The Evaluation and Implementation of a Smart Specialization Strategy
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By

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INTRODUCTION

The book aims to define and promote the concept of smart specialisation of a region and why it is essential to have smart specialization strategies (S3) at national and regional levels for the future growth of the European innovation space and the strengthening of the European economy.

The book presents a process of how the smart specialisation strategy of a country or a region is developed and offers a methodological tool that has proved to be suitable for S3 creation in practice. This tool is necessary for state and regional administrations to develop such strategies, and the European Union (EU) demands that each region has it. Having S3 brings additional points during the evaluation of project applications for EU funding.

Additionally, the authors explain the entire process of generating S3 in a selected country, its activities roadmap, and examples of implementation activities.

The significant added value of the book is the recommendations for future activities of the European Commission regarding smart specialization development and implementation in European regions, states, and the whole European Union. The book presents possible enhancements and intensification of the adoption of Smart specialisation principles within the entire European area. It is an excellent example of how to promote European values and how to force, in the best way, states’ integration into EU activities and EU society. The readers can find a real-time methodology based on the EU recommendations, which shows the importance of being a member of the European Union. The authors stress the importance of including non-EU countries in the process of preparing them to become EU members more easily.
CHAPTER 1
DEFINITION OF SMART SPECIALIZATION

As most EU countries fully support and work diligently on Smart Specialisation of their regions, it is advisable to start this book with the European Commission’s definition of the concept:

“Conceived within the reformed Cohesion policy of the European Commission, Smart Specialisation is a place-based approach characterised by the identification of strategic areas for intervention based both on the analysis of the strengths and potential of the economy and on an Entrepreneurial Discovery Process (EDP) with wide stakeholder involvement. It is outward-looking and embraces a broad view of innovation, including but certainly not limited to technology-driven approaches, supported by effective monitoring mechanisms” (EC, What is Smart Specialisation).

The Smart Specialization Strategy (S3) is an essential development program that raises the competitiveness of the economy and the progress of the general public. It links the economy, decision-makers, academia, and civil society by connecting research and innovation resources with industrial potential and the strength of a limited number of economic sectors. S3 directs resources to sectors that have the most outstanding innovative and competitive potential. Smart specialization enables more efficient use of potential within the country’s economy and a better position in the international value chains of the global economy. With better-identified innovation and science and technology sectors, S3 decreases duplication and fragmentation of efforts and waste of financial resources within European regions. It brings more effective sustainable development of the economy based on their specificities.

In short, the goals of S3 are:

- To use limited natural and human resources rationally,
- To prevent countries and regions from carrying out research and innovation activities in all areas,
Definition of Smart Specialization

- To convince countries and regions to centre their research and innovation activities on ones that will help them accomplish the best outcomes and that will be used in other regions and the entire European Union.

Research and Innovation of the Smart Specialization Strategy (RIS3) are essential in dealing with the economic development of a country or region through focused support for research and innovation (Midtkandal and Sörvik, What is Smart Specialization? 55). What is vital for smart specialization is to have a good overview of necessary developments within a region or nation, identifying where the most significant strategic potential is. It also stresses the importance of developing a control system that will allow multi-stakeholders to set strategic priorities and increase development potential through intelligent policies.

This concept comes from a few complementary sources. A part of it comes from Dominic Foray and the expert group “Knowledge for Growth” within the European Research Area (ERA). The subject that the group of experts analysed is the fact that Europe is less competitive than the USA, especially in its capacity for research and development and in the distribution of new technologies. The analysis shows that research in Europe is too fragmented and that the coordination between stakeholders regarding their investments in research and innovation (R &I) is relatively poor. Namely, most stakeholders invest in similar and modern areas with an “only me” syndrome. The fields such as nano- and biotechnologies and information and communication technologies (ICT) almost dominate investments (EC, Research and Innovation). The expert group recommends a structural change in habits and development in fields that correspond to local strategic potential in each European region. It is necessary to invest in R &I in new sectoral areas or industries, anticipating that regions and countries differ in strength and potential (Foray, David and Hall, Smart specialization - academic idea), (McCann and Ortega-Argilés, Smart specialization - regional growth).

Thus, it is evident that research and development should support things specific to practically oriented applied sciences and other new technologies. Stakeholders of regions must be observant of the strategies in other areas. They should identify niches for themselves, and, therefore, those strategies must, for different regions, be different. However, in some cases, it is advisable to cooperate the policies with other regions and jointly compete thereafter (Boschma, Minondo, and Navarro, Related Variety, 241).

