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# SMART SPECIALIZATION AND CREATIVE INDUSTRIES

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How EU policies can help develop an economic sector

Final Degree Project

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## **Abstract**

The countries that are part of the European Union have a fantastic opportunity to incubate a great innovative and cooperative environment, where each one of the regions can specialize on certain economic sectors combining the strengths of each one of them and boosting the growth of the European economy in general. The Smart Specialization Strategies are the best ally to carry out this task by detecting and prioritizing the development of certain sectors on each one of the territories in order to achieve the maximum performance possible and creating bridges between the different regions.

As we move towards a more service-based society, it is important to take care of these sectors and help them develop to keep up and eventually surpass their competition outside the EU. The Creative Industries have been a growing economic influence especially in the developed economies, so it is important to take them into account as a strong wheel for future economic development.

In this project it is going to break down and examine in depth the functioning and implications of the Smart Specialization Strategies, as well as the S3 Platform, which is the main tool of the policy's divulgation. In addition, the Creative Industries and all its characteristics are going to be analyzed such as the sectors involved, their current situation within the EU, it's main challenges, etc.

Ultimately, a link is going to be proposed on how the Smart Specialization Strategies could help the Creative Industries to develop and grow within the European territory and the actions that the different stakeholders would need to take in order to achieve these objectives.

Key words: Smart Specialization Strategies, Creative Industries, development, priorities, cooperation, innovation.

## Resumen

Los países integrantes de la Unión Europea tienen una fantástica oportunidad para incubar un entorno muy innovador y cooperativo, dónde cada una de las regiones pueden especializarse en ciertos sectores económicos, combinando las fortalezas de cada una y aumentando el crecimiento de la economía europea en general. Las estrategias de Especialización Inteligente son el mejor aliado para llevar a cabo esta tarea detectando y priorizando el desarrollo de ciertos sectores en cada uno de los territorios con el objetivo de conseguir el máximo rendimiento posible y construyendo puentes entre las regiones.

Conforme nos movemos hacia una sociedad basada en los servicios, es importante cuidar de esos sectores y ayudarles a desarrollarse para mantenerse mano a mano y eventualmente sobrepasar a los competidores exteriores a la UE. Las Industrias Creativas han sido una creciente influencia especialmente en las economías desarrolladas, por eso es importante tenerlas en cuenta como una fuerza creciente para el desarrollo económico futuro.

En este proyecto vamos a desarrollar y examinar a fondo el funcionamiento y las implicaciones que tienen las estrategias de la Especialización Inteligente, así como la Plataforma S3, la cual es la principal herramienta para la divulgación de las políticas. Además, las Industrias Creativas y todas sus características van a ser analizadas: los sectores que las forman, su situación actual en la UE, sus principales desafíos, etc.

Para finalizar, se va a proponer una conexión para analizar cómo las estrategias de la Especialización Inteligente pueden ayudar a las Industrias Creativas a desarrollarse y crecer dentro de territorio europeo, así como las acciones que las partes interesadas deberían tomar para conseguir estos objetivos.

Palabras clave: Estrategias de Especialización Inteligente, Industrias Creativas, desarrollo, prioridades, cooperación, innovación.

## Resum

Els països integrants de l'Unió Europea tenen una fantàstica oportunitat per a incubar un entorn molt innovador y cooperatiu, on cadascuna de les regions poden especialitzar-se en certs sectors econòmics, combinant les fortaleces de cadascuna i augmentant el creixement de l'economía europea en general. Les estratègies de l'Especialització Intel·ligent son el millor aliat per a dur a terme aquesta tasca detectant i prioritizant el desenvolupament de certs sectors en cadascún dels territoris amb l'objectiu de conseguir el màxim rendiment possible i construïnt ponts entre les regions.

Conforme ens movem cap a una societat basada en el serveis, és important cuidar d'aquests sectors i ajudar-los a desenvoluparse per a mantindre's mà a mà i eventualment sobrepassar als competidors exteriors de l'UE. Les Indústries Creatives han sigut una creixent influència especialment en les economies desenvolupades, per això es important tindre-les en compte com a força creixent pel desenvolupament econòmic futur.

En aquest projecte anem a desenvolupar i examinar a fons el funcionament i les implicacions que tenen les estratègies de la Especialització Intel·ligent, així com la Plataforma S3, la qual es la principal ferramenta per a la divulgació de les polítiques. A més, les Indústries Creatives i totes les seues característiques van aa ser analitzades: els sectors que els formen, la seua situació actual en la UE, el seus principals desafiaments, etc.

Per a finalitzar, es va a proposar una connexió per a analitzar com les estratègies de la Especialització Intel·ligent poden ajudar a les Indústries Creatives a desenvoluparse y créixer dins del territorio europeu, així com les accions que les parts interesades deurien prendre per a conseguir aquests objectius.

Paraules clau: Estratègies de l'Especialització Intel·ligent, Indústries Creatives, desenvolupament, prioritats, cooperació, innovació.

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## List of Acronyms

<b>EU</b>	European Union
<b>CCII</b>	Creative Industries
<b>EDP</b>	Entrepreneurial Discovery Process
<b>GDP</b>	Gross Domestic Product
<b>ICT</b>	Information and Communications Technology
<b>R&amp;D</b>	Research and Development
<b>RIS3</b>	Research and Innovation Strategies for Smart Specialization
<b>S3</b>	Smart Specialisation Strategy
<b>S3P</b>	Smart Specialisation Strategy Platform
<b>SME</b>	Small and Medium Enterprises
<b>UK</b>	United Kingdom

## 1) Smart Specialization Strategies

### 1.1 Smart Specialisation Policy

#### *1.1.1 Definition and background of S3*

Smart Specialisation is an innovative approach that aims to boost growth and jobs in Europe identifying for intervention purposes the competitive advantages and the potential of each region and through the Entrepreneurial Discovery Process (EDP). It has a bottom-up (outward-looking) approach strongly encouraging innovation, which includes but is not limited to the technological one, supported by effective monitoring systems. Furthermore, it strongly involves the stakeholders from different environments bringing together local authorities, academia, business spheres and the civil society, which work for the search of new attractive opportunities and the further implementation of long term growth strategies supported by European Union (EU) funds. (European Commission, 2017)

The concept was born in 2008, after a group of economists led by Dominique Foray wanted to reinforce the 2020 Horizon by a tool which allowed to maintain growth on a given area by focusing the financing and physical efforts on developing specialized areas. As it is an extension of the 2020 Horizon, it follows the same ideals of that policy which tells that the resultant growth of the efforts has to be a smart one, by implementing development through knowledge-intensive activities and constant innovation; it also has to be sustainable, as the continuous efforts lean towards the idea that environmental care and good resource management are key to long-term development as these resources are scarce and global warming is becoming a more and more important issue over time. Therefore, within the 2020 Horizon, the Smart Specialisation policies play a role to support part of this development, that is, it plays the role of the place-based approach, which analyzes growth opportunities looking to concrete geographical capabilities. (Rusu, 2013), (European Commission, 2017)



The role of Dominique Foray has been very important for the Smart Specialization Strategies because, besides being one of the mastermind behind the whole concept, he has been promoting it and spreading it all around the European community in order to reach and instruct in this topic, not only those experts and the organizations that are directly linked with the policy and work on a daily basis with it, but also to instruct the entire population of the European Union in order to expose the efforts needed to be made so to accomplish a more sustainable and egalitarian economy. One of his most remarkable achievements in this field is his book (Smart Specialisation: Opportunities and Challenges for Regional Innovation Policy, 2014)

This is an innovative policy, and, as such, it has a series of dilemmas that it has to deal with when the policy is designed and then later implemented. They are the main questions that a policy maker needs to answer in order to increase the odds of success of the new regulations. They certainly do not guarantee that success with these things in mind but without having them clearly established as a starting point, the success probability would be much lower. There are 3 dimensions that need to be addressed in order to form an effective development plan:

Firstly, we have the spacing. There is a need to define the special influence for a given set of measures. This policy aims at regional and local development tools but, what do we consider regional scope? What do we consider to be local? What we do know is that there will be many factors that will influence the defining of those borders.

For example, we cannot set a region to participate in the RIS3 developments if there isn't any resource or capability available where there is a possibility to work on, as each region has to possess a strong point of some kind on which building a stronger capability through economical, intellectual or physical efforts is plausible. This is not easy to do because setting boundaries where some specific works of any given kind need to be done can be much easier said than actually performed in practice. In addition, new entrepreneurial activities can expand the capabilities we have just defined on other geographic areas as economical and entrepreneurial activity attracts new talents as well

as competitors, complementary products manufacturers and many other professionals that stop the capabilities from being a static idea to expand the geographical influence of them.

Furthermore, so many assets linked to the R&D, manufacturing or any other innovation activity usually are not contained and strictly used within the same regional boundaries. For instance, if a new farming method is developed in the area of Andalusia, it is very likely that that particular new piece of knowledge will have to be tested on different areas, so the experts can see if it really does work and is performed as expected on different environments. This issue is particularly important nowadays as the world is really globalized and different experts from any point of the globe can be needed at some stage to assess any given research.

In second place, another strong dilemma when implementing the policies will be the time at which it is done. This means that it is not the same to implement certain measures sooner or later, at one period of time or at another because of the influence of the different external economic agents that may strongly influence that policy. For example, a given measure may not have any influence if suddenly the trends change, and a given sector is not profitable anymore. Therefore, these changes should be driven in sectors that are profitable or have an economically important impact in a region, but also has a good perspective towards the future with no foreseeable significant change over the horizon.

In third place, the continuously changing priorities, that makes the need for the system to be dynamic to allow making reviews and analyzing the priorities the regions are focused on and the flexibility to change the priorities in case these priorities have to be swapped after a stakeholder decision.

### ***1.1.2 Key elements of the S3***

All the strategy that is going to be developed in this Project turns around the following main principles according to (Foray & Goenaga, The Goals of Smart Specialisation, 2013):

1<sup>st</sup> Principle → Granularity: The priorities should not be defined at a too high level, as in that case instead of specialization what would occur is a transformation from a concrete prioritization to a sectorial one. On the other hand, intervention at a very specific level of a sector would transform the smart specialization into a horizontal policy where all the projects would be supported without any selection nor prioritization, even if the merit of the projects is not that significant.

The aim is to identify the right level, between sectors and micro-activities, at which it is possible to observe in detail the pieces of the knowledge economy that a region can take as a basis of the strategy. At this particular level, new projects involve groups of firms and other agents; new opportunities are willing to be explored within the market; the activity at that scope must to have a high significance relative to the regional economy as a whole. Once this right level is found, the subsequent development of new activities allows to achieve mainly two things: although just some actors with the best projects and perspectives to the future are directly beneficiated with the policy, this indirectly improves the general performance of the sector; and the capabilities built to develop such activities lets to expand the knowledge acquired to new fields.

2<sup>nd</sup> Principle → Entrepreneurial Discovery Process: Setting priorities should not be a one-part decision. It is an inclusive process that, jointly self-discovery involves the stakeholders of the region to decide what a certain region does the best to build a competitive advantage upon those strengths.

It is not only about innovation and making small progressions, but instead is gathering a bunch of those innovations in order to make the so called "discoveries". One difference is that, in general terms, while an innovation can improve a specific function of a large assembly line, the discoveries are all about learning what it should be done in the future in terms of R&D and innovations and how to use them to significantly improve a determined sector, or even accomplishing a structural change or structural evolution if the successful discovery has a potential to affect that much.

Another difference between innovation and discovery is that the first ones normally are used by the entity that developed that innovative idea in order to gain some sort of

benefit from it and use it all by himself protecting it with tools like patents or intellectual properties, while the discoveries are made to benefit as much people as possible and share that knowledge in order to keep finding new discoveries in the future for a regional development.

With that differences in mind, we can still see that the discoveries are just a group of innovations gathered together to accomplish a bigger impact<sup>1</sup>. However, do not confuse the discoveries with the invention of totally new products, creating whole new markets. Most of the times the discoveries are made for sectors already existing, so what they do is disrupt a given industry, but not creating a new market (although at times this may occur as well). Further details on this process are described below in the section 1.1.7. *Priorities*.

Other principles are the following:

3<sup>rd</sup> Principle → Priorities are ephemeral: When a new priority arises, the activities dedicated to that strength will be supported. However, it is expected that within a range of 3 or 4 years, the priorities will change again, and in that case the efforts will shift to the new priorities, leaving the old ones in hand of each regional innovation policy hands.

4<sup>th</sup> Principle → It is an inclusive strategy: This does not only mean that it has to gather the different actors of the region, but also that the opportunities for the sectors have to be equally distributed, from technological innovative to the practice based and social industry innovations. The progress and dynamism are very important, but that dynamism must be allocated equally; the policy has to be inclusive. That is the main reason why the leadership meetings gather all sorts of economical agents.

5<sup>th</sup> principle → Effective monitoring and evaluation systems: This is an experimental policy, as not all the investments and efforts will pay off at the end. For this reason, evaluation is a very important task to take care of. On one hand, this will serve as a revision mechanism to control the process of the implementation of the strategy and it

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<sup>1</sup> For this reason, in this document in some cases the discoveries are also going to be referred as innovations.

will tell whether the formation is discontinuing too early or continued so long that subsidies are just a waste of funds. On the other hand, it will also allow knowing whether there is a need of changing the priorities or the core competences are still on the same way and, therefore, there is no need for a change.

6<sup>th</sup> Principle → Place-based approach: Meaning that it focuses on strengthening the main resources and assets available in each one of the regions to identify and pursue the best opportunities of development.

### ***1.1.3 Risk of failure and threats to S3***

When topics like innovation and R&D come out, it is usually linked exclusively with progress and something that is useful and will certainly end up improving at least the regions where those efforts are being carried out. However, this would only happen in the best scenario possible and it is impossible that the entire process of the policy implementation flows perfectly throughout its duration. In other words, there is always a risk of failure of the policy as there is always a risk in every avant-garde project with uncertainty.

It is impossible to get rid of that risk. For this reason, it has to be fully assumed by the European Commission and all the stakeholders that take part in the implementation of these strategies. Although the risks cannot be erased, the identification of them is essential and they have to be managed accordingly to minimize its possible influence on the strategies. Once all the actions have been taken and the strategy is coming to its end, monitoring systems will be used to assess whether the risks have been meaningful and subsequently have affected significantly in the process of implementation of the strategy. These indicators must have a realistic time perspective, as they have to take into account that some effects of the strategy could not be perceptible until far later the strategy completion. The mentioned indications also have to take into account the kind of strategy to be implemented, as well as the level of innovativeness supported, and the

efforts and investments needed. Further indicators and explanation on the monitoring system will be developed later in this document.

In order to shrink the risk of failure, the European Commission recommends to take some coherent policy-mixes like networking and clustering, some advisory and consultancy services provided by experts with many years of experience in the fields and the regional, national and even the European public administration bodies, as well as direct public and promotion of private financial investments for supporting the policies. The private investment also means the appearance of the "risk-sharing" term, in which case even more knowledgeable people with their experience help to minimize the risks. Furthermore, mechanisms such as the experimentation have been implemented in order to mitigate the risk assumed by the public bodies, as from that point on flexibility is much higher and they are able to abandon or modify their interventions easier in the case that the results of implementation of the policy are far from being acceptable.

Priority setting is not an easy task, because they have to be selected knowing that a lot of attention will have to be focused during a big amount of time. Smart Specialisation will be a helping-hand for the regions and countries to push them towards risk-taking and will help out policy-makers to minimize the impact of the mistakes when the risks are taken. In addition, according to the Basque Government, there are some strategies to palliate the risk and increase the odds of success (Aranguren Querejeta, Wilson, & Foray, 2013)<sup>2</sup>:

- "Café para todos (Coffee for everyone)" policy: The policy makers and public bodies distribute the funds among the participants based on equally set criteria, with no prioritization and favoring.
- Imitate other regions: This would be a policy aimed more towards the followers, the less developed regions with lower R&D capacity. It tells us that by following other regions in priority setting, when they fail (if they do fail),

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<sup>2</sup> The strategies have been proposed by *Ekonomiaz*, the economic Basque magazine, in the publication Nr. 83, 2<sup>nd</sup> quarter of 2013. The magazine is developed by the Tax and Finance Department of the Basque Government. This particular document has a lot of influence of Dominique Foray work.

the impact will not be that much noticeable as the effect will be spread across other regions too.

As the vertical approach of the Smart Specialisation in terms of priority setting is a new way of set them and there are no guidelines for doing so by this way, the public administrations usually are the ones who end up failing due to the fact that all the bureaucratic formalities have been centralized for the major part of policies until the moment when the Smart Specialisation Strategies have been implemented, so the shift to a vertical prioritization, where the influence of the rest of the economic agents is greater, is sometimes a process where the administrations fail.

There are some external market forces (externalities or market failures) that can influence the implementation of the strategies in a negative way and in which even the intervention of the public administration organizations is justified: (OECD, 2013)

- 1) Information externalities: Imperfect information is in possession both of the government and the industry, in which case governments have to implement mechanisms that ensure good flow of reliable information.
- 2) Co-ordination externalities: Private researches and entrepreneurial activities could be endangered and are quite limited because of the high investment required, added to the fact that sometimes it is hard to find experts in specific knowledge area to develop the ideas. Intervention is necessary here to provide to the entrepreneurs, ways of financing their projects and to provide investment decision counseling.

Those are the main externalities that may affect Smart specialization where the government could take a part as a solution provider. However, there is another group of problems that may have a negative impact:

- 1) Discovery process financing problems due to the lack of incentives.
- 2) First-mover disadvantage: Although the discoveries of certain domains can have a really high value, the first entrepreneur will be likely to get only a limited portion of the total value because of competition entrance. Those competitors

can introduce improvements to the original domain that would leave the original entrepreneur in a disadvantageous position.

- 3) The impossibility of the entrepreneurs to enter new markets introducing revolutionary activities and products because of fund insufficiency and lack of commercial network.

In the following table it can be observed the main failures that can occur in the market and the subsequent instruments for tackling those failures by applying both existing and also new policy instruments:

		Policy intervention	Examples of existing and new policies/initiatives
Information externalities	Low 'self-discovery' activity.	Incentives to reward entrepreneurs who discover new domains.	Prizes for inventions and discoveries, fiscal incentives, IPRs
	Low information exchange flows.	Incentives to involve non-traditional actors.	Incentives for public sector innovation (e.g. procurement)
Information externalities	Lack of <i>intra</i> - and <i>inter</i> -regional interactions that restrict the knowledge spillovers.	Creation of platforms and mechanisms to facilitate <i>intra</i> and <i>inter</i> regional interactions.	Public web consultations Regional workshops
		Public policies can assist further this process by providing key infrastructures (e.g. information about emerging technological and commercial opportunities and constraints, product and process safety standards for domestic and export markets, and external sources of finance)	Innovation Vouchers Internationalisation support services
Coordination externalities	Low 'self-discovery' activity due to the high fixed costs and large-scale investments required by some projects. Prevention of emerging trends for regional economic growth.	Coordination of investments and decisions of different entrepreneurs.	Cluster policies Technology banks
		Coordination among many economic agents throughout the value chain suppliers, producers, users, specialised services, banks, basic research and training institutions.	Public-private partnerships Innovation-oriented procurement Sectoral platforms SME support organisations
		Support to technologies which have scale or agglomeration economies.	Demonstration projects, technology extension services

Table 1 Rationales for Smart Specialisation

Source: OECD based on Rodrick



## 1.2 Smart Specialisation Strategy in the EU

### 1.2.1 Sectors

In 2015 it has been proposed to create an area in where organizations that take part in a given field could reunite together in search of cooperation and a guidance to follow the implementation of the Smart Specialisation Strategies. That is how the first S3 thematic platform was established and it was dedicated to Energy. Later, on June of 2016 the European Commission created another couple of S3 Platforms; one that was dedicated to Agri-food and another one to Industrial Modernization. From that moment on the task of identification possible links for the organizations has been made much easier due to those Platforms.

