Public Procurement - Labour - TENS - ERDF 	<ul style="list-style-type: none"> - State aids - Mergers and acquisitions 	<ul style="list-style-type: none"> - European Research Council - Networks of excellence and integrated projects - Technology platforms - Era-Nets - Infrastructures - Human Resources - Coordination of national research policies - ERDF 	<ul style="list-style-type: none"> - European networks of innovation support services - European networks of clusters - European networks of innovative regions - Coordination of national innovation policies - Community Patent - ERDF 	<ul style="list-style-type: none"> - European mobility and cooperation in high level education, secondary and basic. Training and adult education - Convergence process in high level education and VET - Coordination of national education policies - European Social Fund 	<ul style="list-style-type: none"> - Labour directives - Coordination of national employment policies - Coordination of national social protection policies - European social fund - Globalisation fund
NATIONAL	<ul style="list-style-type: none"> - Bilateral agreements - Cooperation policy 	<ul style="list-style-type: none"> - Enforcement of directives to open the markets - Building transeuropean networks 	<ul style="list-style-type: none"> - Enforcing competition policy 	<ul style="list-style-type: none"> - National research programmes - Reforming research institutions 	<ul style="list-style-type: none"> - Supporting Innovative companies - Developing innovation networks - Providing risk capital - Expanding broad band and e-services - Spreading environmental technologies 	<ul style="list-style-type: none"> - National strategies for life-long learning - Reducing drop-outs - Improving quality standards - Increasing graduates for scientific and technological careers 	<ul style="list-style-type: none"> - Raising employment rates - Adopting employment policies to the life-cycle - Promoting flexicurity - Inclusive labour market - Investing in human capital - Ensuring adequate adaptable and sustainable social protection
REGIONAL				<ul style="list-style-type: none"> - Developing research institutions and networks 	<ul style="list-style-type: none"> - Supporting innovative companies - Developing innovation networks - Providing infrastructures 	<ul style="list-style-type: none"> - Regional strategies for life-long learning - Reducing drop-outs 	<ul style="list-style-type: none"> - Raising employment rates - Adapting employment policies to the life-cycle - Inclusive labour market - Investing in human capital