To ensure balanced development across Europe and to reduce disparities between Europe’s regions, the European Commission created a cohesion
policy. “Structural funds are the main tool to implement such a policy and, within this process, smart specialization was introduced” (Dow, Treatment of money, 13), (Soete, Chatterjee and Hunt, Research without Frontiers, Chapter 28).

In the 2014-2020 programming period, the Cohesion Fund’s average investment in R&I across Europe was close to €65 billion, about 30% of its total allocations. The main goal of this fund is to promote innovation through the Cohesion Policy programmes for 2014-2020. In the broader sense, the plans in the budget period from 2014 to 2020 were (1) In developed countries and countries in transition, to direct 80% of investments toward renewable energy sources, energy efficiency, and the development of SMEs and R&I competitiveness; and (2) In less developed regions, to direct 50% of investments toward the same fields. In order to receive EU funding for R&I&D (ERDF), a smart specialization strategy (RIS3), which supports such plans, must be developed.

“The ideas on Smart Specialization are in line with the EU 2020 strategy and the strategy should be a response to the current economic crisis” (Dow, Treatment of money, 13), (Soete, Research without Frontiers, Chapter 28). Thus, S3 identifies where the competitive advantages are, what supply and demand problems exist, creates partnerships for innovations that focus on greater cooperation between different societal stakeholders, and equalizes public and private resources and programs. Additionally, smart specialization transposes EU R&D investments, mainly from northern countries to southern regions, to find their strength, develop innovation potential, and use dedicated funds (Carlino, Urban density, 389).

Regional Innovation and Technology Transfer Strategies (RIS and RITTS) were the forerunners of S3. While working on them, regions gain accumulated knowledge, which is the basis of Smart Specialization. That has been a successful concept. However, instead of engaging local and regional stakeholders and experts to develop strategies, many regions used external experts to do that, and such a method created problems. With lacking entrepreneurs’ participation during the design phase of the first group of strategies, the bottom-up way of thinking was less used, and the regional approach more. This method produces strategies that focus too much on technology and R&D and too little on other innovation areas, such as service innovation. They neglect the need for greater policy integration. (Boschma and Hunt, Related Variety, 289), (Karlsson, Johansson, and Stough, “Entrepreneurship”).

The European Commission created a valuable and unique tool called the S3 Platform for all Smart Specialisation Strategy development issues and
its application, monitoring, and assessment. The platform is available on the website: (EC, S3Platform). The EC created this tool with the goals to:

- Provide expert materials and great practice models,
- Inform policy-making,
- Support peer-reviews and shared learning,
- Enhance admittance to significant information,
- Train strategy producers.

The tools that are at disposal on the site are the following:

- **Eye@RIS3**,  
- **ESIF-Energy**,  
- **Regional Benchmarking**,  
- **EU Trade**,  
- **R&I Regional Viewer**,  
- **Digital Innovation Hubs**.

**Eye@RIS3**

Eye@RIS3 gives a picture of specific innovation sectors across Europe. It empowers public administrators and partners to situate the domains of different regions’ interests and discover suited companies for cooperation between regions. The Eye@RIS3 is an online information base of RIS3’s most important priority sectors in each European region. It is an instrument for helping methodology advancement. Regions should present/update their contribution to the data set, which will create a good guide of the cycle of the created RIS3.

**ESIF-Energy**

ESIF-Energy is an interactive instrument to see in Operational Programmes (OPs) of European Structural and Investment Funds (ESIF) which nations and locales intend to put resources into similar energy sectors. The ESIF Energy Monitoring tool is designed to find regions with similar or integrative interests in different energy technologies or areas.

**Regional Benchmarking**

Benchmarking is the process of learning from the best localities or from those that are under similar conditions. These regions could be called reference regions for the area that is being analysed. When creating an S3 strategy, benchmarking is finding regions with a similar level of advancement in various attributes: social, economic, legislative, scientific, educational, and technological. After such regions are found, it is necessary
to transfer from them the learning methodology and policy together with practical issues. But what are the criteria one ought to consider as a kind of perspective in these selections? The attributes, which benchmarking teams should consider for selecting a reference region to learn from, should be long-term and those that presently “affect the way innovation and economic evolution take place in a region” (EC, S3Platform). These attributes influence how advancement and financial development occur in a region. Besides, there is an online tool that helps in finding relevant regions all over Europe. This tool-finding philosophy was created collectively by “Orkestra” – the Basque Institute of Competitiveness and the S3 Platform.