Furthermore, there were included specific thematic areas that subdivided the mentioned Platforms and identified even more in depth the different business sectors. The regions can propose the inclusion of new thematic areas, proposals that lately are studied and if they are significant, a source of opportunities and is does not enter in conflict and is not excessively similar to the existent ones, then it is included as a new thematic area. (European Regional Development Fund, 2017)

In order to understand better the action focus of the S3, it would be helpful to proceed to break through the different thematic areas within the three different platforms with a very quick overview on each one of them. It is administrated by the (Smart Specialisation Platform, 2018), from where this information will be extracted, where the participating regions in each thematic area can be consulted as well (note that the coordinating region/s in each area will be indicated between brackets): (Gnamus, 2017)

A. ***Agri-Food***: The aim of this platform is to guide the regions through their journey of the strategy implementation and to create interregional cooperation in the many different sectors of agriculture and food to increase the competitiveness strength of the EU companies. However, the regions with their stakeholders are the ones who

will have to take the wheel and manage the platform in order to make sure that all participants contribute to the cause. The following are some of the thematic areas that have been implemented so far in the Agri-Food Platform:

- a) *High Tech Farming (Tuscany, Italy)*: It refers to the use of new technologies in order to increment profitability and accelerate the agricultural systems. In the kick-off event of S3 Agrofood Platform that took place in Florence the participants have agreed to focus on the following value chains: tree nursery, viticulture and fruits; livestock outdoor; livestock indoor; outdoor cultivation of arable, cereals and vegetables; protected cultivation (e.g. greenhouses).
- b) *Traceability & Big Data (Inexistence of a leading region)*: Its aim is to promote the inclusion of digital technologies and the use of big data in the agri-food value chains.

A work programme will be built around the different number of topics on which the regions want to focus, and it will start by identifying the opportunities of the agri-food sector in general: More complete information; Smart information systems for organizations; Territorial cooperation for sharing R&D knowledge; The shared value that will impact society; Business competitiveness improvement.

There are recognized three specific topics and another cross-cutting topic.

The specific topics are: Traceability and Big Data

1. In the lifecycles of the value chain;
2. In the monitoring of the value chain
3. To incorporate consumers and workers in the decision-making processes.

The cross-cutting topic is "Open Data, interoperability, data governance and information security, cyber security".

- c) *Bio-Economy (Asturias, Spain)*: Implement bio-based value chains across the regions, creating connection links between actors that work in chemistry, cosmetics, wood and paper or energy sectors looking for business or

investment partnerships. Bio-economy has seven focus areas from which two are concerning to agri-food: Food & feed from agri-food waste and Food & feed ingredients from algae.

- d) *Smart sensor systems 4 agri-food (Flanders, Belgium)*: It seeks to create a link between agri-food industries and the technological innovator clusters and organizations in order to improve quality and safety on the food manufacturing and a faster transition to the new technologies in these sectors.

The plan is to tackle this objective with a four-step model:

1. Awareness: Activities to involve the regions in the process
2. Platform creation: Set up spaces for knowledge sharing
3. Evaluation and validation: The approval of the stakeholders
4. Implementation: Starting the industrial process

- B. **Energy**: The aim of this platform is to help the regions that have chosen any of the energy sector priorities and to assist in the Cohesion Policy to find funding opportunities. And to help in the implementation process of the strategy by supporting the research & innovation processes that the regions start, addressing the possible new opportunities that may arise. The main goal of this platform is to shift to a low carbon economy by the year 2050 and address the societal challenges like reducing greenhouse emissions. There are many thematic areas within this platform as well which include:

- a) *Heating and cooling (Inexistence of a leading region)*: This is a priority smart specialization area for a lot of regions because this sector embraces elements like the energy or the fuel resources. Many campaigns have been launched in order to promote the use of renewable energy and the research of efficient heating and cooling systems. As this is a R&D intensive process, a lot of funding is needed and here is where the European Structural and Investment Funds appears as an essential body for the regions as a source of

investments. These are the regions with the most interest in heating and cooling development:

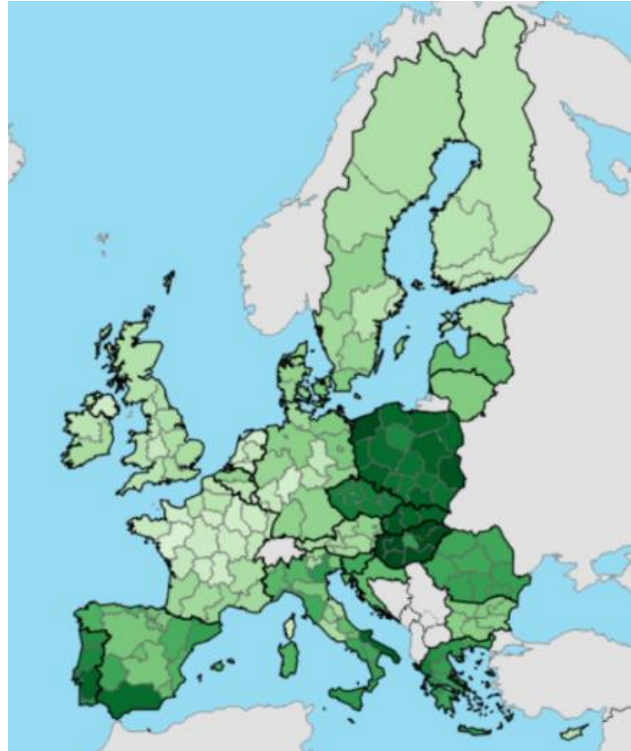


Figure 1 Interest by region in heating and cooling

Source: Smart Specialisation Platform

Some regions will gather in workshops in order to discuss measures that can be taken in order to achieve some goals like teach the regions the best ways of using the funds in the heating and cooling sector, analyze the most profitable solutions and establish and maintain collaboration links.

- b) *Bio-Energy (Lapland, Finland; Castile and Leon, Spain)*: Represents two-thirds of the total renewable energy production in EU and the aim is to promote and increase the renewable energies among the society. Smart Specialisation particularly specializes in biofuels, biomass, biogas and communicational links to knowledge sharing.
- c) *Marine Energy (Basque Country, Spain; Scotland, UK)*: It aims to contribute to a carbon free society through the offshore wind and the ocean energies.

It can help as well to the independence of the supply of energy, because, as new infrastructure is built and more energy can be generated through this way, less is going to be the demand of energy from outside the EU by the regions. Smart Specialisation focuses on areas like manufacturing of large components, transfer and conversion of power, water contamination, monitoring and its optimization.

d) *Smart Grids (Basque Country, Spain; Provence-Alpes-Côte d'Azur, France):*

This platform was created because of the need of partnerships in order to gather many stakeholders that sustain the pillars of an efficient electricity generation through monitoring systems. In this area, it is especially important the participation of different stakeholders, as the issue of power and electricity consumption is something that affects almost any single agent within a territory. Safety is really important and in this area and it is the central idea around with turn all the other priorities.

e) *Solar Energy (Extremadura, Spain):* The partnership generated for the issues

regarding the solar power currently is onto four projects which are: Concentrated solar power plant, hybridized with photovoltaic energy, including storage for more flexible delivery; Facility research for solar technologies; Export solar energy from southern to northern regions; Use of solar power in agricultural industry.

f) *Sustainable buildings (Andalusia, Spain; North Great Plain, Hungary):* The

building sector is the one who consumes the most energy in the European Union. Therefore, reducing the emissions in this one would mean a significative decrease in the total amount of emissions. This platform was implemented in order to create and partnership opportunities within the sector seeking new markets and other opportunities.

C. **Industrial Modernization:** This Thematic Platform was implemented with the main objective, just as the other ones, of incentivizing the collaboration between the

stakeholders, along with the cluster participation and the involvement of the entire industry in general. The strategy has to take into account both the contribution of the private sector and the one of the public administrations in order to avoid wasting the scarce and hard-to-get resources as the sectors included in the industrial modernization platform usually require high financial investments.

Although development and leadership processes follow the same criteria as the other two platforms (the regions on themselves are the ones implementing and leading the strategies), the European Commission will support and advice the regions whenever its needed. Here is the list of the thematic areas within Industrial Modernisation registered implementing the S3 policy:

- a) *Advanced manufacturing for energy applications (Basque Country, Spain; Scotland, UK):* This area looks to gather and facilitate the negotiations between the important organizations and big corporations with a huge R&D capacity to come up with new ideas that would introduce in the market important technological breakthroughs.

The areas where S3 focuses the most are: Offshore oil & gas (reduce operating costs, lengthen the corrosion of materials, etc.); Offshore wind (reach remote areas, operation maintenance, logistical challenges, etc.); Ocean energy (lengthen the life of the machinery).

- b) *Bio-Economy: Non-food Biomass (Lombardy, Italy; Randstad, The Netherlands):* follows the same rationale as the "Bio-Economy" section exposed earlier for agri-food but in this case, is extended to all the sectors other than the food industry (e.g. wood & paper, energy, cosmetics and chemistry).
- c) *Efficient and Sustainable Manufacturing (Lombardy, Italy; Catalonia, Spain):* Promote collaboration and the transfer of knowledge in order to develop more efficient supply chains through innovativeness. This would be done by

technological means, increasing quality and sustainability while reducing costs, reducing resource consumption or increase the social responsibility awareness.

- d) *3D-Printing (Flanders, Belgium; South Netherlands, The Netherlands; Norte, Portugal)*: This has been identified as one of the sectors with most potential for growth in the near future as this new technology is intended to be used for improving, with a really big impact in efficiency, the infrastructure performance of the companies by complementing those infrastructures adapting to the needs of each company.
- e) *New Nano-Enabled Products (Skåne, Sweden; Tampere, Finland)*: The aim is to promote the use of this avant-garde technology through demonstrations and workshops.
- f) *Textile Innovation (Valencia, Spain; North-East Romania, Romania)*: This thematic area exists because of the effort to promote the domestic production in the textile industry. As currently in this sector the production process is outsourced to countries like China or Vietnam where the costs are much lower, the S3 agents want to bring back the production process to Europe.

For that purpose, this thematic area maintain its position that producing in the domestic barriers would simplify the supply chains, would avoid the possible problems arising from the shipment of the products and of course would as well make much faster all the process. Furthermore, this would also increase the possibilities to give the customer more customized products and the information gathering from them would be also easier.

- g) *Medical technology (Auvergne-Rhône-Alpes, France; Lombardy, Italy)*: The ageing population and the increasing chronic diseases have made the costs for the Government to be very high and currently is one of the major problems of this system, but digitalization may have a deep impact in order

to center the healthcare towards the person and community. It is intended to boost the shift towards the predictive, preventive and personalized medicine, but for that purpose there is a high technology development needs. This S3 thematic area will gather the agents and investment in order to innovate in this field.

- h) *Photonics (Flanders, Belgium; South-Netherlands, the Netherlands)*: This is a extremely advanced sector that so far has been used for communications. The strategy tries to externalize it and go out for another market segments to reduce power consumption and miniaturize the technological innovation (especially interesting for the medical sector). It tries to find clusters, companies, R&D laboratories and other organizations that can be capable to put on the table the most innovative ideas and propositions for development.
- i) *SME integration to Industry 4.0 (Castile and Leon, Catalonia and Valencia, Spain; Mazowieckie, Poland; Slovenia; Tuscany, Italy)*: The big companies have several well-formed experts to tackle the problems that may arise from digitalization. However, SMEs have limited resources and may need some aid in order to convert digitalization into an opportunity. Thus, the project will be focused on promoting digitalization in order to achieve some milestones like improve products, reduce costs, have better monitoring to increase operational efficiency, etc.
- j) *Sport (Lepland; Finland)*: What the sector of sports seeks from smart specialization is to promote itself as a value generation for the economy. In particular, the sports sector can help many other industries very tightly linked to it like tourism, healthcare or transportation. Therefore, the main source of the value of sports activities is the value that they add to other fields. It also aims at bringing the actors together and implementing innovation, as well as improving the infrastructure and the facilities.



- k) *Digitalization and Safety for Tourism (Andalusia, Spain; Lapland, Finland; Slovenia)*: This is a really relevant sector in Europe, as more than a half of the tourists were recorded within the European frontiers. The main aim of this thematic area is to work towards more digitalized and a lot safer tourism through the stakeholders, especially innovative structures and cluster networks and the development of new technologies in the wake of financial investments gathered. This sector has a great opportunity of work creation as we can see during the peak seasons of tourism. Nevertheless, these kinds of jobs usually are short-term, low-quality employments that cannot be considered a solution to the really serious structural unemployment issues that Spain has been facing through the financial crisis those past years.

### **1.2.2 Global Value Chains**

Previously, we have explained that the aim of Smart Specialisation is to find certain business areas where to focus a region's efforts in order to specialize on those priorities and be able to compete in an international market, caring, at the same time, about the society, the environment and on being friendly in general to all the stakeholders. This will allow a regional strengthening regarding the innovation and the whole procedure of the prioritized activities.

The way that these priorities come out is by identifying competitive advantages through comparisons among regions and the regions selected for a certain priority will be developed strongly on that priority. However, although priorities are set in order to develop competitive advantages for the regions, this does not mean that the strategy neglects the cooperation among countries. In fact, it strongly encourages that after identifying the point which a region is strong at, it should also detect the possible cooperation opportunities that it may accomplish with other regions that work on complementary or similar goods or services in order to establish a path where elements like the produced goods, the services provided or the knowledge obtained can be shared fluently among these actors that, although developing in different industry areas, or

even in some cases working on totally different industries, can have common interests in order to improve the quality of their outcome.

In many cases, this cooperation is essential as it is needed in order to produce the final product. Those are the cases where each region works on a given task and each one of them has an influence on the final product, otherwise being impossible the completion of the entire process. Furthermore, these cooperation links are a very important opportunity for the less developed countries as this gives them a tool to import knowledge and R&D features that help them to develop its economies.

At this point is where the Global Value Chains come into play. They appear from the cooperation among the different regions to, as we said earlier, complete the entire assembly line that allow to create and manufacture different products from the very beginning like extraction of the primary resources, all the way to the end, the sale of the final production. (European Commission, 2018)

But first, we need to understand what a value chain is. According to (Porter, 1985) , in his book "Competitive Advantage" tells us the following: "Value chain is a collection of activities that are performed by a company to create value for its customers. Value Creation generates added value which leads to competitive advantage. Ultimately, added value also leads to a higher profitability for an organization".

In the following figure we can see the different activities that include a value chain and the way they are distributed. Note that the separation made is by the different systems and not by the departments or costs:



Figure 2 Porter's original Value Chain

Source: [www.mindtools.com](http://www.mindtools.com)

As it is shown in the *Figure 2*, the value chain is divided into the Primary Activities and the Support Activities (Mind Tools Content Team, 2018):

On the one hand, the primary activities are the ones that are directly linked to the creation of the product, as well as to its sale, maintenance and the after-sale support. These are the main activities in order to give value to the products. These activities include: Inbound logistics, which include all the process from receiving to storing and allocating the primary resources that are going to be used for the manufacturing of the product; Operations, which transform the previously mentioned inputs into the final product; Outbound logistics, which are the shipping of the final products to the customers once they are sold and they need to be delivered. From now on, including this step, the processes can be done in another firm different from the one that manufactured the product; Marketing and sales, used for the purpose of getting the product to be known in the market, getting clients and trying to persuade them that this product fits them perfectly and therefore the need to buy them. This activity is key to

get inflows of income from the products; Lastly, the after-sale support service, which is needed to give value to the customers even once the product has been sold.

On the other hand, we have the support activities, that, as the name already indicates us, they have the function of supporting the principal activities. These tasks include: Procurement, which is the process that allows the firm to get all the primary resources. It consists of allocating the resources, purchasing them and shipping to the company's installations, as well as getting the best financial offer from the suppliers; Human resource management, which basically is all the recruitment, hiring, motivation, training and rewarding the workers. This aspect is very important as people are the engine of the activity of the firm; Technological development, which is all the process of investigating new means of technology and protecting the knowledge acquired from the competence; Infrastructure, are the means that the company possess in order to develop its activity on a daily basis. Usually they are present in all kinds of companies.

All the activities just exposed can be concentrated within one firm in a single geographical location, or it can be spread across many territories and done by different firms. In this latest case is when the Global Value Chains do generate.

A lot of value chains are implemented in areas where there are located previously established clusters that are dedicated to particular activities. In those cases, the flow of all the resources is much easier as there are previous links between the different firms.

The continuous implementation and testing with the different value chains also promote globalization of the economy by opening gates to the companies that may have had difficulties going to the international markets otherwise. Furthermore, there is a lot of competition in the market due to the globalization as more foreign people are able to reach local and regional markets. Therefore, there is a constant need of innovative ideas and exigency of maximum performance in the innovation departments of the companies to maintain the competitive advantages, protecting from the competitors threatening to enter to the market with some key advantages regarding their products or processes.

In practice, the sectors with the greatest and most developed value chains happen to be dedicated to the transportation, electrical, optical equipment and chemicals. In the last twenty-three years, it has been observed that the production of final goods has been reduced by a notable amount, what tells us that the trend of manufacturing intermediate goods is rising along the time. However, the internationalization of intermediate goods still has a long way to go to at least catch up with the final goods, as the portion of them is really small compared to the import and export of the final goods.

Generally, the economies tend to be self-sufficient regarding the production of intermediate goods. Nevertheless, economies that are less developed, added to some sectors, tend to have higher portion of imported intermediate production. Furthermore, those global value chains are controlled mainly by the big multinational companies.

The European Union has proposed some measures in order to promote the Global Value Chains and consequently increase the international collaboration among the domestic economies.

It has been subject of long debate that the increase in the flows of the "European public goods" could increase the connections as they would work in a similar way as the clusters. For this purpose, it would be really useful the S3 Platform, as it encompasses many different sectors and activities and it is really likely that the interested companies could be able to find an appropriate market niche where it belongs and thus be able to find other companies to connect with them for partnership purposes.

Moreover, it has been discussed the need of a system in which that would allow helping the actors of the value chains by means of a mechanism to anticipate and face any possible problems or failures that usually slow down or even in the long term could possibly disturb the development of the strategies. In order to put into work this mechanism, it is inevitable to ask for some commitments by the participants as a list of tasks are needed to be done:

Commitment demands for the participants	Interregional knowledge building
	Mapping the potential of the GVCs among the regional smart specialisation priorities
	Finidng pilot examples of interregional value chains
	Key stakeholders implication
	Availability of all the equipment and infrastructure possible
	Applying the mechanism with the purpose to identify cases of matching of cluster oranisations that already take part in value cains of smart specialisation areas

Table 2 Commitments required of the participants

Source: Own elaboration from the Smart Specialisation Platform

The EDP has helped the regions to develop technically its capabilities towards its economy overall improvement as an ultimate goal. However, there are some intangible aspects that are not being performed and there are a lot of inequalities in that respects. Some examples of those aspects are mapping the flows of goods and services, mapping of formal and informal networks, positioning their capabilities within the Global Value Chains or the cooperation in R&D projects. The EDP can help also in this task, as the process has helped a lot of regions to learn about the other regions and what they are dedicated to, so these regions know where they can find regions to establish partnerships for developing value chains. Nevertheless, there are some less developed regions that would not be able to follow the pace of the most developed (leader) ones, so collaboration links have to be carefully studied before starting on implementing collaborative projects as the less developed regions may need some formation or financial investment in order to develop its part of the process accordingly to the other peer regions.

