

Regional Policy, Smart Specialization Strategy and Emerging Industries

Antonio Santangelo

Abstract

The manufacturing development, following the slowdown after the 2007 financial crisis, is a crucial factor for achieving goals of Europe 2020 strategy.

The European Commission sees the Regional Policy, coupling with the national one, the way to push a disruptive change.

The Smart Specialisation Strategy – S3 for each region has two main goals:

- *to strengthen the relationship between businesses and research*
- *to focus public fundings on territorial excellences of the Union.*

In developing this strategy clusters have a central role, for thinking and cooperating to change in a typical open innovation environment. For the success of this approach the attention to Key Enabling Technologies is essential, they have a strong attitude to generate disruptive change processes. The emerging industries are generally the result from cross sector spillovers due to technological and entrepreneurial convergence.

Profilo

I'm an innovation consultant . After getting a degree in Economics at Bocconi University, I did work as researcher and journalist on ICT impact on business strategies.

Since 1994, with the WWW coming, I was interested in new opportunities that internet will give to business and communities.

As director of Milano X la Multimedialità project and scientific director at a IED school on technologies I did started local projects.

Since 2007 I'm working on technology transfer projects for national and local authorities. I'm also a blogger and contributor to newspaper and magazines on digital culture.

Regional Policy, Smart Specialization Strategy and Emerging Industries

The Regional Policy

Innovation and technology transfer, widely re-called in EU research programs, are in recent years facing new challenges due to factors such as: the impact of globalization; the emergence of new pervasive products and technologies; the difficulty in finding financial resources for R&I in particular in an atomized and undercapitalized industrial context; the consciousness that innovation takes place in "systems" or open networks, through the interaction of actors which are different in competences, skills, objectives. These challenges and complexity factors require therefore to act over vast areas that go beyond individual regions or Countries and on the connections among systems significantly different from each other (research, education, industry, finance, public administration).

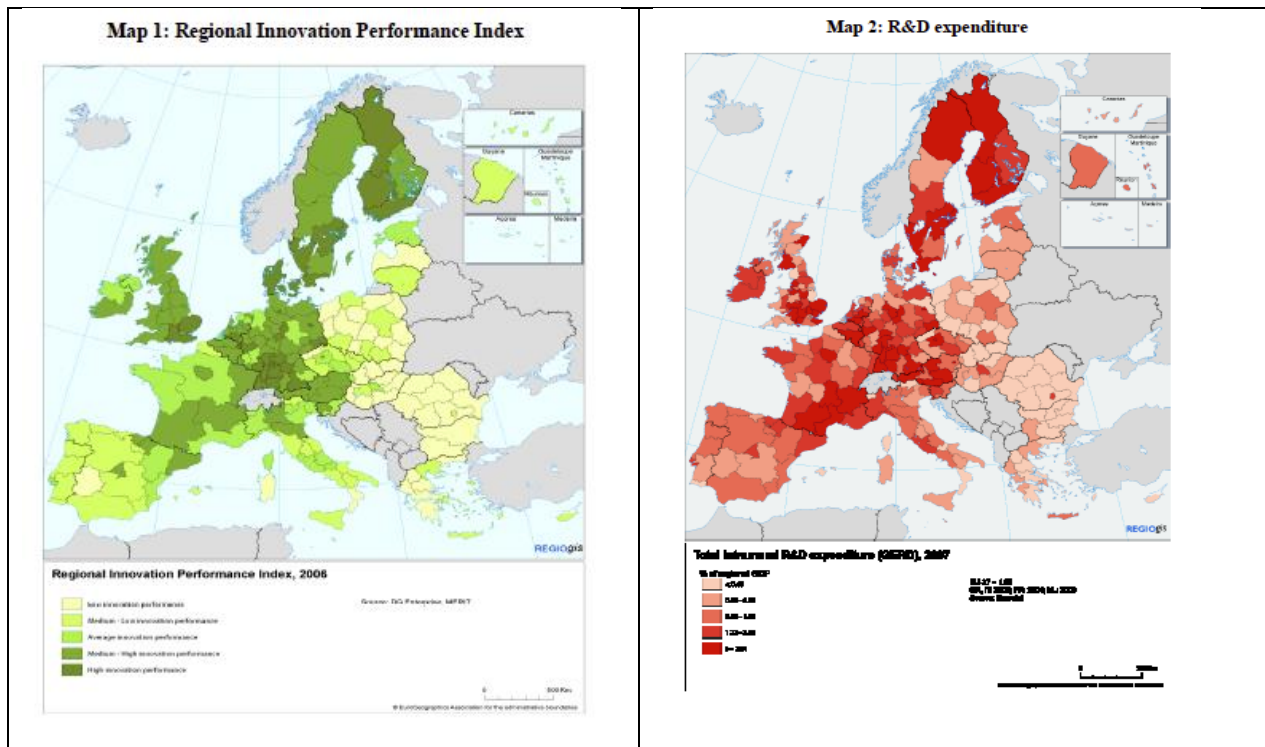
EU industry was severely stroken by the economic crisis: 3.5 million jobs have been lost since 2008, the share of manufacturing in GDP fell from 15.4% to 15.1% last year, and the EU's productivity performance is deteriorating in comparison to our competitors. Nonetheless, it is a world-leader in sustainability and returns a € 365 billion surplus in the trade of manufactured products (€ 1 billion per day) generated mainly by a few high-end medium technology sectors, such as automotive, machinery and equipment, pharmaceuticals, chemicals, aeronautics, space, creative industries and high-quality goods in many other sectors, including food.