**EU Trade**

**Competitors’ Map**

The competitors’ map is an interactive and web-based application that offers a picture of goods’ flows between regions and shows the competitiveness of each region inside the EU. The application enables insight into the economic position of each locality as the beginning of smart specialisation strategies creation based on place, economy, demographics, and, in general, evidence-based facts.

**R&I Regional Viewer**

The R&I Regional Viewer is a platform for two types of analysis. It presents information about projects financed by Horizon 2020 through DG R&I and investments given for R&I under the European structural and investment funds (ESIF). All interested can select which of these two data groups to look at the H2020 or ERDF Dashboard. A user of this service, available on the S3 platform, can select any two regions and compare them regarding:

1. data about regional specialization (markers and dissemination of topics),
2. who the recipients of the projects were,
3. data about the projects themselves.

**Digital Innovation Hubs**

The digital transformation is a basis for the EU to be competitive with other continents and associations. The European Commission assists organizations in making this process faster giving them the possibility to expand using digital transformation. All segments of EU society should be included in the digitalisation process and benefit from it under the Digitising European Industry (DEI) initiative. This is particularly important for SMEs
and the non-tech industry. The EU performs this process by gathering all interested parties dealing with digitalisation to establish Digital Innovation Hubs.

The tool, called The Digital Innovation Hubs, gives a list of innovation hubs that are set up in Europe. The list is formed as a catalogue that can be used online. The idea is to enable companies to find competent collaborators to enhance the digitalization of their business processes, services, and products and make their lives easier in a competitive space. On the other hand, the catalogue is a valuable tool for innovation hubs to establish networks, start new cooperations with other hubs, and with bridging organizations and companies to exchange and improve their competencies and achieve their goals.

On S3 Platform web pages, decision-makers and experts, who are involved in regional development activities, can find “The Guide on Research and Innovation Strategies for Smart Specialization” (RIS3). It describes the methodology for creating good smart specialization research and innovation strategy. The steps to follow are:

- Explaining how to analyse the innovation potential,
- Defining the RIS3 process and putting the proper governance (The vision should be created jointly.),
- Prioritizing sectors of the most significant importance,
- Defining a roadmap with detailed further steps of activities together with all stakeholders and, especially, the decision-makers,
- Monitoring, controlling, assessing, and evaluating each milestone.

How should one go through all these steps? The experts working on the creation of such a document should:

- Use experience and all lessons from the past,
- Use knowledge from entrepreneurs and activate it—a procedure named ‘entrepreneurial process of discovery’ or an ‘entrepreneurial discovery process’ (EDP),
- Include every region with its role.

The authors consider the EDP procedure the most important one and describe it in detail in the third chapter of this book.

On the S3 Platform, there is an excellent explanation of the concept of Smart Specialisation and why it is ‘smart’. In short:
“• Firstly, it links the research and innovation with economic development in novel ways, such as the entrepreneurial discovery process and the setting of priorities by policymakers in close cooperation with local actors.
• Secondly, this process is carried out with an eye on the outside world, forcing regions to be ambitious but realistic about what can be achieved while linking local assets and capabilities to external sources of knowledge and value chains. However, while each regional or national strategy will share standard features, the place-based approach shows us that understanding the local context is crucial to their successful design.” (EC, S3Platform)
CHAPTER 2

ANALYSIS OF COUNTRIES’ ECONOMIES USING SMART SPECIALIZATION PLATFORM

The Smart Specialisation Platform helps regional and national authorities to prioritise their efforts to create an innovative economy. Established by the European Commission in 2011, it facilitates mutual learning, data gathering, analysis, and networking opportunities for more than 170 EU regions and 18 national governments. The Platform has been instrumental in consolidating, disseminating, and implementing smart specialisation methodology across European regions. It has helped to optimise the definition of innovation strategies based on regional strengths and through an open and participatory process. It is an essential means of improving EU investments in knowledge-based territorial development. Defining the right sectoral priorities is very important. Some regions want to specialize in sectors that are “fashionable” and not in traditional ones where they possess real strength and traditional advantage.

The authors of this book published the paper “Visualization of the smart specialization process using Quantum Geographic Information System (QGIS) tools” (Kranjac, Mirjana et al., Visualization). They explain how to use specific ICT tools and the Entrepreneurial Discovery Process to present defined sectors. These ICT tools cross-cut EDP outcomes with economic, social, political, climatological, and other data. Of course, integration with emerging technologies, defined by visionary scientists and artists, must be included in this process.