Previously, we have seen that Smart Specialisation Strategies have a really strong capacity of adaptation, in fact, it is one of its principles as there is a need to adapt quickly to the changing priorities that may arise. But, what this adaptation and flexibility capacities mean to the different Smart Specialisation Strategies? According to (Brennan & Rakhmatullin, 2015), adaption will imply the following efforts:

In first place, for the authorities this point means the commitment that they have to take in order to gather continuously new information that can be important in innovative terms and project them into new market opportunities together with the stakeholders.

In the second place, if we look more closely to the functioning of the economy, it has a circular functioning, and thus there is a really important interdependence on the quality of the outcome. To support this idea, let's analyze in a very broad view how does it work: the businesses and the educational institutions try to get from the governments funds and financial, as well as legal support in order to perform its activity with as much benefits as they can get. Then, the companies provide to the government services like healthcare, a diverse variety of goods, while the universities provide training courses and culture education to the society, that directly impact the government. If we go further, it can be observed that companies do need the educational system in order to develop their activities correctly, as they provide the education of the future workers and infrastructure for R&D that is a direct drive to innovation. The infrastructure provided by the educational system to the companies is particularly essential to the small innovative businesses that otherwise would have limited possibilities to develop all of that research by themselves.

In the third place, in long production processes, there is a need to outsource some of the knowledge-intensive work in order to be updated to the new trends and technology. The need of knowledge and technical skills is not the only necessity for the contracting firms, as they usually try to reallocate part of their process in the outside firms in order to decline costs or increase its production and logistic capacities, obtaining at the same time new commercial opportunities in the regions where the outsourcing is executed. The partner organizations can be either local entities that perform in the same area as the contractor, or it can be foreign firms in the case there is a lack of the needed skills in the domestic market. In most cases, the collaboration that results from this process is cyclical and enduring.

### ***1.2.3 Geographical reach***

RIS3 is a collaborative strategy which one of its functions include to interconnect the different regions across Europe and create an innovative environment where the technological advances and the generation of new ideas is part of the society's routine and where there is a constant flow of new, avant-garde and ingenious ideas that can be converted into actual projects in order to improve the quality of life of the society and the performance of the companies.

That is why the European Union promotes this kind of initiatives that are concerned about the general welfare. Therefore, there aren't barely any constraints and barriers when joining the Smart Specialisation Platform and implementing the policy's strategies. Quite on the contrary, all the stakeholders that take part in this strategy, including the European Commission, are constantly trying to help all the regions equally.

Currently, the major part of the European regions have already been registered in the Smart Specialisation Platform and are implementing their strategies focused on the priorities that they came out with. However, there are still many countries that haven't taken the step and registered to the platform. The ideal situation would be to persuade every region to do so, as the other regions could possibly benefit from this as well due to the possible new networking connections that may arise.

As it is a regional policy, there is no need that all the regions within a registered country have to be as well. In fact, in many countries only some of its regions are inscribed in the platform and are already developing their strategies, while others may prefer not to register yet for numerous reasons. In the Smart Specialisation Platform website<sup>3</sup> you can find the complete list of the regions already registered, and it is constantly updated whenever a new region decides to adopt the Smart Specialisation Strategy.

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<sup>3</sup> S3P registered regions: <http://s3platform.jrc.ec.europa.eu/s3-platform-registered-regions>



In the following list we can observe the total number of countries and of regions registered already in the (European Commission, 2017):

- EU Countries registered in S3P: 18
- EU Regions registered in S3P: 172
- Non-EU Countries registered in S3P: 4
- Non-EU Regions registered in S3P: 12
- S3P Peer-reviewed Countries: 16
- S3P Peer-reviewed Regions: 61

However, with this data it is impossible to clearly see the trends of registration of the regions. For that purpose, it is going to be useful a map which will give an insight on what regions do register to the platform:

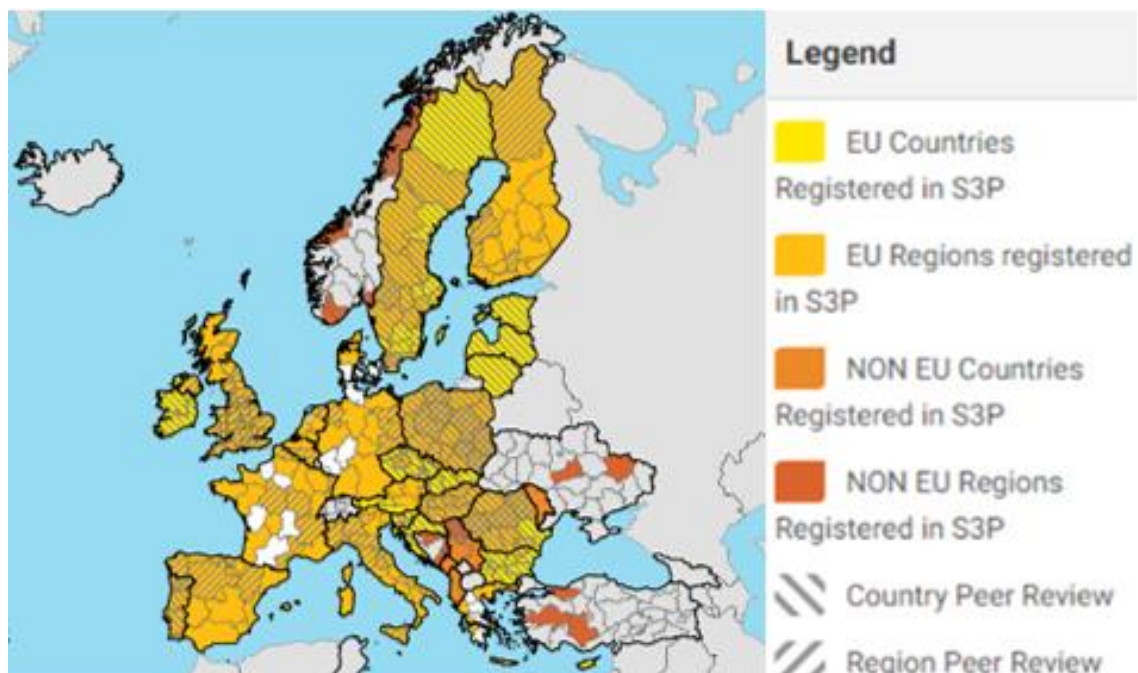


Figure 3 Regions registered in the S3 Platform

Source: Smart Specialisation Platform

As we can see on this map, the majority of the regions belonging to the EU are registered in the platform, wanting to take advantage on the opportunities that this gives to them. However, we do see some regions in Greece, Germany, France or Denmark that are not registered yet. This may be due to the fact that they are very confident in their internal industry for developing their economies, aren't disposed to

fulfill the few requirements that there are (like meetings and reviews) or they just don't want to specialize in a very specific market niche.

On the other hand, more and more regions from outside the European Union have been registering lately in the wake of the policy's nature of inclusiveness. For this reason, we see some regions of countries like Ukraine, Turkey, Bosnia-Herzegovina or Norway, among others, have been registered these past months. The case of the UK is a really particular one, as there is great uncertainty on what will happen after the Brexit<sup>4</sup> is implemented. It is scheduled to take place from 29<sup>th</sup> March of 2019, so until that date nothing is absolutely clear, and it will all depend on the negotiations.

Although most of the EU countries are registered, only nearly the half of the total regions do attend the peer revision workshops where they join in meeting in order to share different insights regarding the entire process of the S3. As many regions do not attend to the peer reviews yet, there also still a lot of work to do in order to attract the representatives of the missing regions as their attendance would be interesting for all the parts in terms of learning and collaboration purposes.

### **1.3 Goals of S3**

The smart specialization policy follows a given number of principles described previously that for a lot of economists and policy makers makes this a really good policy as it looks after and cares about its participants without excluding anyone. Therefore, the connection that provides this tool between the different market forces is what differentiates it from a lot of other policies that, although the obvious focus and aim is the social and economic development, it really does not involve all the stakeholders as the smart specialization (EDP) leadership meetings do.

It is very important to remark that the policy is a trial and error one, that means that it has an experimental nature where the only good thing that is guaranteed is the

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<sup>4</sup> More information on Brexit: <http://www.bbc.com/news/uk-politics-32810887>

knowledge that will be acquired but results that are obtained from the policies are unknown before implementing the measures and the outcome will not always be as good as desired. In fact, there is a possibility that these measures would not work at all in a certain region and the region in that case would turn to be as worse off, as it would lose some amount of time on capabilities that actually are not the core capabilities expected to turn in a competitive advantage factors and depending on the activity developed it has to be taken in to account also the financial investment that was required.

So far, we have talked a lot about focusing on single regions and adapting to them to pursue the appearance of new competitive advantages that would allow to develop some differentiation point and some clear paths to build the economy of a certain region upon the discovered and developed pillars.

However, it is very important to make sure that any region is isolated in this policy. All the regions registered in the Smart Specialisation Strategy will be assisted to find that priorities of investment, no matter the sector, as it is obvious that it is impossible to developed on the sectors that the majority of people would want, but that is the most useful part of S3, it provided how many tools are needed to find the best priorities for rapid growth.

Furthermore, it helps the regions as well by seeking and identifying new activities that are very likely to bring a lot of innovation in the future and it has the potential to have a stable and remarkable growth. Through these new options of the just-born technologies, it seeks the differentiation and a certain degree of diversification among the regions, seeking to develop activities that could complement the ones to each other's and thus have a more organized structure incentivizing the cooperation among regions; linked to the previous one, the generation of that cooperation links, professional networks, critical clusters, etc. are very important as they will be included in a diversified system where every professional is specialized in the fields that is the most skilled at. (Fatakis, Costas; Rosenmöller, Magdalene; Brennan, John; Matei, Liviu; Nikolov, Roumen; Petiot, Caroline; Puukka, Jaana, 2014)

In the efforts of including everyone in this process of development, there is one fact that has to be understood and assumed by everyone, the thing is that all the regions can afford and are able to develop cutting-edge technology that disrupts entirely the market and affects the whole economic system, that would be the ideal case from the most of points of view. Nevertheless, that is not the case and the regions which do not have these capabilities, as we have just spoken about, cannot be left off and must some ground to specialize on some industry that has been already developed, some other mature industry. For these cases we are going to use the term co-invention.

At this point we have to remark the concept of co-invention. That would be the key concept in order to help the less developed regions. They will have the opportunity to build strengths on some already developed industries by improving and therefore increasing the efficiency of the existent processes. Nevertheless, this does not mean that innovation is not necessary applying that method; in fact, this activity also includes a wide range of R&D, design and redesign. The difference is that co-inventing does not start from scratch and there are already some guidelines to follow, which in case of the newest innovative ideas there aren't any of them.

The main thing with the follow up regions is that they actually be able to stop being followers and starting to lead in some aspects of the economic area to which it belongs. It has to set the tone regarding the innovations that occur in the field they are developing at and in the future to disrupt the economic sector. It is clear that this is easier said than done, and to turn a follower into a leader is not that easy. What Smart Specialisation seeks though is to at least turn those less developed regions into good followers that could exploit the already existent knowledge and use as efficiently as possible and to specialize to become leaders in at least a certain application of the whole innovation process of a given technology or innovative process.

On the other hand, we have the leaders, that are those regions where the continuous innovation is incentivized by the local government and the companies that surround the area, the workers do their jobs in highly-qualified innovative environments where there

is a constant flow of information between the organizations and the experts dedicated to a given area of specialization.

Those areas allow generating a creative and technological environment that usually leads to even more innovation. In these regions we are not talking about small innovations that make the processes a little better, but we refer to big innovative processes that are capable of introducing new products in to the market and with their contributions they also can disrupt an entire sector. There, activities arise all the time and the capacity of adaptation of the people involved have to be really intense. Usually these kinds of environments are the ones that attract the best talent from all around the world, given that they provide to the experts a continuous high-quality formation and a generation of new ideas and knowledge to improve their performance at work and in numerous cases even through entrepreneurship.

A perfect example of a highly qualified and innovative atmosphere is the one of Silicon Valley. In this region of California, the flow of new ideas and the generation of new opportunities are much easier because of its innovative habitat. This means that there are a lot of daily meetings, workshops and any sort of activities that expand the knowledge and at the end propitiate new companies, including the investment that it leads to and ultimately high takings that the public sector can get.

That is why those regions are rich regions with good communication systems and an outstanding infrastructure that attracts even more outside investment. For this reason, we can clearly tell that this forms a chain effect, allowing the rich regions to attract even more wealth and stand out from other regions forming by this way the inequalities that we see among the different borders. That will be a really difficult challenge for the Smart Specialisation Strategy, eliminating, or, at least, reducing those differences without damaging the industry of the well-developed regions is not easy.

For that reason, the follow-ups have to start by developing a very specific competitive advantage, in most cases complementing the industries localized in leader regions, because it would be impossible to compete with the leaders head to head as they possess a clear advantage regarding many aspects like infrastructure, networking,

talent, etc. In the case of European Union, we have the following figure to see where the leader regions are mainly located:

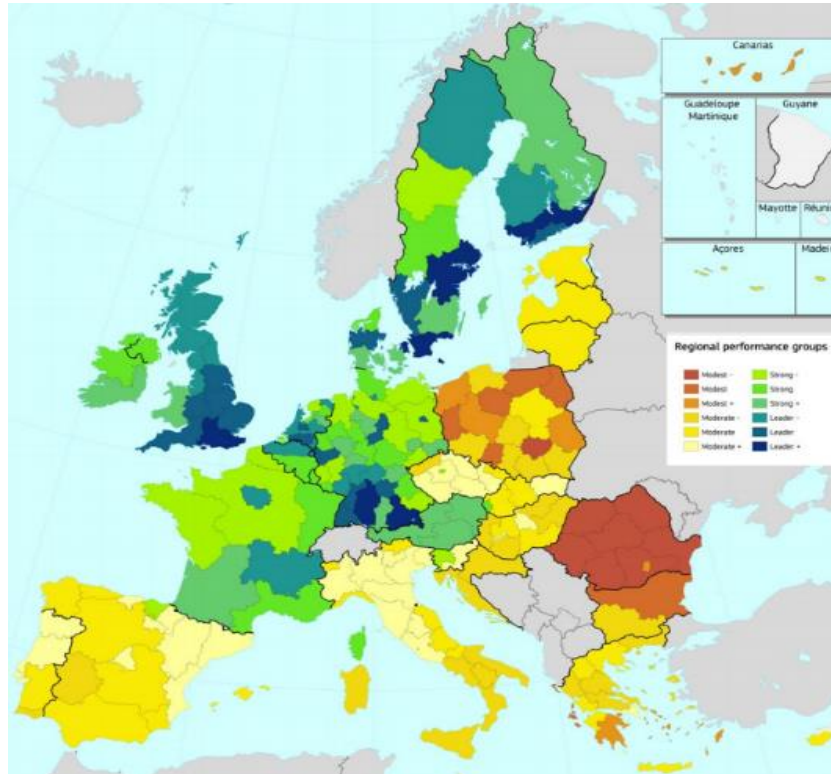


Figure 4 Regional situation by innovation performance

Source: Regional InnovationScoreboard 2017

As it can be observed in the image, the leaders in terms of the most innovative regions can be easily delimited from the ones that have a more modest input of assets like patents, intellectual properties, etc. In general terms, we observe that the territories with more advantages are the ones located in central Europe and the most Northern countries of the EU. So, on one hand, Countries like France, Germany, Luxembourg, Belgium, Denmark, Luxembourg, United Kingdom, Ireland, Sweden or Finland among others are the ones that stand out in this study, they are the leaders of the European Union in terms of innovation and they have the most influence over the other follow up territories.

Going more deeply into this map, we can break down the countries and look for the **regions with the major development capabilities**, the role models for the other regions of the EU area. Just to mention the greatest ones, we have the British regions of South-East England and London; there are also some regions in Deutschland such as Oberbayern, Stuttgart or Tübingen; if we now go to the north, we will find also some Swedish regions such as Sydsverige or all the area of Östra Sverige, including both regions of Östra Mellansverige and the capitol city region of Stockholm; finally, to close out the list of the leader regions, there is a need to mention the Finnish drivers of so many researches as those regions have been a focus point for many industrial innovative activities on the last years. We refer to southern regions included in the area Ofetelä-Suomi.

It can be checked that the countries which have been for the past years the leaders in innovative activities are the ones most industrialized, which economy strongly bases on high-tech activities. They are zones with good infrastructure, well-communicated and generally with better standards of living.

On the other hand, we have the **less developed territories**, the followers of the prior ones. They usually do not set the tone and mainly try to innovate under the technologies provided by the leaders. In this category are included some countries like Spain, Italy, Greece, the Baltic countries, Poland, Romania or Bulgaria among others. In general terms, the "follower" territories are the ones less economically developed, as they have more difficulties creating innovative high-tech firms and R&D infrastructure.

Generally, these territories are basing its economies more on less innovative activities, are quite rural and may have inferior standards of living, although the standard gap between territories have been steadily declining throughout the time. It is due to the lack of infrastructure and the difficulties to get investment for R&D why the expansion of its economy can get quite a hard task to accomplish. For this reason, tools like the Smart Specialisation Strategies have been made to reduce those gaps and increase the territorial equality across the EU.

If we focus again more on a regional level, we will be able to notice that the less developed regions concentrate on the eastern part of the EU. However, we do have mentioned countries like Spain and Italy before, but the regions contained in these countries seems like are getting out of that "yellow" zone and are making good efforts towards becoming part of that leader group of countries, despite the fact that there is a lot of way left to go and the mentioned efforts need to be maintained by the regional and the national stakeholders. Out of the eastern part regions that still are in a bad position we have the following main ones: the most preoccupant case is Romania. None of the regions of Romania can still get out of the innovative stagnation and thus the entire country is highly dependent of foreign knowledge to develop its economy; another highly endangered country is Poland, as we can see a worrying situation in terms of innovative performance, where the regions which is developing at a slowest pace is Świętokrzyskie, followed by other ones such as Podlaskie, Opolskie, etc.

Anyway, although the leaders have a clear competitive advantage, they should be careful. The greatest danger of the leader regions may be the possible "routinisation" of innovation. The entrepreneurs and organizations have to be constantly aware of the new trends in the market and understand the use new technologies, applying them whenever needed to follow the innovation scope and maintaining their advantages. This is particularly dangerous in the cases where one big firm concentrates the major part of the innovative capabilities of a certain region. This organization may suffer the called "creative myopia", which means that the staff sticks with the same internal processes for the single reason that it has been successful until the present moment and, for this reason, they are not able to see the external influences of the market. In other words, they stop learning from others that at some point can, and most probably will. If some measures are not taken, surpass them and in the long term the region that had a clear competitive advantage, will lose that market niche where it focused its priorities.