Table 2 EUROPEAN INSTRUMENTS TO BUILD A KNOWLEDGE SOCIETY

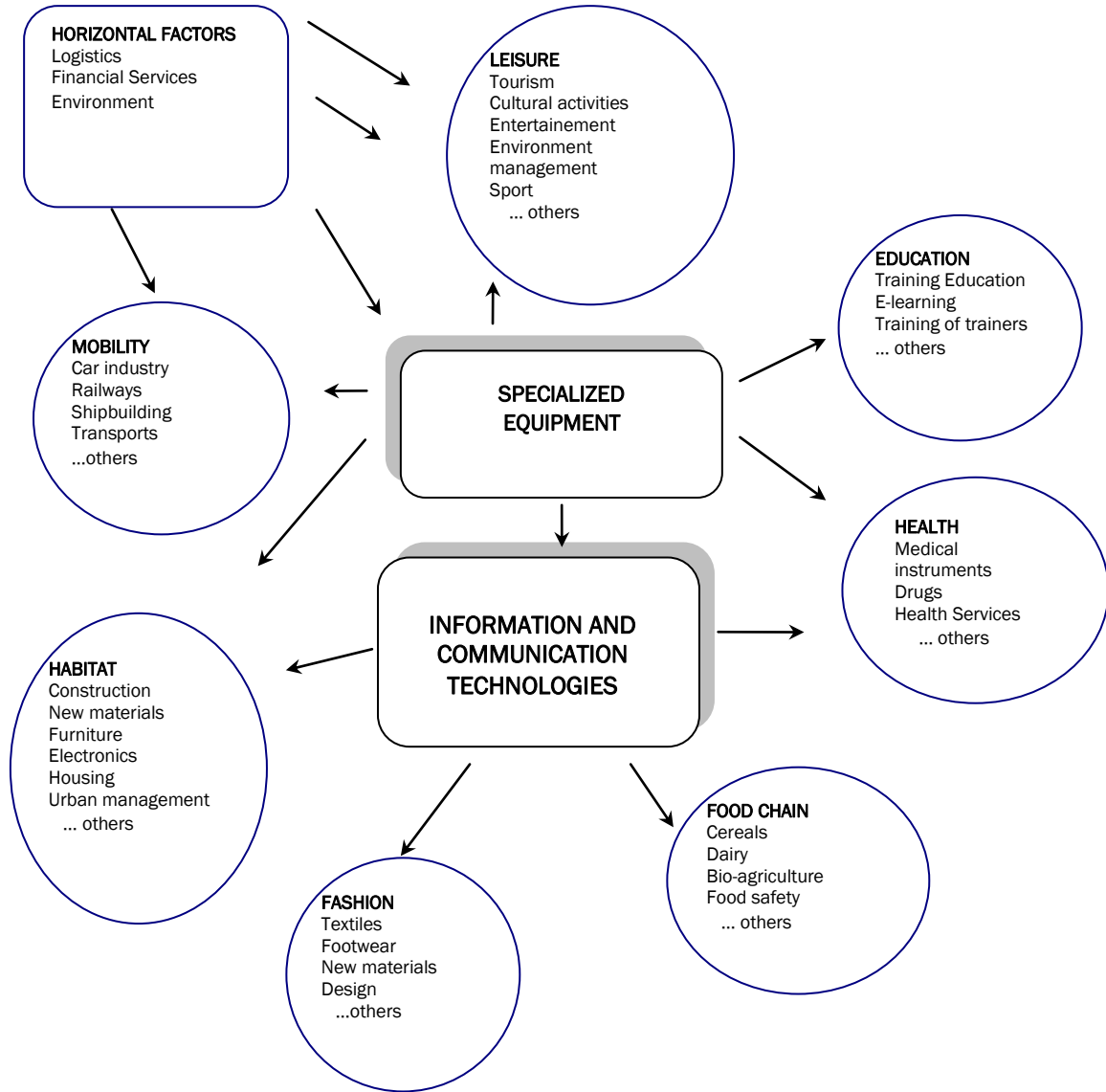
RESEARCH		EDUCATION AND TRAINING				INNOVATION		LEVELS
European Research Agencies	European Research Council	Commission's Advisory Groups FP7		Technology Platforms	European Institute of Technology*	European Foresight on Innovation and Skills		STRATEGIC DIRECTION
Basic Research Projects	Networks of Excellence	Integrated Projects	Marie Curie Fellowships	University* Advanced Projects	Vocational* Education and Training Advanced Projects	Innovation Clusters		EXCELLENCE PROJECTS
MOBILITY INSTRUMENTS								
		STRUCTURAL FUNDS PROJECTS						CAPACITY BUILDING PROJECTS
Research Systems Reform			Lifelong Learning Systems Reform*			Innovation Systems Reform		NATIONAL REFORM PROGRAMMES

Table 3 BUILDING THE EUROPEAN INNOVATION POLICY

Innovation Policy Components	National Level	European Level
Fostering innovation in companies	<ul style="list-style-type: none"> – Training for innovation management – Business support services for innovation– including support for the modernisation of work organisation at enterprise level – Promoting learning organisations – Support to innovative start-ups 	<ul style="list-style-type: none"> – Training for innovation management (RG, CIP) – Business support services for innovation (RG, CIP, EIB) – Support to innovative SME (EIB, EIF) – Capacity building is required at regional level to provide the organisational infrastructure capable of delivering business support services.
Developing knowledge production	<ul style="list-style-type: none"> – Increasing the private and public investment in R&D – Training and mobility of more researchers – Education and training for innovation (specialised skills and qualifications) – National policies for lifelong learning 	<ul style="list-style-type: none"> – 7th Framework Programme for RTD – Community Programme for Lifelong Learning – EIB actions for human capital – Support to R&D (RG)
Developing networking for innovation	<ul style="list-style-type: none"> – Developing clusters, poles of innovation and partnerships for innovation – Supporting joint research by companies and universities 	<ul style="list-style-type: none"> – Supporting clusters, poles of innovation and partnerships for innovation (RG, CIP) – Supporting international transfer of knowledge and the international cooperation between companies (CIP)
Improving the framework conditions for innovation	<ul style="list-style-type: none"> – Broadband infrastructures – Access to venture and seed capital – Tax incentives for innovation – Intellectual property regime – Innovation in social dialogue. Some really creative thinking is needed at both national and European levels. A strong role exists for action research 	<ul style="list-style-type: none"> – Reform of State Aids – Public incentives for Innovation (RG) – Venture capital schemes (EIF) – Community patent – Innovation in social dialogue
Using demand as a leverage for innovation	<ul style="list-style-type: none"> – Encouraging public procurement of innovative products and services – Improving quality standards and certification 	<ul style="list-style-type: none"> – European competition policy – European trade policy – Setting standards by Single European Market directives
Improving governance for innovation	<ul style="list-style-type: none"> – Council of Ministers for Innovation – Innovation council and board – Lisbon Coordinator 	<ul style="list-style-type: none"> – Council of Ministers for Competitiveness