The authors used QGIS software to analyse correlations between selected smart specialization sectors for specific regions and some essential and relevant economic facts related to those regions. Such analysis proves whether the choice of every smart specialization sector was correct for a particular country or region. The authors proposed new methods for starting to define smart specialization priorities and how to check final results. They

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1 For this chapter, the authors used the results and explanations from their research “Visualisation of the smart specialization process using Quantum Geographic Information System (QGIS) tools” (Kranjac et al., Visualization).
recommended an implementation methodology to avoid errors in the
decision-making process.

1. Methodology

GIS technology works with georeferenced data and enables its collection,
organization, manipulation, analysis, and visualization. It is suitable for
finding relationships between entities, creating patterns, finding and
following time and space changes and trends. Its use started with public
health patterns. Demographics are spatial issues, and GIS enables a lot of
visualised discoveries. GIS is an ICT assistance tool in many different
sectors of human activity. Some examples are urban planning, ecology, and
analysis of transportation problems. GIS is precious for analysing social and
human issues, e.g., in law and resource management. It is also helpful for
micro and macro analysis of many industrial problems. It includes different
techniques: linking databases, georeferencing, research, and visualization.

GIS as a software tool includes many geostatistical techniques for spatial
analysis that have extended and improved over the years. It offers a raster
analysis and enables analytical methods for businesses. It is often used in
3D analysis, network analytics, space-time dynamics, and techniques
specific to various industries.

The authors were using a user-friendly open-source geographic
information system, QGIS, previously known as Quantum GIS. QGIS
supports numerous vector, raster, and database formats and functionalities
and works on all PC and Android platforms. The developers who maintain
QGIS and regularly release updates and bug fixes work as volunteers.
Developers translated QGIS into 48 languages in 2012, and it is frequently
used internationally in academic and professional environments.

2. QGIS for Visualization of Smart Specialization Process

The authors analysed the agricultural sector as a defined priority sector for
smart specialization in some countries and compared this choice with actual
economic data showing their agricultural sectors’ potential. They used
QGIS Desktop 2.0 to visualize various financial data on agriculture and food
production within EU member countries. They selected the following data:
- Percentage of agricultural exports within total exports,
- The size of the agriculture labour force,
- Percentage of agricultural gross value added within the total GVA.

Figure 2-1 presents countries that defined agriculture and food production as priorities within the smart specialization strategy. Agriculture and food production are the smart specialization priorities in Hungary, Croatia, the Czech Republic, Poland, Lithuania, and Ireland.

![Map of European countries highlighting smart specialization focus on agriculture and food production](image)

**Figure 2-1.** Countries that defined agriculture and food production as a smart specialization strategy priority. Source: Authors

The layer in Figure 2-2 presents data on the percentage of agricultural exports within total exports in EU member states in 2019 in a categorized style. Countries with more significant exports are coloured in darker colours. In the layer (Figure 2-3) countries marked with number 1 have agriculture as their focus in their smart specialization strategies. The overlapping of the two layers is depicted in Figure 2-4.
Figure 2-2: Percentage of agricultural exports within total exports in EU member states (2016). Source: Authors

Figure 2-3. The labels 1 and 0 for countries with defined and not defined agriculture as Smart specialisation strategies. Source: Authors
Figure 2-4: Overlapping Figures 2-2 and 2-3. Source: Authors

The numbers from the second QGIS layer (Figure 2-3) are added to the first layer (Figure 2-2) and presented in Figure 2-4. Numbers mean the following:

Number 1: agriculture and food production are smart specialization priorities.
Number 0: agriculture and food production are not smart specialization priorities.

Some countries with weak agricultural exports have put agriculture as a smart priority. On the other hand, countries with significant exports, like Spain and Greece, the Netherlands, Lithuania, and Denmark, did not put agriculture as the focus of their smart specialization. They did not recognize agriculture as a source of innovations.

Countries without any colour do not yet have a smart specialization strategy.

Figure 2-5 shows the portions of agricultural exports within the total exports of EU member countries in a categorized style with inscribed values of percentages of the agricultural exports.
Figure 2-5: Percentage of agricultural exports within the total exports in EU member states (2016). Source: Authors

Figure 2-6 presents the same as Figure 2-5 but with the QGIS canvas with its toolbars. All previous figures are made as QGIS maps and exported with an export resolution of 256 dpi (dots per inch) in the TIFF (Tagged Image File Format) format to store high-quality raster-type graphics.