To briefly sum up the most important idea that we have discussed so far in this segment, the main objective of the Smart Specialisation Strategy is the collaboration of the European regions with the aim to reduce the differences among the regions in terms of innovation and economic development gathering all the possible stakeholders in a



leadership participative process. In addition to that, the S3 are a really good complement to the politics of the Horizon 2020 which sets the tone regarding the cohesion policy between the European regions. For this reason, its objectives follow a similar structure that the ones of the main Horizon 2020 as it is an extension for the part of the regional development. More specifically, the objectives are built around three ideas according to (Barroso, 2010): *Smart, Sustainable and Inclusive growth*. (European Commission, 2017)

Firstly, by Smart growth we mean to build a strong knowledge on high-tech sectors to ensure a last-longing economic growth. In order to do that Europe must act accordingly to promote knowledge and incentivize pioneering acts. Currently, the expenses in R&D in Europe are just below 2%, compared to those of the United States (2,6%) and the innovation expenditure in Japan (3,4%) and as we mentioned the lack of high-tech firms is a big cause of this situation where the private investment is much lower in the European Union; another important problem that has been sticking around and holding Europe back for a long time has been the education system, which is very poor comparing to other parts of the world. This is supported by figures like that only two European universities appear in the world's top 20 or the fact that one of each seven young people are considered to leave its education too early, and, what's worse, after dropping school, a big portion of them do not enter as a labor force; there is a need to enter stronger to the ICT market because it is not taking all the possible advantage from that field. Only looking at the European share of the total information and communication technologies market (which it is around 25%) we observe that there is a lot of effort still needs to be done.

On the second place, we have the *Sustainable* growth, which basically means that the EU must achieve competitiveness by sustainable and resource efficient means. Europe is ahead in developing green technologies, exploiting EU networks and reinforcing the competitive advantages of the enterprises, but lately some competitors like China or North America have arisen, endangering this position; there is a constant need to be addressed, and that is the climate change. The EU hast to focus on using its resources more efficiently and on reducing its emissions. For example, if the energy concerning goals are met by 2020, that would mean a €60 billion saving only in the use of oil and

gas. This kind of progresses could mean an extra increase of the GDP of around 0.7%. Furthermore, if the resource management was improved to make the use of them more efficient, that would reduce the dependency of Europe of foreign resources for commodities and other raw materials.

Lastly, the *Inclusive* growth, which implies, in general terms, that the regions have to put a lot of effort to improve the welfare of the society through increasing the employment rates, the improvement of the education system as mentioned before, battling against poverty, revising social protection systems, as well as building a cohesive society in order to eliminate as much as it is possible the social differences. In this regard, latest studies have shown that around 8% of the working population has an income that is considered to be below that the one who meets the poverty threshold, and for obvious reasons the unemployed population are even more affected, for which group efficient social protection systems are a key element; Regarding the employment, the women and older workers are the most affected in terms of the employment rate added to the fact that the last economic crisis had devastating effect on the young population employment rate as well. Corporate social responsibility of the companies has been constantly on the spotlight of the labor unions and, even though some milestones have been achieved, there is still a long way to go and several issues to overcome.

To sum up, in the chart below you can find the main thematic objectives yet to be achieved, which have to be in the concern of the stakeholders of the regions:

Thematic objectives	
Smart	Strengthening research, technological development and innovation
	Enhancing access to and use of ICT
	Enhancing the competitiveness of SMEs
	Supporting the shift towards low-carbon economy in all sectors (in more developed regions, at least the 80% of the resources should be allocated in energy efficiency and renewables to help the transition to low-carbon economy)
Sustainable	Promoting climate change adaptation, risk prevention and management
	Protecting the environment and promoting resource efficiency
	Promoting sustainable transport
Inclusive	Promoting employment and labour mobility
	Promoting social inclusion, fighting poverty and discrimination.
	Investing in education, training and lifelong learning
	Enhance institutional capacity and efficiency of the public administration

Table 3 Main thematic objectives of the Horizon2020

Source: Own elaboration from EU InfoRegio

## 1.4 Process for identifying the priorities: EDP

We already know that for a correct implementation of the strategy it is essential the election of the topics on which all the work is going to be carried out. These priorities should be based on two processes: (European Commission, 2018), (Gianelle, Kyriakou, Cohen, & Przeor, 2016)

The first is an EDP utilizing entrepreneurial knowledge existing in a region or country to focus on market opportunities, differentiate from others, take and manage risks and seek alliances to optimize the access to resources, whether they are physical, financial, intellectual, etc. The policy makers should unite all the stakeholders (like businesses, technological parks, universities, civil society, public agencies...) in an entrepreneurial process and analyze the proposals of each actor in relation to the development and

investment. Annex 1 show the types of policies that can encourage EDP, taking into account what kind of market threats of the Smart Specialisation are addressed to.

The particularity of the EDP is that it is not enough to gather the information through traditional and inflexible means like surveys, but it brings all the stakeholders together in participatory leadership processes where it is easier to come up with new ideas to develop the most suitable policy mix for the fastest and steadiest development possible of the smart specialization strategies.

The second process is an objective analysis of each region's current situation. This analysis encompasses aspects like research, innovation, industrial and corporate structures, skills and human capital, demand, the budget dedicated to research and innovation in general terms, framework conditions, functioning of innovation ecosystems among many others. This analysis should take into consideration the economic overall situation of the regions in order to know where there are barriers and tools for a potential future economic development, including aspects where there is going to be necessary cooperation between all the economic actors between different regions. In other words, gather information which will tell the comparative advantages of the regions and the complementarities with other areas (partners or competitors) to create a cooperative relationship.

Priorities are based on knowledge fields and activities like science, social, cultural, creative fields, sub-systems within a sector or cutting across sectors and corresponding to specific market niches, clusters, technologies. However, they can also be based on the improvement of societal, environmental or health and security of the citizens' issues. Some examples are the active and assisted living programs for aging well, policies for traffic congestion reduction, eco-material for construction production, etc. In fact, the latest ones play a role of the same importance as the technological innovation in the context of the S3. This is especially important to those regions that are relatively weaker in technological and scientific infrastructure. Instead of pursuing radical innovations, those regions can exploit in a better way the traditional and already experienced niches

by developing and applying new business and organizational strategies through the knowledge acquired.

Returning back to the stakeholders that participate in an EDP, we have mentioned before some examples that would be good to break down now them and explain more deeply their roles in the meetings:

Firstly, we have the entrepreneurial agents. They have the most important role as they possess the “entrepreneurial knowledge” of the market. They can be firms, education institutions, public research institutes or independent innovators but what all of them have in common is that each one of them have gained a lot of knowledge in the market through their unique experiences. If the different experiences from the different entrepreneurs are combined, the result can be a big flow of innovative ideas, products or processes that can impact the industry of the region and through which the S3 is formulated;

In the second place, the policy makers and the leaders of the S3 tasked with leading the process. The policy makers have two main functions. The first one is to collect and to integrate all the information provided by the “entrepreneurs” and the rest of participant economic agents. The second function comes immediately after the collection of data and its synthesis and the processing of all the information gathered. Although policy makers do not choose the stakeholders that will participate in the meetings, they possess considerable responsibility as they are an active part of the process;

In the third place, the participation of the rest of integrands of the society in the process. The more participants from different sectors and activities, the more comprehensive will it be the information gathered by the policy makers. The involvement of the agents contributes to create a feeling like that of a local ownership of the process and the strategy.

Therefore, the bases for a correct setting of innovation priorities have to take into account several aspects shown in the following Figure 3:



Figure 5 Rules for priority setting

Source: Smart Specialisation Platform

One last aspect about priorities is that, although the necessity of setting and focus the resources on them, they are not invariable. In fact, such priorities have to be revised regularly in order to check if new competitive advantages have been obtained by the region and the possibility of developing and performing better in another field different from the considered as the current priority.

Nevertheless, the development and growth of those new priorities also require time<sup>5</sup> and investment by funding Research and Development and other related innovational activities. This does not mean that when a priority is changed, the old one becomes useless and the capital invested in them was misspent. What happens is that from a first line priority, the old activity now becomes part of the portfolio of activities that are considered of the general regional innovation strategy tool instead of a smart specialization instrument and therefore from now on will be funded from the general more horizontal innovation funds of the regions (which usually are much lower than those received from the EU by the smart specialization priority activities).

<sup>5</sup> This takes around 5 years according to Dominique Foray and Xabier Goenaga exposed in their report "The Goals of Smart Specialisation".

## 1.5 Monitoring

### *1.5.1.Functioning*

Monitoring is the process through which it is measured the achievement of the foreseen ad expected results and the point at which the implementation of the policy is situated. It is a key factor in the decision-making process regarding the priorities and the measures to be taken in order to achieve the goals and develop a strong competitive advantage over other territories in that sector. Therefore, monitoring is a process that seeks to benefit the entire population by helping the policy-makers to take the best decisions in order to create a policy that could be the most suitable and helpful to the community that works closely in activities related to the priority sector and the ones related to it. By these means, it allows them to create jobs, more income, investments, etc. (Gianelle & Kleibrink, 2015)

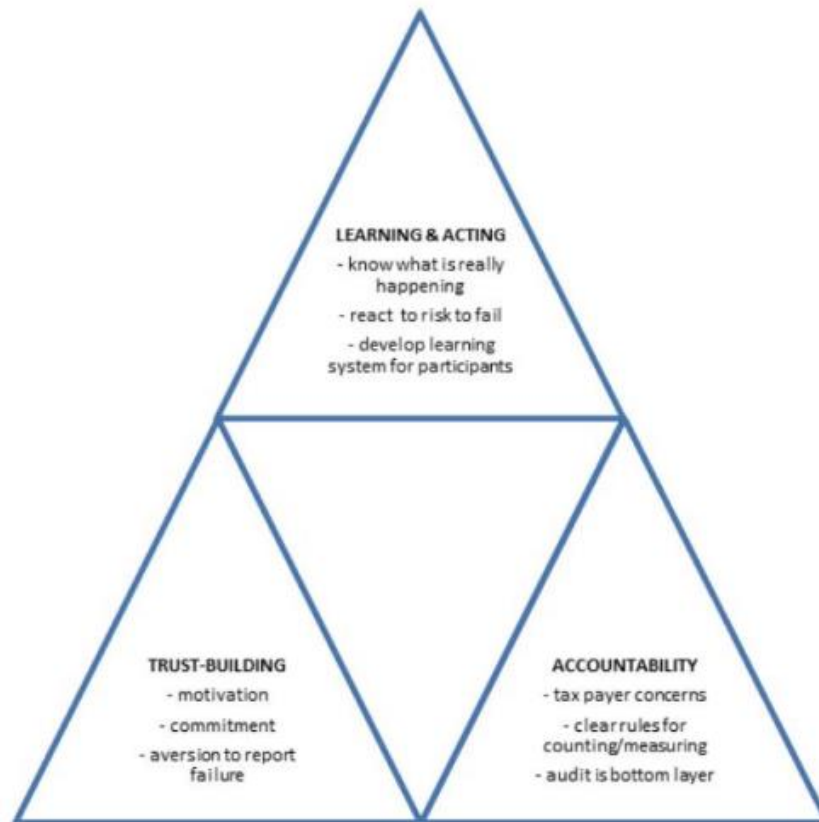
It is important to differentiate the terms monitoring and evaluation. On one hand, monitoring is the concept that is used to call the action of making sure that the actions within the guideline that has been set initially are followed and the progress is stable and loyal to the initial plan. On the other hand, the evaluation process validates with posteriority to the implementation the scope that the policy has reached, how it has performed and what were the actual effects of the policy compared to the desired ones. They are not substitutive between each other, but complementary. It is important for an efficient policy implementation to combine both processes with the purpose of achieving the best efficiency possible. Furthermore, it is important to explain the reasons that led to the experts to choose the indicators that has been chosen in order to study the effects.

According to Gianelle and Kleibrink, there are three main purposes to monitor the Smart Specialisation Strategy process:

1. Learn about the processes and act accordingly.
2. Build and reinforce trust to engage cooperation among stakeholders and citizens.

3. Make sure that the accountability of the policy is made properly.

In the following figure, it is explained what implies each one of the purposes that we have just seen:



*Table 4 Monitoring for learning-and-acting, accountability and trust-building*

*Source: Smart Specialisation Platform*

As we can see, there are a lot of tasks that are implied in the pursue of the strengthening of the chosen priorities in the region. However, these tasks can be grouped into the three main purposes that we have mentioned before in order to facilitate the interpretation of the whole process of the policy. Now we are going to look more closely at those purposes of the monitoring system: (Smart Specialization Platform, 2018)



***Monitoring as a system to gather and process information***

The priorities are the one element that differentiate the Smart Specialisation Strategies from the rest of the initiatives that has been proposed regarding the promotion of cooperation between different regions. By setting these priorities, we can easily identify the goals of the policies and this helps a lot in terms of analyzing and evaluating whether the implementation is going in the right direction, and, at the end of the policy, to assess its impact through the use of indicators. Moreover, monitoring is very important in order to have a clear accountability of the policy for the information of all the stakeholders.

All of that information allows us to use the monitoring system to know what is the actual situation within a region and to compare it to the standards set that would be the ideal situation and by this way see whether that the impact meets the desired changes and the initial intentions of the policy and act accordingly to fix the irregularities or to change the actions taken so far for a different ones that would impact in a better way in the region.

***Monitoring as a transparent crystallization of the logic of intervention***

This is a very important aspect of the monitorization, as it allows the stakeholders and society in general, the ones that the strategy is truly focused on, to understand what is being done in order to achieve the objectives and why the policies used are selected instead of others. By understanding the functioning of the policies and its linkage with the priorities, the stakeholders are also able to anticipate some problems that the interventions may present and can warn the policy makers about the possible bad effects that the current policy can carry if it's not switched.

However, it is very unusual that the monitoring system by itself can determine the whole impact of a policy and the way it has affected a region. For this reason, evaluations are needed to complement the monitoring systems in order to assess the real impact of the policies. The policies cannot be approved only by monitoring them, without any evaluations.

### ***Monitoring as a communication device***

As we have mentioned before, monitoring is a very good method to communicate with the stakeholders about the implementation of the policy. It also boosts the dialogue between the stakeholders, which helps to the policy-makers to get more feedback and to decide if there is a need of change in the next steps of the policy to maintain the efficiency as high as possible.

In order to get an efficient monitoring system, it is essential to set the expected changes that are willing to be achieved. In order to discover them, it has to be taken in mind three aspects: 1) A variable that is able to measure the effect of the policy both qualitatively and quantitatively. 2) Baseline and goal values of the variable. 3) The time period for which is going to be analyzed the effect.

It is important to compare the baseline and the current values of the indicators in order check if there is any change and by comparing the current and the desired values of the indicators we can see whether the change is being driven in the right direction. Moreover, another variable may be set to identify if the interventions are focused on the right population segment, that is, the target population; finally, another indicator to see the financial situation and how the budget is allocated.

Gianelle and Kleibrink also refer to these elements as inputs and outputs of the monitorization system. On one hand, the monitoring outputs is to check if the implementation is going in the desired way and if the policy is being ruled efficiently. On the other hand, the monitoring inputs, which refer to the allocation of the different resources to make the strategy work and it allows to see how many of them are actually used at the end.

### ***1.5.2.Way of Choosing Indicators***

We have already seen what indicators we need. However, how do we get the most suitable indicators in order to establish the most reliable monitoring mechanism possible?

It has been proven that the best way to make data understandable is through simplicity on the calculations and its presentation. The information gathered in order to calculate the indicators has to be really concise and focused on the final desired outcome. Of course, it is important to avoid the collection of really big amounts of data and information that in many cases would not link between each other and it would be difficult to interpret. (Online S3, 2018)

Obtaining suitable result variables for the monitoring system is the most complicated task within the identification of indicators. However, it gets much simpler if it is focused on the right direction and it is done carefully. In order to get them, firstly it is important to set some variables that could represent the expected changes. Secondly, trying to match them will allow to know whether the variables can represent the mentioned changes to reach the goals of the policy. Finally, following the simplicity rule, it is important to choose only the best variables, getting rid of the ones that result repetitive.

Once the result variable is obtained, it is needed to set its baseline value from which it will start the whole process; the final desired value, that is the target value we want to achieve with the implementation of the policy; finally, intermediate values in order to assess whether the policy is heading towards the right direction. The process of setting these values has to be done together with the stakeholders in order to set a target that fit everyone that is involved in the Smart Specialisation Strategy giving motivation to the stakeholders of working towards achievable goals, although they can be changed along the time if the same stakeholders consider that change necessary.

The difficulty of setting the result variable is not the only constraint in order to set a reliable monitoring system. Among other difficulties, we can notice that nowadays

there is a constant flow of information that make it difficult to gather data to build an reliable database as these values change very quickly. The data that is originated so quickly that usually is not very reliable, as the pace at which is obtained do not allow a meticulous study when it is calculated. Therefore, it's really important to be aware and get rid of the data that has not been checked properly to prevent mistakes in the database, as well as its posterior analysis.

The fact of finding the best indicator at the first try is something that really rarely happens. Actually, it is very important to have a mentality that there is a need always to look for better indicators and to find the ones that would reflect in a best way possible the results of the indicators for their monitorization.

The difficulties that exist in terms of finding quality data for a good analysis really do exist and is something that we have mentioned previously. For this reason, there is a need to innovate and come up with new ideas to collect the data in order to avoid the appearance of imperfect information in the analysis.

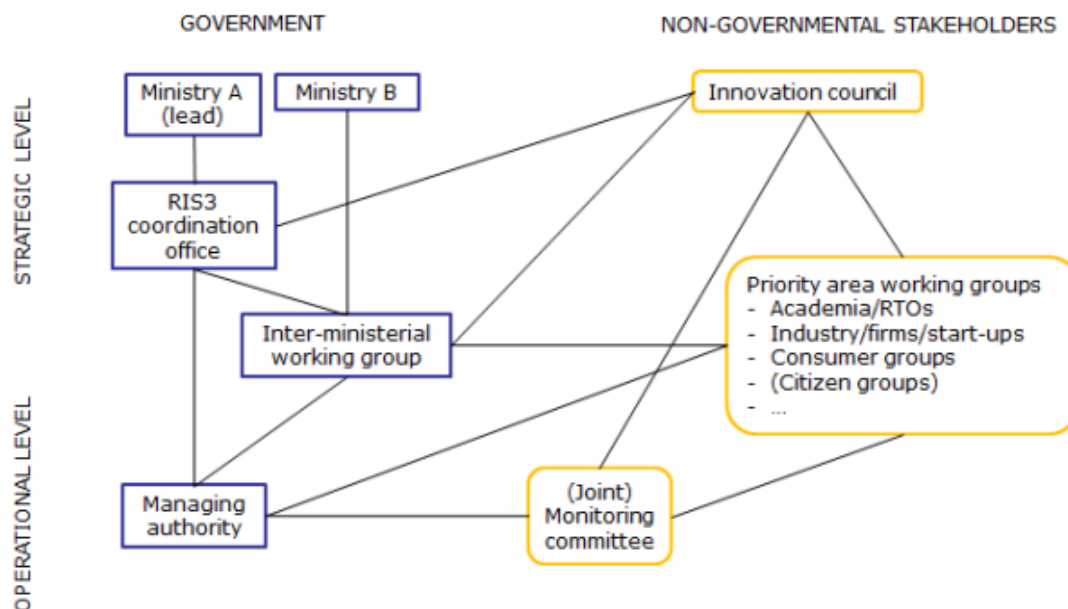
In most cases, the most reliable data will come from any public body, no matter if it is a local, regional, national or international institution, which are the ones that elaborate the data under a set of norms and restrictions that make this source as the best in terms of getting a faithful image of the reality captured within the figures. Breaking down the data, on one hand we have the quantitative information, which usually is obtained through surveys, accounts of the enterprises and public administrations, project financial statements or registers, just to mention some. On the other hand, qualitative information can be obtained mainly from many interactive activities between stakeholders like, for instance, focus groups.