The Commission defined the Regional Policy to enhance the coordination of innovation initiatives in all regions, at the same time ensuring complementarity between EU, national and regional actions for R&D, entrepreneurship and ICT¹.

Regions have a central role for their close relationships with local stakeholders, universities, research centers, SMEs and local institutions. Their innovation attitude and knowledge depends on many factors: the business culture, work force skills, education and training institutions, innovation support services, technology transfer mechanisms, R&D and ICT infrastructures, the mobility of researchers, business incubators, new sources of finance and the local creative potential.

The goal of the Regional Policy is to help less innovative regions to fill the gap with the most advanced, and to help all to deploy a good governance. The figures below show the differences among the EU Regions in terms of Innovation performance and R&D Expenditure.

¹ Regional Policy contributing to smart growth in Europe 2020



The EU Regional Innovation Strategy for Smart Specialisation (RIS 3)

The Smart Specialisation Strategy (RIS 3), identified in the Barca report "An agenda for a reformed cohesion policy", has been highlighted by the European Commission as one of the pillars of the Europe 2020 Strategy, set out in COM (2010) 546 Flagship Initiative of "Innovation Union" and the Communication COM (2010) 700 on the review of the EU budget.

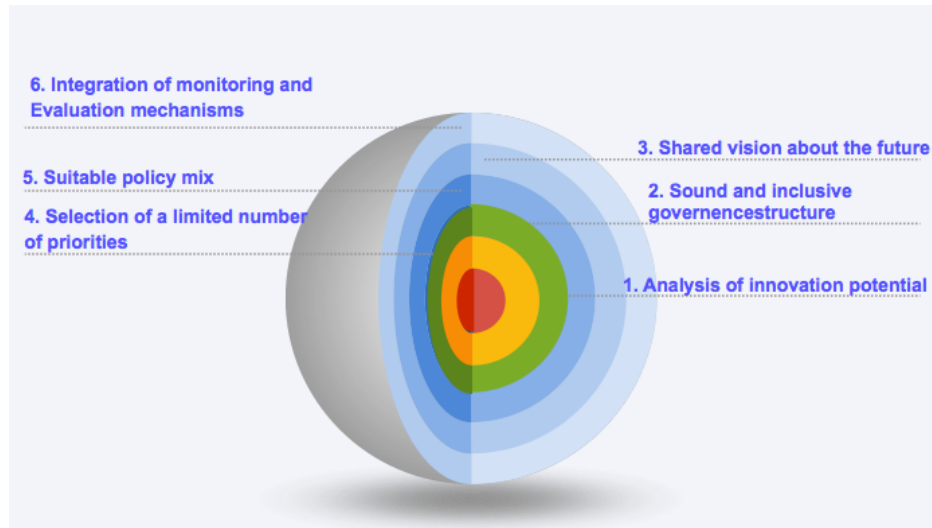
The crisis effects have impacted heavily on innovation policy. In 2011, public R&D budgets decreased for the first time since the beginning of the crisis, though this is being partly compensated by an increase in foregone tax revenues due to fiscal incentives. Comparing Member States' public budgets for R&D 2011 and 2012, the number of countries which maintained or increased their public spending is also shrinking. This presents a clear threat of hollowing out Europe's innovation performance and endangering future competitiveness².

In essence, the Union recognizes that the process of convergence on this issue suffers a setback, but also that the risk is that the gap between the states in this matter widens.

So, faced with a reduction in the budget available, the Commission has decided to launch a strategy that optimizes resources. The RIS 3 intends to allocate to regions the responsibility of designing flexible and dynamic innovation strategies to systemize resources.

² COM (2013) 149 final.

The 6 steps approach to RIS3



The RIS 3 is a transformation agenda, based on four principles (4 Cs):

- *Choices and Critical mass*: limited number of priorities on the basis of own strengths and international specialisation – avoid duplication and fragmentation in the European Research Area – concentrate funding sources ensuring more effective budgetary management
- *Competitive Advantage*: mobilise talent by matching RTD + I capacities and business needs through an entrepreneurial discovery process
- *Connectivity and Clusters*: develop world class clusters and provide arenas for related variety/cross-sector links internally in the region and externally, which drive specialised technological diversification – match what you have with what the rest of the world has
- *Collaborative Leadership*: efficient innovation systems as a collective endeavor based on public-private partnership (*quadruple helix*) – experimental platform to give voice to unusual suspects.