Figure 2-6. Percentage of agricultural exports within total exports in EU member states (2016) with QGIS canvas. Source: Authors

Figure 2-7 presents gross added value (GVA) in agriculture in 2019 for EU countries. The grey colour is getting darker in countries where GVA is higher. Hungary, Greece, and Bulgaria have the highest GVA, and the
lowest GVA is in Italy, followed by Great Britain and Germany. Numbers from the other QGIS layer are added to the previous one and presented the same way as in Figure 2-3.

When the two QGIS layers are overlapped, data on GVA and data on smart specialization priority do not correlate, and they do only in the case of Hungary.

![Map showing agricultural GVA and smart specialization priority](image)

**Figure 2-7:** Percentage of agricultural GVA in EU member states in 2016 (intensity of grey colour) and agriculture in the focus of smart specialization (ones and zeroes). Source: Authors

Figures 2-8 and 2-9 present another essential factor—employed labour in agriculture and food production. Following the same principle, the grey colour is getting darker where the number of employees increases. Romania has the highest number of employed in agriculture, followed by Greece and Poland.
Figure 2-8: Employed labour in agriculture and food production in EU member states (2016). Source: Authors

Figure 2-9 presents the same data, with the added names of the countries.

Figure 2-9. Employed labour in agriculture and food production in EU member states with countries’ names (2016). Source: Authors

Figure 2-10 presents data about employed labour in agriculture in 2016 (in millions).
Figure 2-10: Data about employed labour in agriculture (2016).
Source: Authors

Figure 2-11 shows visualized data about GVA. There are GVA values for each country.

Figure 2-11. Visualized data GVA (shades of grey) with added values of GVA for each country (2016). Source: Authors

Figure 2-12, like the previous one, contains visualized data on exports percentages of agricultural products within entire countries’ exports (shades of grey) with inscribed values of exports.
3. A new method for the decision-making process of smart specialization

Identification of smart specialization priorities for each region and country is of great significance. The European Union prioritised smart specialisation and adopted a principle to launch all funding directly linked to defined priorities. That means that niches presented within smart specialization strategies will direct all research and development processes. Thus, the process of selecting the right priorities must depend on a complete set of carefully selected data.

Information-communication technology with its tools is a suitable means for analysing data. In this section, the authors presented using software visualization of various data to make the right decisions.

The new method of creating smart specialization focus sectors should consist, first, of going through the whole, already defined and mentioned, EDP process with the inclusion of many stakeholders’ groups into activities. Afterwards, an analysis using GIS tools should be performed through the following steps:

- Smart specialization experts should define which data is relevant for selecting smart specialization sectors, regional and national.
- They should present available sources of shown data.
They define which layers of data should be created and cross-checked.

GIS experts will create the requested layers and their cross layers.

Smart specialization experts will analyse all prepared layers and give conclusions.

Conclusions should be new inputs to a new EDP process.

This circle should be repeated until the final convergence of outputs of the EDP process and GIS analysis.

Some other IT tools could be included in this process, too.

Such an approach gives better outputs and impacts and could be repeated regularly to indicate whether correcting the selected specialized areas is necessary.

If a continuous development of the European Union is a goal, it is essential to have the correct sectors/areas defined for the smart specialization of each region. Any mistake in this procedure will cause a slowdown of the EU development process and decrease the EU’s ability to compete correctly and successfully with the rest of the world. The authors used QGIS software to visualize data on smart specialization sectors and data on countries’ economies. This analysis created using this methodology shows a lack of correlation between chosen/defined smart specialization sectors for specific countries and economic factors related to the same regions.

In this chapter, the authors analysed the sectors of agriculture and food production. They proposed a new method of cross-checking smart specialization defined areas of agriculture with actual economic data from the regions’ agriculture sectors. The authors suggest the same method for any sector of the economy expressed as a focus sector. Such a procedure should be implemented in all regions and countries to avoid errors in the decision-making process.
CHAPTER 3

WHAT IS AN ENTREPRENEURIAL DISCOVERY PROCESS (EDP)?