Lately, a new very useful tool has been developing for some time that is the concept of big data. Among many of its uses, big data also helps on the processes of collecting data by means of tracking social media in order to know if the target population is happy about the developments for the policy and if it really has helped them or by making it easier to establish a clear distinction of sectors in the value chains. (Gianelle & Kleibrink, 2015)

Logically, obtaining reliable data in smaller regions will be easier as the bureaucracy in those territories is much simpler than in extensive regions with complex and divided administration systems. It is advisable for the regions to take one step further toward the perfect cooperation system and interchange information obtained by different regions in order to improve the diversity and quality of the information acquired as each region would be able in that case to specialize a little bit more on the information collecting process.

Monitoring keeps informed the stakeholders about the development of the policy and the actions that are being taken in order to achieve goals set by themselves so that they can feel all the tranquility possible regarding the strategy and to facilitate decision making. In the following figure it is can be observed the different links existent between the bodies for an effective control of the policy, integrating the project itself, the program and the strategy under one picture:

*Figure 5: The web of innovation governance*



*Figure 6 Web of Innovation Governance*

Source: Gianelle, C., Kleibrink, A. from "Monitoring Mechanisms for Smart Specialisation Strategies"

The innovation councils that we see in the figure take a big part in the supervision of the monitoring process of the strategy as long as they receive enough resources

and allowances to supervise correctly the whole process. The monitoring data that will be put later under supervision should be gathered by a single participant institution to simplify the process and avoid disputes.

It is a good idea for the central institutions to give some monitoring powers to the regions, as the regional administration entities are the ones who know the best their own territories and therefore can make a good assessment on whether the policy is being implemented on the right way, proposing otherwise some measures to make more efficient the implementation process. Nevertheless, these powers will depend strongly on the regions and their political and administrative organization.

### ***1.5.3. Territorial effects through indicators***

Due to the political, societal and economical differences, as well as for the fact that each one of the regions have set their own priorities, the effects will be varied for each one of them, so the setting of goals is really important for a region to know what do they want to achieve and the approximate amount of time they want to dedicate their resources to get to these goals.

For this study we will be using the data and the results provided by the ESPON TIA Tool<sup>6</sup> used in the Territorial impact assessment workshop of Smart Specialisation that took place at 6<sup>th</sup> of march of 2017, where many experts gathered together in order to assess the impact so far of the policy and study some ways of improvement to guide the policy in the right direction for the future by studying predicted impacts of the interventions in different scopes like the effects on environment, government, economy or society and how they interact as the policy intervention develops. (European Committee of the Regions, 2017)

In the workshop, a selection of indicators has to be made and, at the end, the experts selected the following indicators for each field:

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<sup>6</sup> [https://www.espon.eu/main/Menu\\_ToolsandMaps/TIA/](https://www.espon.eu/main/Menu_ToolsandMaps/TIA/)

ECONOMY	Economic growth (GDP/capita)
	Number of SMEs innovating in-house
	Number of innovative SMEs collaborating with others
GOVERNANCE	Regional competitiveness index: confidence in rule of law
	Regional competitiveness index: government effectiveness
SOCIETY	Employment in primary sector
	Employment in secondary sector
	Disposable income
	People at risk of poverty and social exclusion
	Early leavers from education and training
ENVIRONMENT	CO <sub>2</sub> emissions

*Table 5 Indicators chosen for the study*

*Source: Own elaboration based on European Committee of Regions. Territorial impact Assessment Smart Specialisation*

The ESPON tool gives its results by combining the expert judgement with the indicators of the sensitivity of each region and it is important to take into account that these will be results for a general interpretation of the impact, rather than regional specific analysis. Therefore, this analysis will be mainly based on the sensitivity concept, or the effect that the policy can cause to a region due to the interventions made by the policy makers and the correspondent authorities, as it is shown in the figure below:

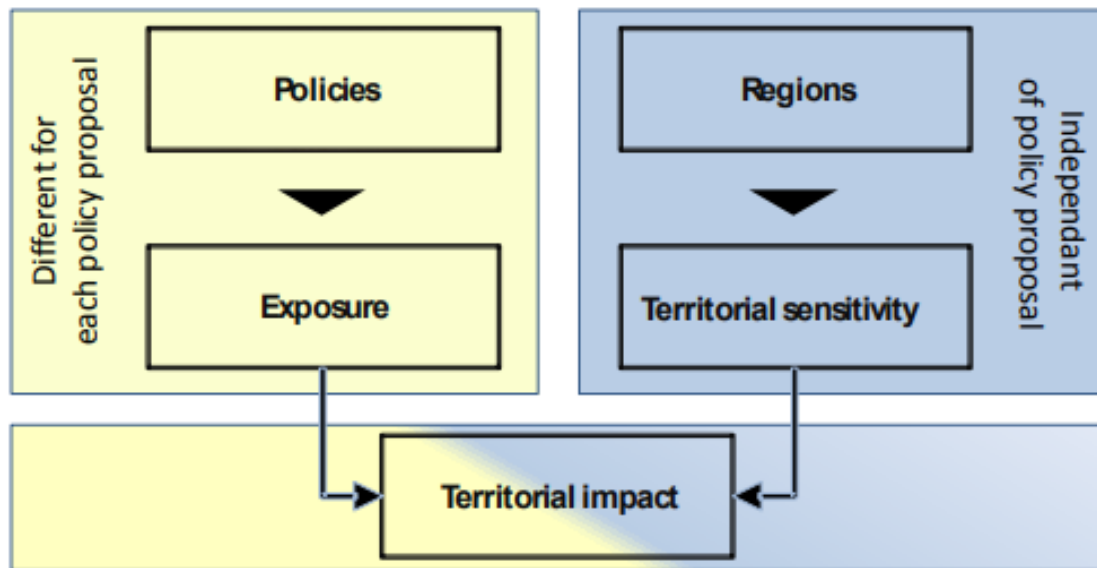


Figure 7 Elements intervening in the Smart Specialisation territorial impact

Source: European Committee of Regions. Territorial impact Assessment Smart Specialisation

#### **1.5.4. Effects on Economy, Society and Government**

The experts agree that Smart Specialisation Strategies is and will create jobs and will accomplish a decent growth rate through the generation of an innovative economy. Now it will be displayed the study that the experts did of some of the indicators that we have mentioned before based on forecasts about how the strategy will actually influence on the aspects we are going to analyze in different regions.

The first map exposes the economic growth of the regions, calculated as a GPD/capita indicator, influenced by the strategy:



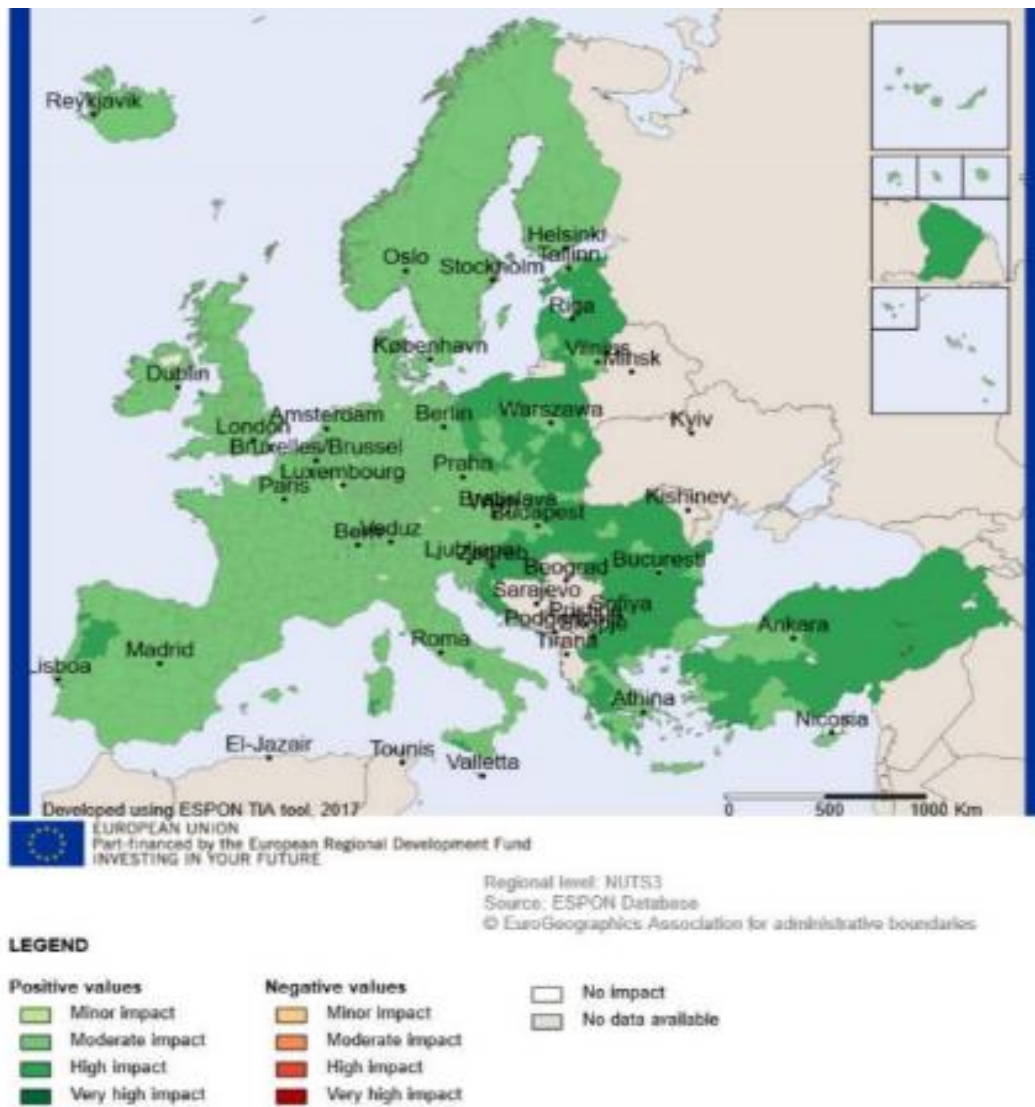


Figure 8 Impact on Economic Growth

Source: European Committee of Regions. Territorial impact Assessment Smart Specialisation

At this map we can clearly see that, although there is positive impact in each one of the regions analyzed there will be more effect on the GDP in those regions with actually smaller GDPs, the less developed ones that act as followers of the most developed ones in seek of equality between regions.

In particular, there will be more impact in the regions located in the Eastern countries of Europe like the Baltic countries, Poland, Belarus, Ukraine or Romania in

addition to some regions located in the southern part like territories in Portugal, Italia, Greece or Turkey.

Let us see now the impact of the interventions in the income. As the impact on the GDP, it is expected to have more influence in less developed regions with lower salaries. These are the actual results:

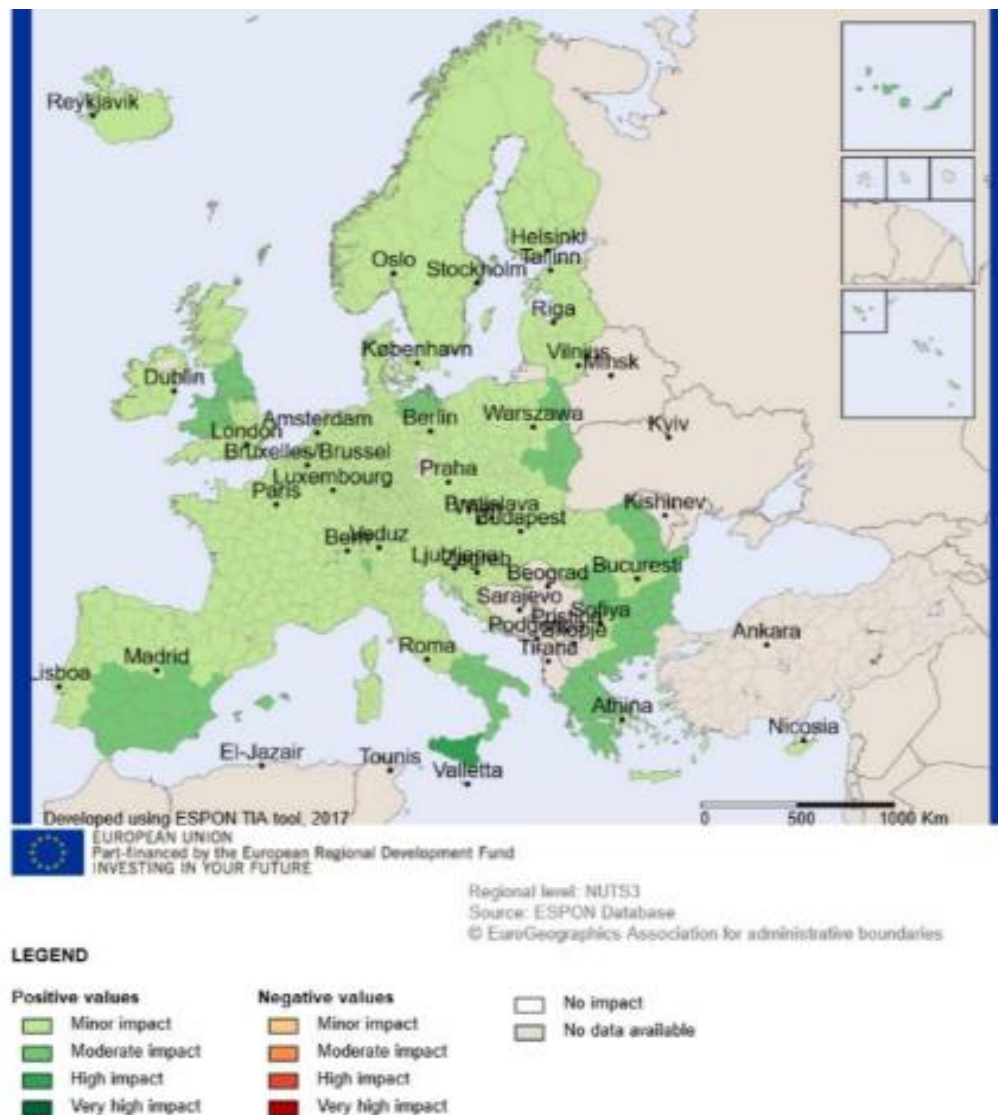


Figure 9 Impact on Income

Source: European Committee of Regions. Territorial Impact Assessment Smart Specialisation

As it was expected, it follows the same pattern as the one just shown for the GDP, affecting more the regions with lower average income. However, the overall impact is lower, although still positive for all the territories. Concretely, the most affected territory is Sicily, followed by other Italian regions, the southern part of Spain, Greece

and some Eastern European regions. The difference is that there has been a little stronger impact on some regions of UK and North-Eastern part of Germany.

Next, we have the indicator that tells us about the degree of collaboration of the SMEs with other companies and other members of society. It is expected to be higher in the most developed countries, but let us see the actual results:

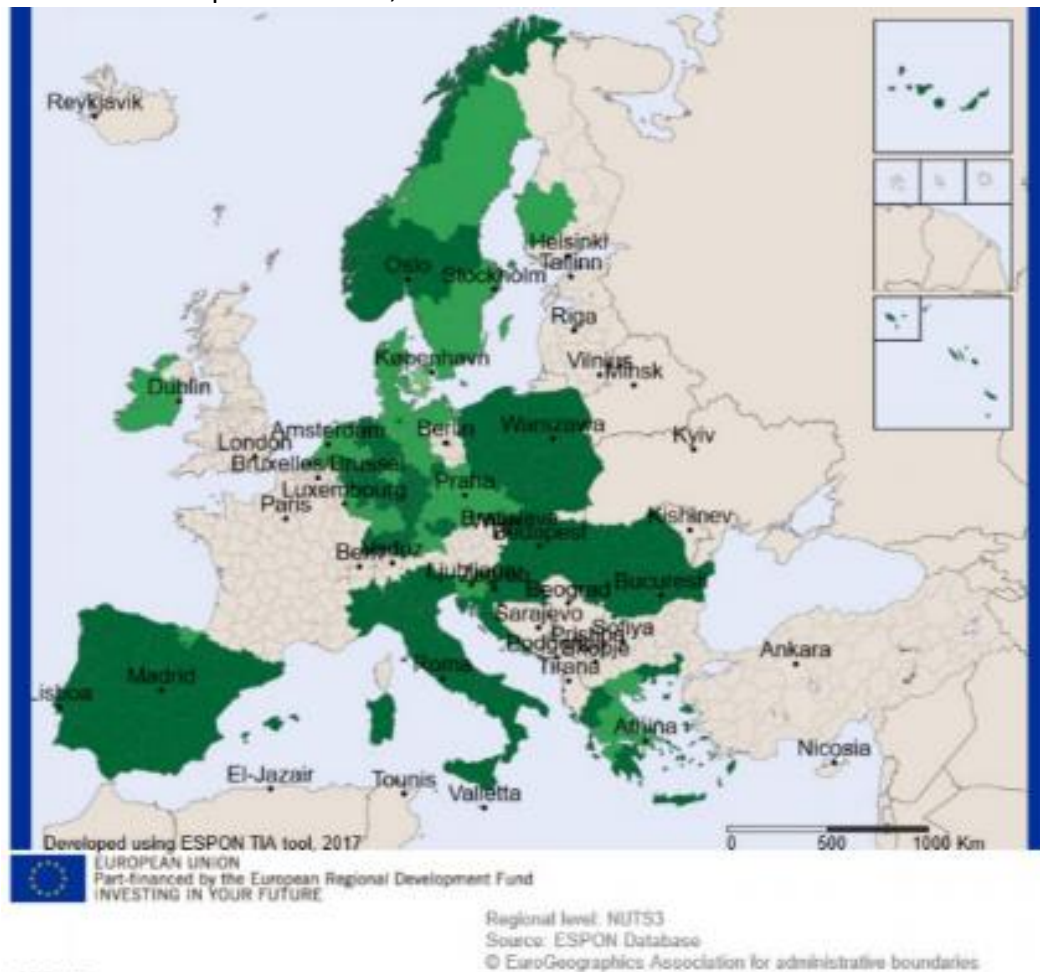


Figure 10 Collaboration of SMEs with others

Source: European Committee of Regions. Territorial impact Assessment Smart Specialisation

A completely fair interpretation is impossible to provide of this map as it lacks the data of some key territories like the UK, France, Austria or the Baltic countries. However, about the countries that we have data, we can say that the overall impact is really great, with no clear patterns, so it can be assumed that for the previously

mentioned, lacking data countries the impact is fairly high. This is something that shouldn't surprise anyone as the Smart Specialisation strategies are all about promoting cooperation among the regions.