A good strategy for Smart Specialisation must be rooted in a system of governance provided with a long-term vision and a holistic approach covering the entire ecosystem of knowledge.

The economic rationale of the strategy is:

- to develop and implement strategies for economic transformations
- to respond to economic and societal challenges
- to make regions more visible to international investors
- to improve internal and external connections
- to avoid overlaps and replication in development strategies
- to accumulate a critical mass of resources
- to promote knowledge spill over and technological diversification

What's important is that regions identify the knowledge specialisations through a process of “*entrepreneurial discovery*”, involving key innovation stakeholders and business. The goal is to involve research centers, universities, business working together to identify the most promising areas, and in the mean time weaknesses to recover. What's important to underline is that the entrepreneurial actors are best placed to know or discover what they are good at producing, so firms are the main actors in this process; when industry structures are weak, other actors can lead the research, such as higher educational institutions, research and technology centers, independent innovators.

Smart specialization has therefore the objective of avoiding the waste of resources, use of structural funds more effectively and with greater synergies between EU, national and regional. The region should meet the expectations by identifying competitive advantages and technological specializations consistent with the potential for innovation and identifying public and private investments necessary to research and development.

From this point of view, RIS 3 is an upgrading of the traditional methodology for Structural Funds programming, because is oriented to identify the specific nature and unique assets of each country and region. So, it identifies the competitive advantages of each territory, simplifying the goal to settle a vision of the future.

The European Commission, to make clear the significance of this approach, has obliged the RIS 3 strategy as pre-condition for ERDF funding, and its approval before the Operational Programme becomes effective.

RIS 3: a process, not a photography

The Smart specialisation is an ongoing process that marks a transition from an existing sector through an exchange of knowledge due to R&D activities, manufacturing know hows or a modernisation generated by a Key Enabling Technology. KETs are knowledge intensive and associated with high R&D intensity, rapid innovation cycles, high capital expenditure and highly-skilled employment. They enable process, goods and service innovation throughout the economy and are of systemic relevance. They are multidisciplinary, cutting across many technology areas with a trend towards convergence and integration. KETs can assist technology leaders in other fields to capitalise on their research efforts³. The KETs identified as priority by the European Commission to improve european industrial competitiveness are advanced materials, nanotechnology, micro- and nano-electronics, industrial biotech and photonics⁴.

Goods and services generated by KETs can address grand social challenges, such as energy supply, public health, ageing and climate change. The problem facing EU is that research and development capabilities are not always correlated to the translation in commercial manufactured goods and services. Smart Specialisation strategies can help regions, adopting KETs, to settle

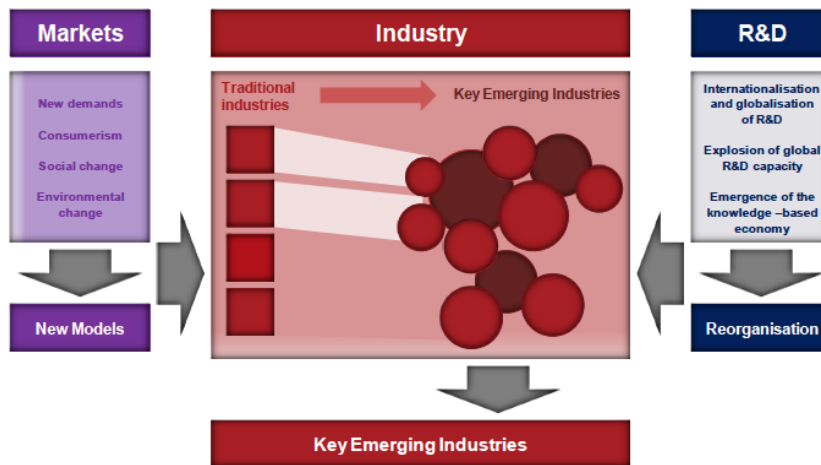
³ "Preparing for our future: Developing a common strategy for key enabling technologies in the EU" - COM (2009) 512

⁴ Ibidem

strategic research agendas to develop priority technologies and fill the gap with more advanced countries and regions.

Emerging Industries

The strong drive to innovation on the beginning of this century has generated profound changes in the international economy. One of the effects is to foster competition and in the mean time cooperation between firms with heterogeneous backgrounds as regard as technology and market approach. This is particularly true in the cluster context, where business, universities and research centers live together. The emerging industries are an effect of structural changes in traditional sectors and industries following the market requests generated by new social needs and attitudes.



Because their novelty, the emerging industries are characterized by a high growth potential. They can arise from new industries or within the restructuring of existing industrial processes; the driver of their birth are generally new technologies, based on enabling technologies, or new services. It's not easy to identify them immediately, in general this happens when they become consolidated, but some generative factors are fairly well known:

- they are usually formed on the basis of a new product, service or idea
- they usually result from cross sector spillovers
- they are research and knowledge intensive industries
- they are characterized by a state of disequilibria, and they result from a disruptive idea that impacts value chain
- they have a high propensity to cluster.