1. Definition of EDP

Some of the key highlights, which leading researchers and strategy makers managing innovation policies brought up, characterize what EDP is:

- The EDP is a comprehensive and interactive bottom-up process wherein members from various environments (policy, business, academia, NGO, public, etc.) find and deliver information about potential new activities and abilities that arise through exchanging information. At the same time, policymakers survey the results and approaches to encourage the actualization of this potential (Foray, “Challenges and Opportunities”).
- Through building connections and partnerships, the EDP is trying to integrate entrepreneurial knowledge that is now distributed and fragmented among many companies, organisations, universities, clients, users, and specialised suppliers, most of them local, but some also located outside the region.
- The EDP comprises the investigation and opening up of new opportunities (technological and market), conceivably rich in various innovations deemed attainable and attractive (Hausmann and Rodrik, Development as Self-Discovery, 603).

2. Why use EDP?

The government does not have all-out knowledge of future sectors’ priorities. The recognition of this fact brings the importance of EDP. The decision-makers should not think that they know which potential domains should become leading during smart specialization. Such a process would support the private industry to accept in this way suggested priority sectors (Hausmann and Rodrik, Development as Self-Discovery, 603). But, when
What is an Entrepreneurial Discovery Process (EDP)?

The actual situation is analysed, it is clear that countries and regions do not have broad and deep knowledge with an integrative, holistic insight. Unfortunately, but reasonably, not. The lack of it is the main reason why politics and administration should listen to entrepreneurs, researchers, and citizens when identifying priorities and, only in this, or mainly in this way, facilitate the emergence and growth of new activities.

It is not only the principal-agent problem, but external problems or market failures are also present. They avert knowledgeable choices of the best sectors to invest in and the engagement of well-chosen resources needed for the economic expansion of a region (OECD, “Innovation Driven-Growth”). The main groups of these market failures are:

- **Information failures**: neither the government nor the industry has the correct information on the subject/problem.
- **Coordination failures**: entrepreneurial subjects who are well-positioned to investigate and appreciate new activities often do not have adequate connections to advertising and financing resources, which diminishes their motivation to go into the process. Similarly, finding opportunities can be inhibited since some projects simply need a lot of investment and the starting entrepreneur is unwilling to jump into them.
- **Lack of necessary knowledge** leads to differences between the public and private outcomes of any newly created knowledge. These differences could lead to insufficient investments in innovative projects, even at high competition locations (WIPO, 2009). Sectors with well-selected specialisation, which have an applicable contribution, will bring faster advancement of a region’s economy. Nevertheless, the problem that appears is called the “first-mover disadvantage”. Namely, the fastest entrepreneur who is the first to discover the carefully selected specialized sector will not use this benefit for a long time. Using business intelligence postulates, his competitors will jump into the same business very soon by using copy-cat actions.
- **Regulatory failures**: it is always the case that the regulatory rules are the barriers and limits to the activities of a private entrepreneur.

### 3. How can policies enhance EDP?

Which policy to use for the creation of an adequate smart specialisation strategy is an important decision. The core process for it is EDP, and this process should be carefully prepared and performed. The EDP should define
a few research and innovation priorities in RIS3, but not by public intervention. The idea is that the state or EU administration follows the requests of entrepreneurs who should discover what is best for a region to do and where they could generate the most considerable profit.

4. What is the relationship between the EDP and S3 strategies?

“The EDP is a ‘conceptual pillar’ of Smart Specialisation” (Capello, S3). The same could be said for the New EU Cohesion Policy Reform. This approach to setting the priorities from the bottom upward is crucial to understanding the main feature that makes S3 different from past strategies for innovation. The past strategies mainly promoted the idea that policies/politicians should shape regional systems through priority-setting. In contrast, EDP enables market processes to be central in identifying the best domains for future priorities. What is essential, doing it in this bottom-up non-prescriptive fashion means that no one is entitled to have preferential access to knowledge on which opportunities to choose and which sectors to favour in the future. The fact is that such identification arises only through the mutual interaction between all relevant subjects (Foray and Rainoldi, “Programmes and implementation”).

5. Stakeholders

The EDP should involve a lot of different stakeholders within local societies and the government. Three types of actors are in this paper suggested as essential for any EDP:

Entrepreneurial agents:
(Coffano and Foray, Centrality of Entrepreneurial Discovery, 33)
They have the most powerful position in the ED process, having the “entrepreneurial knowledge” - the essential infrastructure for developing RIS3 (Foray et al. 2011). Entrepreneurial agents can be, e.g., firms, higher education institutions, independent innovators, public research institutes. Every actor should possess knowledge, insights, and perspectives from their experiences and position in the market. And all of them can usefully incorporate and combine comprehensive knowledge used as a basis for the RIS3.