Following, we have the indicator to see the employment in the secondary sector. The reasoning tells us that there would be more effect on the regions that are less developed, as the most developed countries in the EU focus their activities mainly in the tertiary sector of services. Let's see the results:

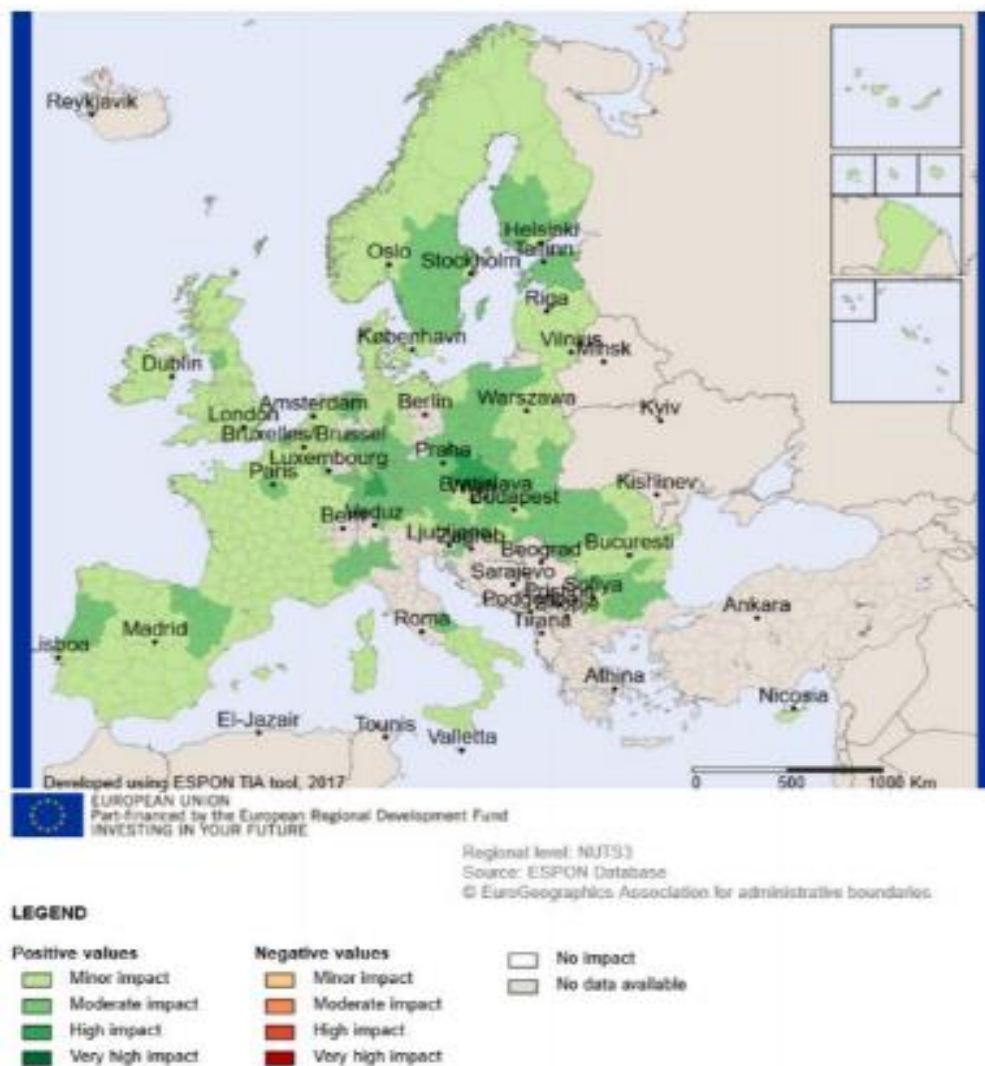


Figure 11 impact on the employment in secondary sector

Source: European Committee of Regions. Territorial impact Assessment Smart Specialisation

As we can see, it turns out that the regions most affected on the employment in the secondary sector are the ones who have the major share of employment in it.

Specifically, some regions of countries like Germany, Austria or Czech Republic felt the most impact in that sector, along with some eastern European regions, Estonia, the southern part of Finland and Sweden, and northern parts of Portugal, Spain and Italy. Still, the overall effect in the EU is positive in the analyzed regions.

Lastly, in the workshop, it was measured the government effectiveness towards the Smart Specialisation Strategies implementation. This effectiveness is measured by the Regional Competitiveness index (RCI). This indicator follows the same direction as most of the previous ones, that is, the regions with lower RCI are the ones who have the biggest opportunity to benefit from the policy. These were the results:

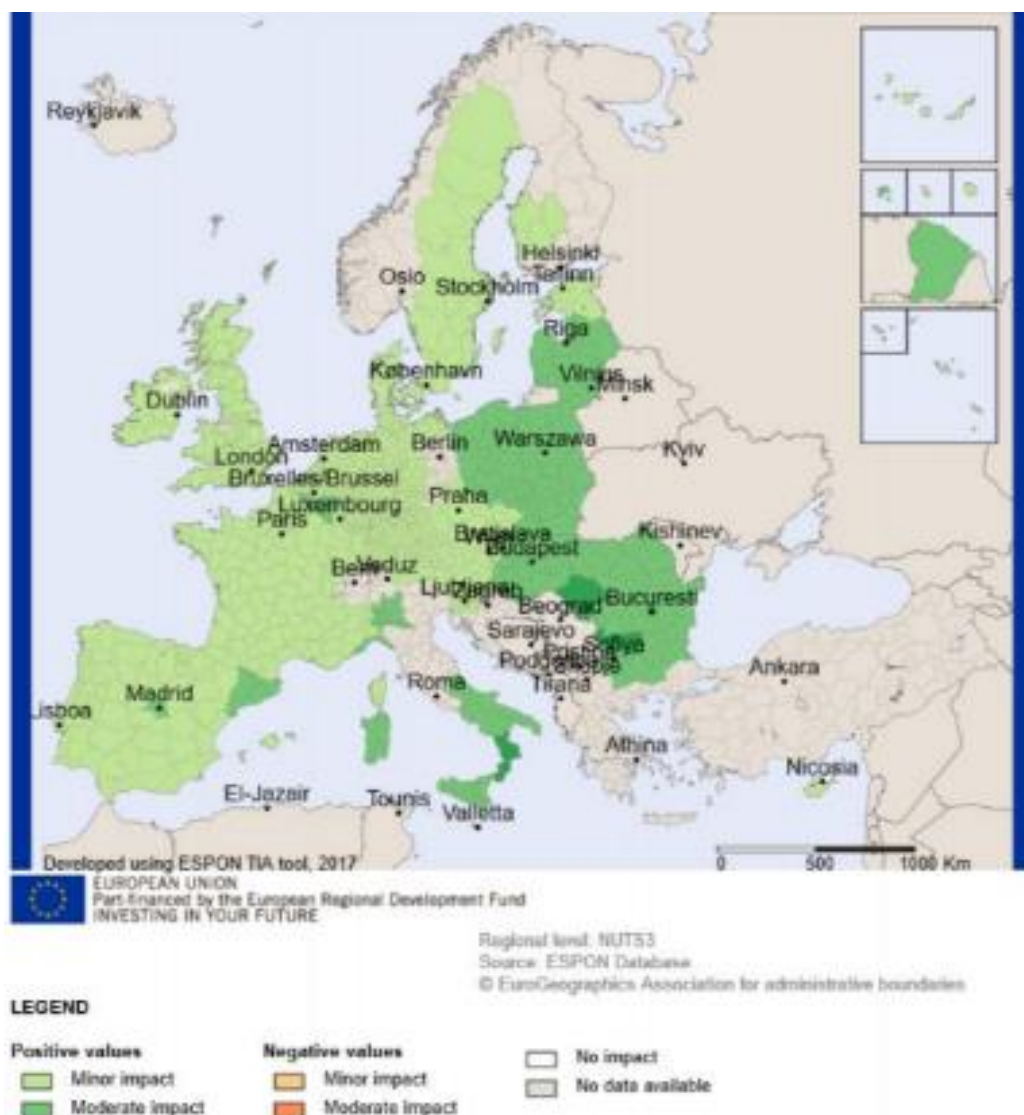


Figure 12 Government effectiveness on Smart Specialisation

Source: European Committee of Regions. Territorial impact Assessment Smart Specialisation

Again, these effects are very similar to the ones on GDP, with the most benefited ones located in the eastern part of Europe, with some exceptions again in Italy and Spain. It would have been interesting to see the effect on the Greek part and the surrounding regions like Turkey, Serbia, Croatia or Bosnia and Herzegovina, but the data was unavailable, although we assume that there would have been moderate impact in many regions.

In the case of all of these indicators we have seen, the exposed effect is positive for the regions studied. However, the effect of the policy in many cases can carry negative effects for some sectors, especially for those that are not contemplated by the priorities that a region seeks. For this reason, there is a necessity to look after those sectors and do not disregard them through the Entrepreneurial Discovery Processes that gather experts from all the sectors to give their opinions and insights on the policies and posterior interventions. Furthermore, it is important to train and educate the workforce for the other conventional sectors to stay competitive, although that is not the main focus towards the achievement of the established goals.

As we have mentioned before, these are estimations of future development of the indicators analyzed. It is necessary to follow the evolution of these indicators in the monitoring process as they are the one who tells the stakeholders and policy-makers whether there has been some real impact and meet its expectations towards the regional development.

Besides the ones we have already explained (the ones selected by the experts that participated in the workshop), there are a lot of indicators that allow the study of the impact the Smart Specialisation Strategies have on the regions and the most suitable ones to study so to get conclusions will vary from region to region. According to (Cervera Ferri), based on the EU Joint Research Centre, there are many other indicators for monitoring the implementation on the policy, some examples are the following:

- Industrial indicators. Groups can be formed out of these ones according to the sectors the companies belong to or the company sizes.
- Labour market indicators: Employment, unemployment, vacancies, wages, employee's characteristics, human capital, etc.
- Innovation indicators: Share of innovative companies, expenditure in innovation, type of innovation, etc.
- Foreign sector indicators: Exports, foreign direct investment, etc.
- Scientific indicators: Research infrastructure and institutions, publications, patents, etc.

Three conclusions were extracted by the experts after reviewing the general policy implementation process and the results of the indicators:

Firstly, there is a clear evidence that good effects can be achieved with the policies, but some measures are needing to be taken to improve the process and improving the odds of an effective strategy implementation. For instance, simplification would be a good idea, together with some divulgation and making available more financial opportunities to engage and incentivize the participant to implement the proposed interventions.

Secondly, there is a lack of clear guidelines of the strategy of Smart Specialisation and for this reason the coordination between the different countries and its stakeholders is unstable. The agents usually are willing to participate but there are just not enough resources and tools to start with or the companies just do not clearly understand the purpose of the strategy. What's more, the public entities in many cases do not have the means to reach the smaller agents, the small enterprises that obviously do not count with the same resources as large corporations. For this reason, new methodologies to reach smaller companies are being studied and the EDP helps a lot in this affair.

Lastly, the experts wanted to emphasize that there are a lot of interesting innovation opportunities in other sectors like the agricultural one. Another support techniques might be needed for the actors that could engage in this sector but the

administrations have already expressed their willingness to provide that formation in order to extend their competitiveness to these areas.

## **2) Creative Industries and its contribution to the EU**

### **2.1. Definition**

#### ***2.1.1. Definition and framework of Creative Industries***

Creative Industries (CI) are all those professional fields based on knowledge intensive activities that aim for creating new materials and assets that, regardless if they have physical and tangible value for the people, through the use of their talent, ideology or knowledge, they try to give a set of attributes and some kind of meaning to their creation. Most of the times, these creations seek a financial compensation. Nevertheless, they can be made for non-profit causes such as resources made available to ONG's, done as hobby or to express an ideology/belief among other uses. (Boix, Hervás Oliver, & De Miguel Molina, "I want creative neighbours". Do creative service industries spillovers cross regional boundaries?, 2013) The creative industries are part of the Creative Economy, which englobes all the creative activities, apart from those creative activities that cannot be considered in the creative industries. (Department for Culture, Media and Sport of UK, 2016)

The creative industries term was originally imported by Tony Blair's British Labour government from Australia, as they needed new fresh bases to build upon for the post-industrial economy and the main purpose was to transform the creative activities from being a hobby sector in needs to be subsidized to another one that could be able to actually generate wealth for the society.



Traditional sectors usually corresponded to one of the two knowledge bases: synthetic or analytical. However, experts noticed that the activities considered in the creative industry could not be part of any of the knowledge basis mentioned before. For this reason, a new one has made its appearance, the symbolic knowledge base, stating that the value added of the activities was different for each one of the people as it was based on a symbolic value (Boix, Hervás Oliver, & De Miguel Molina, "I want creative neighbours". Do creative service industries spillovers cross regional boundaries?, 2013). Of course, this knowledge is not a universal one and it will not be accepted by everyone as it fits the beliefs and preferences of the people. In the following figure it is shown the different knowledge bases according to their usual geographical reach and their structure:

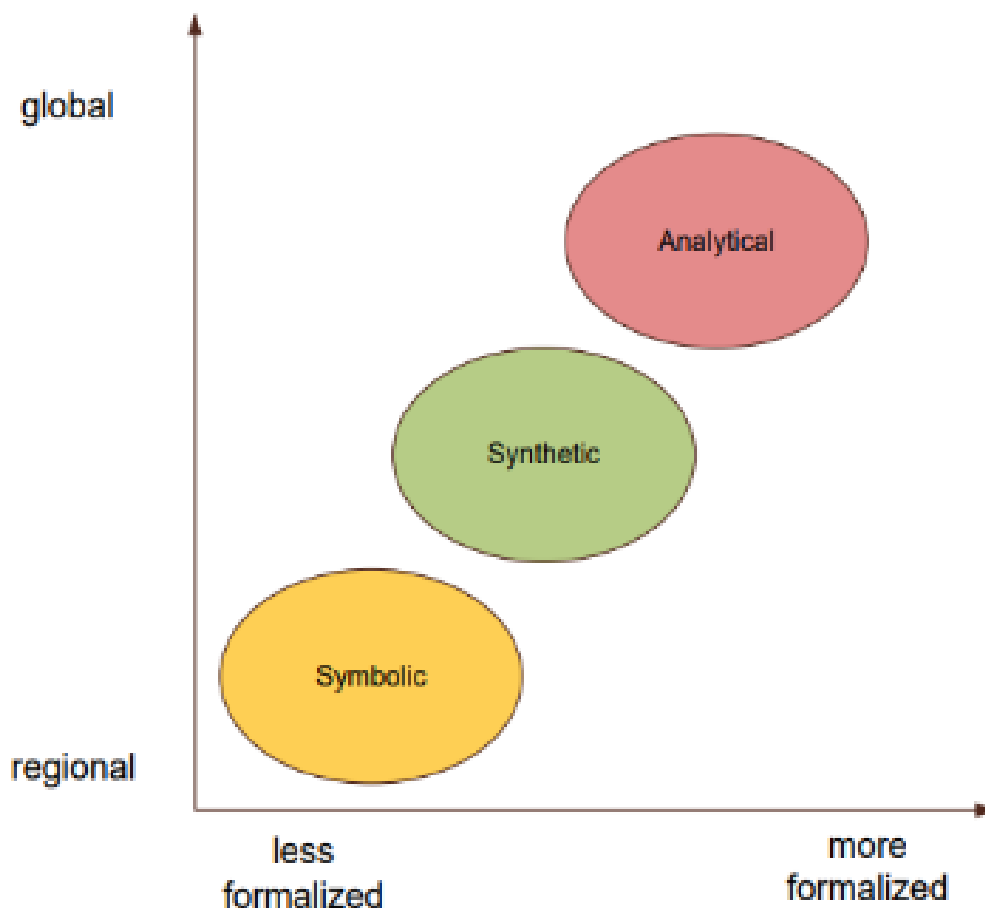


Figure 13 Expected patterns of different types of knowledge bases

Source: Moodysson, J. "Knowledge dynamics, firm specificities and sources for innovation"

For this reason, this type of knowledge is the one that fits the better with every kind of creative industries as their value will be different for each person. Usually, these preferences will be determined by the roots, the education, the profession, the surroundings and many other factors of each person. For example, a lot of people would not understand very well a Picasso painting, making it worthless for them, while another people will be able to appreciate the brush work of the Spanish painter and the same painting will have an incalculable value for them. Another good example we can find it in music industry. Some people may appreciate the rap music for its beat and the meaningful lyrics that many of these songs have, considering the rappers true artists, while other people will see this genre as a bunch of youngsters screaming nonsense and violent expressions.

There are three ways by which the spillovers and the transmission of wealth through the knowledge between the different regions can happen: Direct wealth effect, that is the occurrence of spillovers from one region directly to another; Mimetic contagion effect, which means that there was an indirect effect on a third party, affecting one region firstly and which effect trespasses to a another one later on; lastly, the pecuniary and induced effects, which has the same system as the mimetic contagion effect, but with more than one intermediary, that is, the effect on the wealth received by one region, which is trespassed to another one, which in turn affects the wealth of a fourth participant (and the following ones in case the spillovers kept occurring).

According to (Rausell-Köster, Marco-Serrano, & Abeledo Sanchís, 2011), there is a circular effect regarding the transmission of wealth between the different regions: If a GDP of one region rises, it will most likely increase the GDP per capita and this means that some elements have been improved, like an increase in income, more accessibility to quality education or the investments destined to the creative activities. This will inevitably lead to a rise in the proportion of workers dedicated to the creative sectors and, just as these authors tell us, two effects will be produced: Firstly, more people dedicated to the sector means new fresh minds that are able to contribute to the innovation of the methods of that kind of industries. Secondly, those innovations at the end will pay off resulting in new methodologies and systems to produce the content

better and faster, increasing subsequently its productivity. (Boix Domènech & Soler Marco, 2014)

It is very characteristic in these kind of industries to follow one of these two patterns: they either big industries that generating a big proportion of the total value generated by the creative industries, where the amount of workers is really small (Television); or they are industries that relatively do not generate that much value for the country's economy, but employ a large amount of workers (Music and Movies). Neither of the industries are better or worse, as they are integrated in the economy and both are needed; the ones provide more value to the GDP and the other ones reduce unemployment and increase the tax income for the government. Nevertheless, this is not an absolute truth for all of the industries, as some of them, like the visual arts employ a lot of workforce and add a lot of value to an economy. Here we are referring to global estimates. Each region will have different models in their economies and it will not be the same across regions.

Generally, the creative industries present a given set of characteristics that can be identified throughout all the regions:

- Youth: These are the kinds of industries that are “fun” to perform, so the age range of the biggest part of the employees in the creative industries is very low (15-29 years). Furthermore, great proportions of the idols of the youngsters are from one of those industries and they try by all means to be just like them and do whatever is in reach of their possibilities to get there. The problem is that they only seek to be as their followed icons, which usually are the biggest stars in the industry, and do not take into account the big amount of people that are not that successful and do not earn any money from the creative source.
- High productivity: Some sectors of the creative industries contribute to the GDP more that the average contribution of all the sectors of the economy. For

example, it has been proved that, in most countries, film and television both have higher productivity rates than most of the other “traditional” industries.