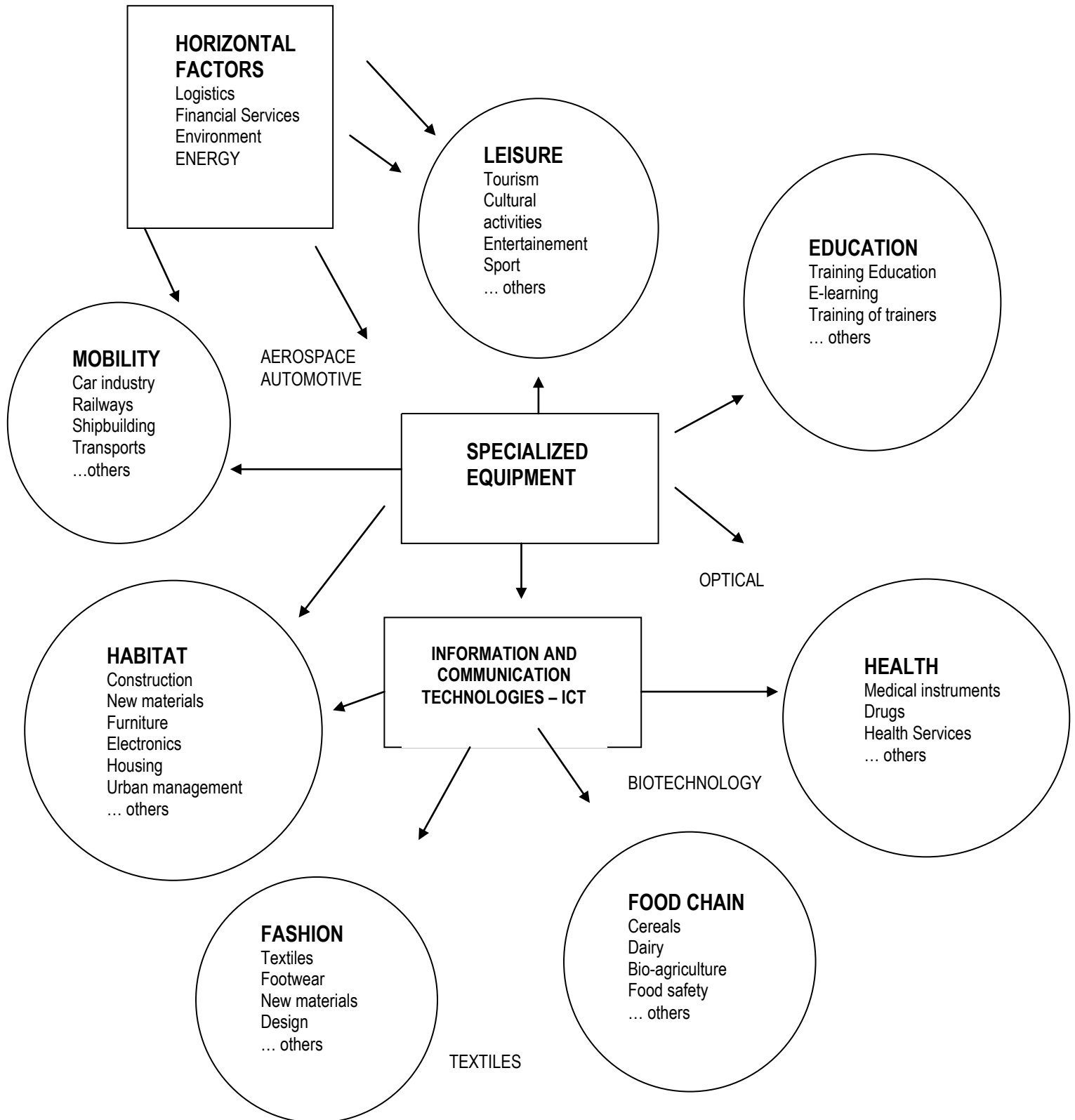
RG – European Regional Policy
 CIP – Competitiveness and Innovation Programme
 EIB – European Investment Bank
 EIF – European Investment Fund

Figure 1. A framework to explore new areas of innovation and jobs creation



**Figure 2 EUROPEAN UNION
EUROPE INNOVA
INNOVATION CLUSTER NETWORKS**

FRAME TO EXPLORE NEW AREAS OF INNOVATION AND JOBS CREATION



**Figure 3 EUROPEAN UNION
SECTORIAL ACTIONS IN INDUSTRIAL POLICY**

FRAME TO EXPLORE NEW AREAS OF INNOVATION AND JOBS CREATION