- **Big corporation dominance:** There are a lot of independent professionals that work on their own and even some of them try to start new businesses. Nevertheless, the major part of the income comes from large corporations that already count with a huge networking system that gather the best talent from the streets and publish their work, earning from their cultural creations an enormous amount of wealth. In this regard, we can say that generally there is an oligopoly in the creative industries, where, although there may be a huge amount of people dedicating separately to a given job, the greatest part of the income come from the big enterprises dedicated to attracting talent. This is unlikely to change as the contracts that these corporations offer are usually way bigger than anything the workers can get on their own.
- **Independence:** Many individuals perform on themselves in these industries. However, it is true that most of the people that perform on their own seek whether big deals with the dominant firms in order to have quick success and wide promotion, or fame and wealth individually, which aspirations are significantly more difficult to attain, but with the appearance of new technologies and the easier travel means self-promotion is nowadays much easier than has ever been before.
- **Clustering:** The independence about which we have just talked about must not be mistaken with the fact that these independent professionals and artist tend to gather in some spotted places where the culture of creativity is all around and it is promoted by all its inhabitants. This is how clusters tend to appear, specializing a specific region in a given field or movement, combining in the same region professionals with an already long-run career in the field, and amateurs seeking to learn and find some opportunities to progress in the given field. Most of the times clusters appear in the places where those big corporations locate.

- High level of education: For most of the jobs in the creative industries, a university degree at least is needed in order to efficiently do the job. In the case where no degree is needed, professionals have to practice long hours in order to attain a high level of proficiency in the field there are in. That is the reason why the creative industries are some of the sectors that gather most highly-skilled and educated professionals.

The population engaged within the creative sectors are really aware of the gender inequalities in employment. For this reason, in many countries there are some facilities provided to female people like engaging their participation in the cultural and economic fields of the sectors and its society; facilitating access to credits and investment funds in order to let them carry on their projects; or access to property rights needed to develop the creative job.

Until recent times the only fields where women predominated were the ones that did not count with much support from the governments hands and for this reason no strong author right norms were established, losing the artists huge amount of quantities in copyright infringements. Although many improvements have been carried on, there are still a lot of work to do in terms of gender equality in the creative industries, just as in the rest of the economic sectors.

All the characteristics that we just displayed are formed according to the official statistical data available for everyone to consult. However, there are activities that are done in such a way that are invisible for the economy, some kind of “underground” activities that are not captured by the official statistical estimates. All of those activities are grouped in to what we call “informal economy”. However, the fact of not being spotted by the public eyes does not mean that all of them are harmful and illegal.

Of course, there are activities that are harmful for the creators of content, as it steals very big amounts of income from them. These are the so called “pirate” copies, which are usually delivered free of charge for the consumer. On the other hand, we have all

those activities that we include in the informal economy. In this case the services and the goods delivered are actually paid to the authors and makers. However, these payments are done irregularly without any formalities, avoiding by that means the payment of taxes and the revision of quality. As for the creative industry goods, the deals made by this way may not be considered illegal because they are trades between the buyers and the genuine creators of the content, and, as such, they have the right to do whatever they want with their produced content.

In particular, piracy has been a growing threat for the industry since it has appeared. However, in recent times, with the digitalization of the technology and the creative industries, it turned much easier to copy illegally copyright protected creations. For example, in Spain, during the last years, most of the content that was consumed was got from illegal sources. Particularly, according to the Spanish Observatory on piracy and digital consumption habits, in 2014, the 88% of the content consumed by the population was illegal<sup>7</sup>. The piracy is also harming the indirect jobs of the creative industries, as it has cost the industry a lot of jobs and consequently a big amount in revenues for the government. In some countries, the high prices of the goods produced by the creative sectors, the low incomes and other factors promote the use of piracy as a way of delivering the cultural content. Furthermore, these developing countries often count for very little official distribution channels and for this reason, although some of them are willing to pay for the product or service, they end up getting that content illegally in order to avoid themselves an unnecessary travel to the official distributor locations. (BOP Consulting, 2017)

Then we have the informal economy, which activities, as we have just said, are not illegal, but do not follow the generic rules of the typical transactions and ways of earning money. The jobs performed in this economy give employment for a lot of content creators and performers, but the ones that belong to performing arts (dance, live music...) use this kind of economy the most, as it is the most crowded sector with these kinds of performers in general terms with street performances, festivals, etc.



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<sup>7</sup> El País: [https://elpais.com/elpais/2015/03/10/inenglish/1425997747\\_249854.html](https://elpais.com/elpais/2015/03/10/inenglish/1425997747_249854.html)

## 2.2. Types of Creative Industries

There are many ways to classify the different creative industries existent in the market, but all of them coincide in the sectors that form the classification. Thus, for instance, the Department for Culture Media & Sport of UK classify in their Statistical release (Creative Industries Economic Estimates) recognize the following industries: Advertising and marketing; Architecture; Crafts; Design, including product, graphic and fashion design; Film, TV, video, radio and photography; IT, software and computer services; Publishing; Museums, galleries and libraries; Music, performing and visual arts.

However, we are going to use the one provided by Ernst & Young (Ernst & Young, 2015), which is based in CISAC (International Confederation of Authors and Composers Societies), many other international organisms highlighting The World Bank, and more than 150 other worldwide experts. EY provides us the following classification of the different creative sectors:

- **Advertising:** It is formed by the advertising agencies. These are the kinds of companies that add value to another customer company by means of promoting and searching for commercial links. This sector has evolved a lot in the last years and currently it has appeared a wide range of digital advertising tools that have changed the whole sector. In fact, the digital advertising represents for many firms the only source of income, giving the advertisement service to another companies. 
- **Architecture:** Considering the architectural firms, as well as the independent professionals working on their own projects. At a first glance it may seem that, unlike the rest of the sectors, the architecture job has not changed very much due to the digitalization process of the economy. However, this affirmation is far from being correct, as the technology has enabled the architects to increase their efficiency and productivity by working on different computer programs and various device 

apps that enable them to be more precise and digitally monitor their projects and thus avoiding mistakes and delays.

- **Books:** Taken into account the physical as well as the digital book sales, including all kinds of books (narrative, historical, scientific, medical, etc.). With the appearance of different kinds of entertainment means also studied in this project, the book industry has seen a sharp decrease in their business volume, especially in recreational types of books, and, consequently, in the revenues. However, with the development of electronic means like the eBook, which lets people have tons of books within one tiny lightweight device, reading has increased in terms of recreational use, and has facilitate professionals and young people by gathering all their needed materials within one device. Nevertheless, recent studies show that the printed books are predominating the market as the proportion of printed books was of 80% in 2005. (Ernst & Young, 2015)



- **Gaming:** In this sector professionals that work in video game publishing, developers, retailers, as well as equipment sales are included. This industry has grown a lot through the past decades, leveling currently with the film industry. The explanation of the rise of the gaming is that it allows interactive entertainment valued especially by the young part of the population. This industry has appeared as a combination of creativity and technology. Therefore, a lot of innovation is constantly implemented and for that purposes highly skilled and expensive workforce is needed, rocketing the production costs of making their products. Because of the constant innovation occurring, reasonable amount is invested in the protection of the property rights to protect the hard work and big investments in the projects.





- **Music:** It is formed by activities like sound recording and music publishing, as well as live music events. Music has been alive forever, and we can be pretty sure when saying that this industry will never die. Music is consumed every second all around the world by millions (and billions) of people. Therefore, why many artists have been complaining lately about a high decrease in their revenues?



The case is that this sector is one of the most affected sectors by the piracy online and this of course has affected all kinds of artists all around the globe. Some companies have developed apps and tools to increase the consumptions of music by legal means. However, there is still a lot of work to do in this respect. Furthermore, besides the copyright issues that have been hitting the music industry, it is necessary to say that it has a complex system when there is a need to coordinate all the elements, from the content created, all the way to its distribution, going through the coordination of the artist reputation and live events.

In addition to all the exposed before, this is the sector that accounts for the most workers doing jobs in the informal economy, earning just the money that the peasants are willing to give to them and seeking opportunities for discographic deals and other job opportunities.

- **Movies:** It includes the entire making of the film, from the motion picture production, to its post-production and the later distribution. Together with the music industry, the film industry's main issue is also the copyright protection, as the piracy has been eating lots of millions in revenues for the film producers. For the distributors concern, it is very important to determine a comprehensive list of all the rights and licenses needed in order to distribute the product completely legally.



- **Newspapers and magazines:** Covers the newspapers and magazine publishing industry: targeting businesses, particular clients (population in general) or the news agencies. This industry



has also been on some serious digitalization process. This is due to the fact of the appearance and popularization of the portable mobile devices that made it easier to be informed instead of carrying big printed newspapers. However, this industry has been steadily declining and the shift to the digital platforms do not compensate the losses from the people that stopped reading the physical editions of the newspapers and magazines.

- **Performing arts:** It comprises all the people which are into the activities of performing arts like dancers, theatre actors, live musicians, opera singers or ballet dancers among others. This industry, together with the visual arts, are the ones more targeted to an adult educated population that usually live in more metropolitan cities of the countries. Therefore, the performers that fall in this category most of the times perform in large cities within high capacity buildings, depending of course of the reputation of the performers. In some regions, this sector is dominated by the informal economy.



- **Radio:** Inside this sector are considered all kinds of radio stations, from music to news broadcasting. This is another sector that has been around for a long time. Nowadays, it is listened more in “on the way” occasions, e.g. trips by car, some professional service offices like dentists, etc. Although it is an old industry, just as the music one, it is not expected to fall, as each one of the radio stations has its loyal listeners that will be the ones who will maintain this industry on track, whether it is music, news, or another type of program broadcasting.



- **TV:** It includes professionals working on TV programming, production and broadcasting of the different TV shows and different programs, including both cable and satellite. TV is the biggest sector worldwide and is one of the main customers of the film industry, as in order to broadcast their shows, the channels have to pay them



large amounts of money and do a serious amount of paperwork to avoid copyright problems. With the appearance of new platforms like Netflix or YouTube the TV has seen how their revenues have been steadily declining. The extend of this effect can be really harmful for this industry, as some experts foresee the decline of the TV industry to the point of total substitution by the already mentioned new platforms of entertainment.

- **Visual arts:** Inside this industry we can find professionals dedicated to activities like visual arts creation, museums, design and photography. This is the sector that employs most workers worldwide. It is the other industry that is aimed at the educated population from the cities along with the performing arts. However, the difference is that there is no necessary predominance of the professional performing only in the cities, as they usually build their creations in any kind of environment.



Note that in this list the activities linked with crafts are not included as the proportion of the activities dedicated to crafts that can actually be considered in the creative industries is very small (lower than 8%) and therefore it is considered insufficient for analyzing it as one. Furthermore, some of the economic sectors (e.g. Movie, Radio and TV) have been broken down and studied separately, for considering them very strong sectors with very large revenues (especially TV) and employing a quantity of employees that would not be fairly comparable with the rest of the sectors.

### 2.3. The creative industries in Europe

Europe is the second largest market regarding the creative industries, following closely the Asia and Oceania part. If we take a look at the 2013 figures, we will notice that, only in that year, the creative industries only in the European area generated around €572 (\$709) billion, which is a really impressive achievement by the companies and professionals integrated in the activities included in those industries. That amount of revenues have supposed the 32% of the total revenues generated by the creative industries globally. Let's break down the creative industries one by one and analyze them separately based in the revenues that each one of them contribute to the total economy:

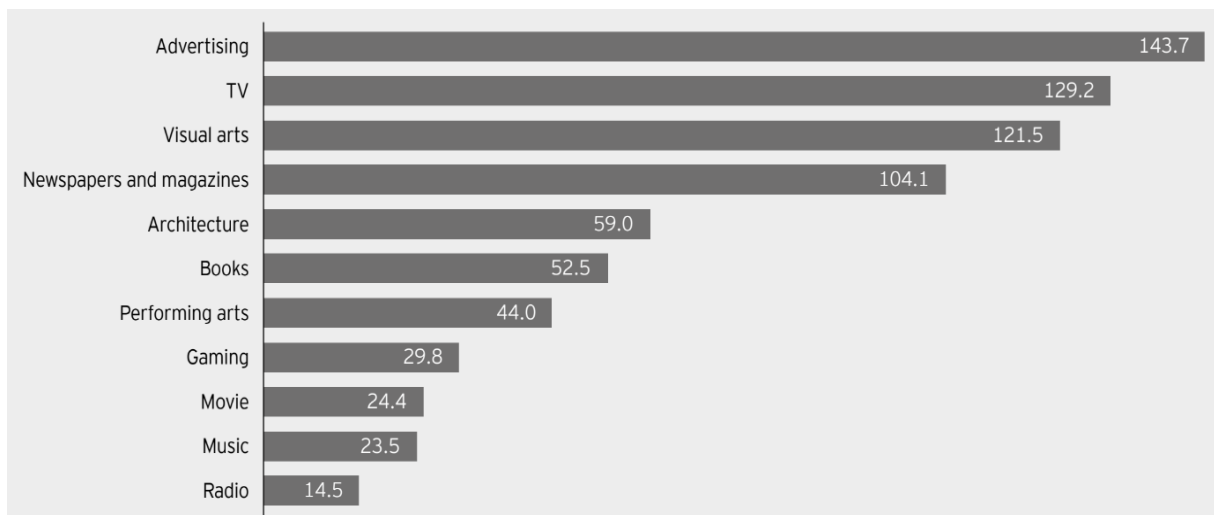


Figure 14 Revenues of the Creative Industries in Europe (in billions of US dollars) in 2013

Source: Ernst & Young. "Cultural times. The first global map of cultural and creative industries"

First of all, we have to insist that the Figure 14 shows the total revenues of the industries in dollars, and so we are going to analyze them taking into account the dollar amount, but for the sake of comparing between each other does not really matter in what currency the analysis is carried out.

Said all that, we can see that the industry that gives more value for the regions in Europe is advertising, amounting a total of 143.7 billion dollars in revenues. This is something that is not really surprising because, as we have talked earlier in this report, the advertising is the one industry that helps the rest of them and add them a notable amount of value. Therefore, its cooperation with the rest of the industries, not only creative, but all the rest, from agriculture, to commerce, services, etc. explains why the professionals working in this sector have been able to earn such amounts of money.

Next up, we have the TV with a revenue of 129.2 billion of dollars. This is explained due to the fact that almost everybody in the European countries consume the TV at least for an hour a day, and in order to reach that huge amounts of people the companies are willing to pay remarkable amount of money in order to advertise their products using this type of media. Following closely the TV industry, we have the visual arts with a total amount of 121.5 billion dollars in revenues in 2013. At this spot the high amount that the visual arts contribute is mainly due to tourism. Regarding either national or international tourism, the visitants are willing to go and see the history and culture of the cities, and that's why this sector generates so much money. However, this sector, as it is strongly influenced by the tourism, is really stationary, reaching its peaks during the holiday seasons and accounting very small amounts at the months that tourism is insignificant. Following the visual arts industry, we have the newspapers and magazines that has a total revenue of 104.1 billion dollars. This industry generates that much money because is the most popular source of information after the TV for the vast majority of people in Europe and they are able to accomplish pretty good monetization through the unitary cost of physical newspapers/magazines and the advertising income through the digital platform.

After the newspaper and magazine industry it goes the architecture ranking in the fifth position of the creative sectors with most income, but the gap between the revenues generated between architecture and the newspapers is much higher than the previous ones we have just seen, as its revenues stay at 59 billion dollars. Completing the ranking we have the books (\$52.5 billion), the performing arts (\$44 billion), gaming

(\$29.8 billion), movie (\$24.4 billion), music (\$23.5 billion) and last with much lesser quantity the radio, who contributed with \$14.5 billion.

Now that we know the most important industries that contribute to the economy at a financial level, let's see how they help the European economy in terms of employment, and then we will be able to compare both indicators to see the most crucial creative sectors for the European market:

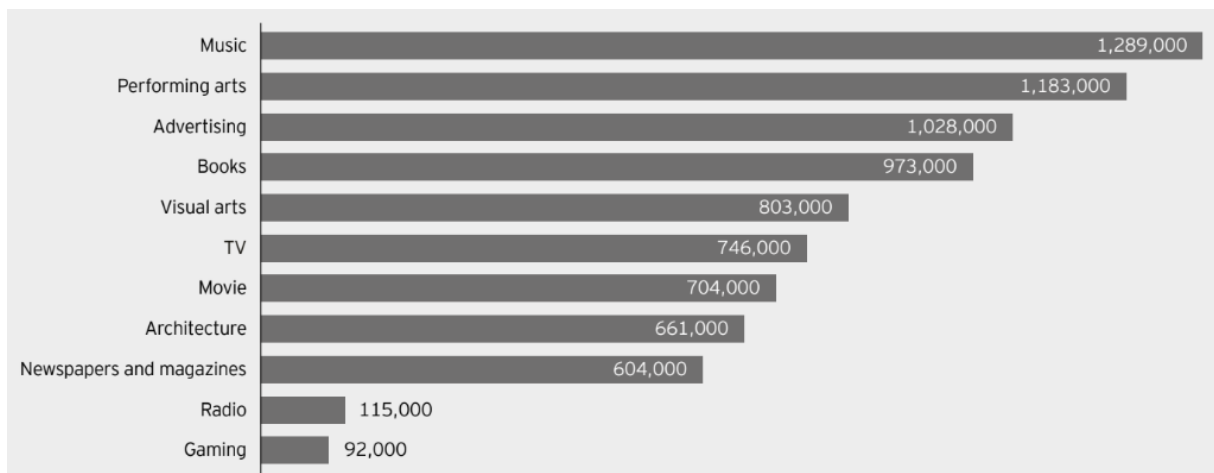


Figure 15 Jobs in Creative Industries in Europe in 2013

Source: Ernst & Young. "Cultural times. The first global map of cultural and creative industries"

As we can see, the tendency of this graph is totally different from the one we have just explained. Regarding the employment industries provide, we observe that the sector that most employment generate in Europe is music with 1.289 million employees throughout the European territory. In this data are included the independent musicians that perform on their own and the ones that generate their activity through the informal economy, which makes to rise the music industry to the top of the list of the creative industries that generate employment.

Following the music industry, we have the employees in performing arts, which account for 1.183 million people only in Europe. Next, with significantly lower workforce we have the advertising and the books industries (1.028 and 0.973 million people working respectively). It is remarkable the amount of worker that we can find in the book sector, but we have to take into account all the people that is behind the manufacturing of a book. Apart from the author, there are large groups of people

working in the printing, revising, editing, publishing, selling and many other processes of a book. Once we think about all these people involved, it is more understandable that the number of employees working in the book sector only in Europe amount for about a million people.

Next up we have the visual arts industry, in which industry work about 803 thousand people, the TV, with 746 thousand workers, the movie sector, where work about 704 thousand people, architecture, with 661 thousand workers and the newspapers and magazines industry, accounting a total of 604 thousand workers in 2013. The industries that contribute the least regarding the employment are the radio industry (115 thousand workers) and the gaming industry (92 thousand workers). In the case of this last sector, the small quantity of professionals working, and the relatively small income produced to the economy could be explained by the fact that this industry is relatively young in comparison with the rest and it is not fully develop yet in the market, regardless the fact that, throughout the globe, there are already many users of its products.

If we take now both of the graphs and combine them, there are various aspects to point out regarding the relation between the employment that the industries provide and the revenues that they do generate: Firstly, there is pretty high correlation between the both indicators in the sectors of advertising and visual arts (both with high employment and revenue generation in Europe), architecture (average input) and radio (where both the revenues and the employed people in the field are low); Secondly, there are industries that generate proportionally a lot of revenue, but actually relatively do not employ that much workforce. This happens in sectors like TV, newspapers and magazines or the gaming industry. In the case of the gaming industry, as we have just said, may be due to the fact that is a relatively new industry. However, in the case of TV or newspapers, a possible explanation for this tendency may be the high amounts of revenues that they receive from advertising the products of the most important firms of the regions, which, knowing that these types of media are consumed for large amounts of people, take advantage and advertise their products in these platforms. Lastly, we have the industries that despite of employing large amounts of people, do not generate that much relative revenue. This is the case with most pronounced gaps between the

revenues and the employment they provide. It is the case of industries like movies, books, and the most obvious ones, performing arts and music.

In Europe, the structure and the functioning of the creative industries is totally different than from the one, for example, in North America. One clear example that support this affirmation is the fact that in the European creative industries there is a really strong intervention by several means of the public bodies in order to help the creative firms and professionals to develop and grow within their industry and help face their competition or promote their works. Some of the measures taken by the public bodies and the administrative figures include: the purchase and consumption of the creative products and services by the own public bodies; subsidies to help develop its activities; fiscal and financial incentives; or the provision of public employment in the case of necessitated companies.

With the financial crisis that started in 2008 and have affected in a very negative way the major part of the countries, the public expenditure has been reduced in such amounts that the sectors that were most dependable of the government funds started to have a really hard time to continue with their businesses. This was the case of the creative industries, that, as they are not considered goods and services of first necessity, were damaged very much by the governments budget cuts and have seen how a lot of skilled professionals that even have been in the sector for a long time had to go and leave in order to find another jobs that would be able to feed and maintain them. (Marcus, 2005)

What differentiate Europe from the rest of the continents regarding the creative industries is that Europe has a really strong cultural environment with very long history and rich diversity. It has some world-class museums, including, among many others, the following ones: Musei Vaticani (Rome) and Museo Ferrari (Maranello) in Italy; Ciutat de les Arts i les Ciències (Valencia) and Museo del Prado (Madrid) in Spain; Musée du Louvre (Paris) and Château de Versailles (Versailles) in France; British Museum and National Gallery (both in London) in the UK; Miniatur Wunderland (Hamburg) and Museum Island (Berlin) in Germany.. Furthermore, there are some global leader companies that help to



increase the European presence worldwide with firms like Spotify (music), Pearson and Hachette Book Group, Vivendi (various), Publicis (advertising) or Endemol (TV). These are just some of the most famous examples, but there are tons of cultural institutions in the old continent open to visit and numerous of the most prestigious schools in film, design, arts, etc.

As we have already discussed, the creative industries sectors are strongly supported by the public financial support, as the private consumption overall does not add very much to these kinds of industries. What's more, it is not expected any change in this as the growth of the private consumption of the goods and services provided by the creative industries is really small and the tendency, although being upward-looking, is moving at a really slow pace. Within this panorama, many people involved in the creative industries are looking to open up to new markets and reach new partnerships and agreements in order to get more quantity of sales of their creations and expand their signature beyond the regional boundaries. The fact of having such a diverse history has helped a lot in terms of attracting customers from all around the world to the creative sectors of the regions, but there is still a lot that can be accomplished.

Another really important issue in the sector has been the repetitive infringement of the author rights of the creations that has costed so much income for the creators of content. This is a really serious issue that affects everybody, not only the people involved in the sector. It is harmful for everybody as a lot of people dedicated to these sectors lose their jobs, which means lower tax income for the government, and, ultimately, less public expenditure and investments made by the government in order to keep developing the public infrastructure and giving money as an investment in new startups. That is why there have been many long debates about the improvement of the protection of the cultural properties, but, although it seems that it is taking a good path, there is still a lot of work to do in this regard.

Previously we have explained as well the characteristics of these industries in terms of the size of the firms that integrate them. Therefore, it is important to remark that the big multinational companies are the ones that control the major part of the market,

leading the industries to be in a really similar position of an oligopoly. They are not pure oligopolies though, because, although the big companies control most of the market, there are large numbers of small companies and independent professionals that have their niche and, although having a negligible share separately, the combined number of customers of all these independent creators are worth to be taken into account.

As we can see, there are some big players and then the rest are small or independent creators. This means that there is no room for medium sized enterprises to support these sectors. This is due to the fact that the big corporations have been there since the beginning of the development of such sectors and are the ones with all the resources and networking. As for the small players, they don't have enough resources nor the contacts to grow within the industry, keeping them as small-sized enterprises. Professionals from the industries have asked the European Union for a long time for some help and financial boost in order to prove that they are capable of growing with the sufficient talent but no resources, but there haven't been any big and significant measures to help them achieve that. Instead of that, professionals from small companies from the sector have started asking for funding to the public mass, for instance, by crowdfunding or investments and loans from the industries leaders.

#### **2.4. The challenges of the creative industries**

So far, in this document, we have seen some of the main problems that the different creative sectors face regarding the market as a whole and their perspectives to the future. Some of those issues in the future could impact the industry in such a reach that a lot of jobs could be lost, and revenues could fall very sharply, reaching the point where most of those industries could not be profitable anymore, and for this reason could close a lot of big corporations, leaving unemployed high amounts of people.

In this section we are going to deepen and explore more in the many challenges by which the creative industries are threatened and the way the European Union, the local administrations and the firms are assessing it in order to ultimately find possible solutions to face these problems and make the creative sector firms more efficient and

diminish its activity's risk in the market. Some of the main challenges are the following, listed with no particular order: (Ernst & Young, 2015)

Challenge of **GROWTH**: As we have already explained, the creative sectors usually work under an oligopolistic competition because they are dominated by a few large corporations, leaving to the small competitors a very small market shares. Those small companies usually lack an extensive networking channel and financial resources to reach new customers in the market and promote their products or services.

In most of the cases, the only way for creative SMEs to grow is by means of mergers and acquisitions. However, this solution carries with it a significant problem: if two or more companies try to merge, inevitably at least one of them will juridically disappear. That is what a lot of business owners are worried about as we have to take into account that lots of these small businesses are family legacies, and for that reason is one of the main causes why some mergers are not completed until the end. Nevertheless, it seems that this fear has disappeared, as nowadays many firms related to the creative industries worry indeed about looking for opportunities to grow and partner with other firms of related fields that would make them much stronger in the market and gain some market share along the way.

Despite the gradual increase in the pursuing of those acquisitions and mergers, there are some factors that certainly do not help to the cause as the fact that the valuations made by the possible acquired companies of their assets are just too high and the buyers are not willing to invest such amounts of capital in buying those small enterprises.

Recently, new methodologies of gathering capital have been widely used by the creative companies in order to be able to avoid further acquisitions and at the same time have enough liquidity to continue normally with their activity. Tools like the crowdfunding, which consists of raising capital by gathering small amounts of money from many investors. Other ways of financing the projects have been partnering with foreign partners that would invest in the projects injecting interesting amounts of capital in the companies and allowing them to continue developing its work. Partnering with foreign companies is a really good idea as by this way the risk is shared between more

than one actor and they also usually can help in promoting and extending their creations to foreign markets.

Although all the challenges explained in this section are related in some way, this one has a particular strong relation with all the rest of the problems analyzed, as the effect of the other ones ultimately harm and slow down the growth of the companies.

Challenge of **DIGITALIZATION**: this aspect has been a blessing for some companies, letting them grow and reach new customers that otherwise would not ever been able reach with their networking capacities. This has been mainly the case of young startups with young people in charge that totally dominate these new technologies of information and communications and therefore have been able to exploit all the possibilities that these tools have provided to them. On the other hand, we have the case of companies that the digitalization process has impacted them in a negative way, not being able to adapt to it and eventually this has led to the bankruptcy of many extreme cases or to a loss of their already small proportion of market share and consequently in their revenues.

In this fast-paced moving world in terms of social and new technology development, continuous formation is essential to keep up to date the workers of the company about the new technologies and techniques to boost their productivity and not to fall in the obsolescence of old and outdated technologies and know-hows that would lead to inefficient work in the near future.

Challenge of **GLOBALIZATION**: Along with the digitalization, a wide globalization process is occurring throughout the world and new markets with a diversity of opportunities develop each year. For many firms this is the best opportunity to keep growing and expanding their business, increasing, at the same time, their networking connections.

The case is that most of the creative products and services developed are considered luxury goods because they are not really essential for living and cannot be compared to other goods like agricultural products or construction services. For this reason, the main

destination of expanding the activities to other markets are still the most developed countries located in North America or Europe, like the US or the UK.

Nonetheless, many developing economies are opening more and more through the years to these types of consumption of services, and, for this reason, new opportunities can be considered in the very near future. It is the case of the Asian markets like India or China, where the early introduction could be a great opportunity for small competitors in the industry and strengthening their development in these economies could lead to very big revenues in the future, taking into account that these territories are very highly populated, which means that the opportunities could be even bigger than in the traditional (regarding to this type of industries) American or European markets.

Challenge of **MONETIZATION**: This is an issue that also has appeared with the digitalization process. Content has been made available to the public and many programs allowed people to create copies that could be delivered without any cost through "piracy" illegal conducts. These copies downloaded by a great mass of public made the income of the creators of content fall really sharply. Therefore, many protests of the creators have emerged, claiming more protection to their products and tighter control systems and sanctions for those who spread and consume this kind of products.

In some industries, the free content culture really started when many creators made available their content for free to promote themselves. When people discovered and tried their products for free, from that moment it was impossible to convince them to pay for further new creations, and that is how really started it all, it was really fault of the own amateur creators of content. The key to convince the consumers to pay is to create original, high-quality content that is nothing similar like we already have in the market. Only if the consumers perceive the content as something new, useful and fresh, they will be more likely to pay for it. It would be easier to monetize recreational content like music, movies, video games, etc. and it will be more difficult to monetize other creations like the ones related to news, home-made content, etc.

Challenge of **TALENT**: This is the key factor of all the economic sectors, but it is especially important in the creative industries, because in order to elaborate creations

good enough to be valuable at least for a portion of the population, skills and a lot of hard work is needed.

Some people say that a child is already born with a special kind of dowries. However, it takes a lot of hard work to get proficient in any of the creative activities, proficiency that a lot of people want to achieve, but that only some of them ends up getting, as in most cases the aspirants to painters, singers, etc. leave at the side their dedication to the passion because of various obligations or just because of laziness. That is why perseverance is really important and continuous formation is essential. In this context appear the educational institutions, that have to provide the best possible education and training to the people adapting to the region they are located and the new trends of the population. In Annex 3 it is shown the different measures the institutions dedicated to teaching youngsters and professionals ideally would need to make to achieve a really efficient educational system.

Richard Florida has done a great job by defining the interaction needed of the 3 T's (Technology, Talent and Tolerance) in order to achieve a prosperous economic development. However, as this topic is extensive and interesting enough, we will cover it later separately.

Challenge of COPYRIGHT PROTECTION: We have talked about this issue many times during the report. However, it deserves its own spot as it is needed to remark the huge problem that the copyright infringement supposes to the creative industries. If the artists continue seeing how their creations do not give them any financial reward, they will not be able to sustain themselves with this activity, especially the smaller creators, and will progressively stop making content.

This is a bigger issue than it seems, as the world would lose the high diversity and the cultural freedom that we are able to enjoy nowadays. Of course, this would certainly mean taking one step back in the development of the society and achieving the tolerance regarding the religion, race, etc.

The problem is that, with all the efforts developed in order to fight back the piracy, new methods are appearing and continuing to deliver illegal free content. The institutions and the involved companies have to work faster and smarter than the people delivering that content for free and the government have to come up with new regulations in order to control the situation.

Challenge of **APPEARANCE OF NEW INNOVATIVE BUSINESS MODELS**: This one more than a challenge is a direct opportunity for everyone to expand their markets and reach a whole lot of more potential customers. During past years it have appeared new platforms that allowed some companies (the fastest ones to react to the market changes) to take advantage and gain a substantial market share within their respective sectors e.g. Spotify on music or Netflix on the TV and movie industries respectively are the most remarkable examples of that adaptation and the exploitation of these new platforms to generate wealth.

Some sectors will be able to diversify more on the delivering of their creations, while other sectors, like books, do not have that many platforms developed yet in order to stop depending on their conventional source of income. It is just a matter of time that those industries could also be able to enjoy also many sources of income from different platforms.

## **2.5. Richard Florida and the 3T's of economic development**

Richard Florida is a researcher and professor at the Martin Prosperity Institute at the University of Toronto, and fellow in both the New York University's Schack Institute of Real Estate and the Florida International University. He is also the founder of the Creative Class Group<sup>8</sup> that team up with several companies and governments all around the world in order to carry out several development projects. (Creative Class Group, 2018)

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<sup>8</sup> Creative Class Group: <http://www.creativeclass.com/>

Ricard Florida's work focuses on the economic and social theory and their interactions in order to attain a sustainable development of the society towards the best socio-economic model possible. For this reason, and being also a remarkable writer, he is the author of the several award-winning books "The Rise of the Creative Class" and "The Flight of the Creative Class". (Premiere Speakers Bureau, 2018)

He is one of the most influential leaders in the world, and one proof of that affirmation is the fact that he owns one of the most influential Twitter accounts of the site. This influence has led to many people to be skeptical with him, claiming that his work is very elitist, and the data is not completely accurate.

Centering now more attention to his work on the creative class and the 3 T's for the economic development, we can remark the influence of creativity as a driven factor for the economy, as it is the resource that is most linked and dependable on the people and not on the natural resources, and, for this reason, it is one of the few endless resources that we have in our economy. At the end is the creativity the main feature that will lead to get the effective 3 T's elements (Technology, Talent and Tolerance) for a sustainable development.

The Creative Class is a group of people that is working and developing its professional activity in one of the creative fields and tend to locate in large metropolis in order to take advantage of all the opportunities that the big cities can offer them. The main resource in this kind of jobs is the human creativity and all of them usually have one aspect in common, that is the innovative outlook in order to find new and better solutions for the different problems of the economy and society. Nowadays the Creative Class account for a total of more than 30% of the total workers in the most developed regions like North America or Europe and it includes professionals like technologists, artists, media workers, teachers and professors, doctors, artists, among many others. (Florida, Knudsen, Stolarick, & Gates, 2006)

Let us take a closer look to the 3T's and how they are measured (Florida, Mellander, & King, 2016):



**Technology:** This factor has been seen by politicians, businessmen, scientists and most of the rest professionals as a driver factor in order to achieve growth and efficiency within an economy, because it eases the rest of the jobs to be done more quickly and efficiently. Besides, apart from improving the rest of the industries, technology is able to even make emerge brand new and innovative industries that add a lot of value to the regional economy and helping them grow.

However, its effect is not uniquely limited to the direct effect, but it is extended to some indirect effects, such as the fact that highly technologically developed regions usually attract a lot of highly-skilled professionals of the field that afterwards help developing even more the technologies of the region.

There are some indicators that allow us to measure the technological development in a region the concentration of high-tech companies and their growth in recent times within a given region: proportions of the GDP that is destined to research and development activities, the number of patents registered per inhabitant or the historical growth of the number of patents registered that come for that region.

**Talent:** The human resources of a region have to be really cared, driven and maintained, as the people are the key part for the creative activities. Their talent and skills are what ultimately move forward the economy. Without the skilled workers, the technology would be stuck, and no innovation waves would be produced that enable to impulse the productivity.

Skilled creative workers tend to move to the places where there are more opportunities for their development and more networking connections are available in order to keep learning and gain some wealth producing their creations and promoting them through the diverse people that they are able to meet in the clustered cities.

The main indicators to measure the degree of talent in a given region are, on one hand, the Talent Index, which tells us the proportion of people that have ended at least their university studies over the total population, and, on the other hand, we have the

Bohemian Index, that reflects the percentage of the total workforce dedicated to the creative industries.

**Tolerance:** It has just been discussed the importance of talent and the importance of attractions of people from other places in the creative sectors for the economic development and the continuous progress. That is indeed the third T that Florida exposes. If diverse people with different ideas and views of the world gather in the same place, they will be able to come out with a whole lot of innovations and new ideas that will help towards the progress of the region.

Although a lot of progress has been made over the last century, there still people that are against diversity and do not fully accept the fact of going head to head in the same jobs with people from other races or characteristics. Therefore, a good social education is needed to achieve the goal of diversity and integration. This education has to show people that it is not enough only by “tolerating” all kinds of people, but it is necessary to teach them and help them to achieve their goals in order to benefit from their talents and positively impact the society as a whole.

Tolerance can be measured by looking at, for example, the proportion of foreign people within a given geographical area, the proportion of homosexual people living in the area, the ethnic diversity, the number of interracial marriage cases, etc. In some cases that would be difficult to measure, because the people could not be 100% sincere with their answers. For this reason, there is a need to use adequate tools and techniques in order to get the data from the people without external influences.

It is really important to understand that all of these three elements go along with each other, they are interdependent. A certain region will not be able to progress solely by encouraging one of these elements, there is no point at owning the most advanced technology if there are not enough people that are able to understand how it works.

Having studied all three elements, Florida elaborated the “Global Creativity Index” (GCI) to combine all the elements and study which are the countries most headed towards the true development. From his findings he concluded that Australia was the

country with a higher GCI and, therefore, had the best mixture of all the elements that could help them to develop more quickly and steadily. The USA came up with the second position and New Zealand held up the third position. After the top three, the following countries, in order, were, Canada, Denmark, Finland, Iceland, Singapore and the Netherlands.

Scoping the study at the European region, according to Ricard Florida's methodology it seems that the northern part of Europe is the one most capable of developing the three elements and achieve sustainable economic and social development, and those could be possibly the role models for the rest of the European countries.

The research director of the Martin Prosperity Institute, Kevin Stolarick, in his presentation (Overview of Creative Class and the 3Ts, 2008), proposes a fourth T that would be some sort of feature that would englobe all the rest of the T's and combine them to come out with a different variety of aspects that Richard Florida has not taken too much into account. The fourth T would represent the "Territorial assets" or the quality of the place in general.

This fourth T would not be much related to the activity of the professionals itself but with the place and its standards of living, the infrastructure, and any other related factors that would affect a decision of a person in terms of moving to one or another place. And it is not enough only by counting with all sorts of activities and architecture, but it has to be distinguishable from the rest, they have to be unique.

Such elements would include the general economic wealth of the region, the housing, culture, education, healthcare, possibility to perform activities in the spare time, spaces for relaxation, weather, transport system, food, etc. These are the kind of elements that are inborn to the place's culture and its possibilities in terms of economic capabilities.

## 2.6. Importance of clustering

We define cluster as “Group of independent servers (usually in close proximity to one another) interconnected through a dedicated network to work as one centralized data processing resource<sup>9</sup>” (Business Dictionary, 2018). Clustering helps companies to carry out more projects and increase the growth because, with the help of clustering partners and some governmental institutions, the companies receive more resources and networking that would not be able to get developing its activity by itself.

As we have seen along this project, the creative industries also have a very high tendency of clustering, grouping both big corporations and small enterprises, as well as independent individuals in determined geographical areas where they can find an environment where it is usual the sharing of knowledge and the interaction between the different agents of the sector. It is also a usual cause of clustering of small enterprises around a big corporation the connection (usually as a supplier of one of its outsourced processes) that these SMEs have. For all those reasons is important to take into account the clusters when analyzing the business models of creative companies.

In general terms and keeping up with the methodology of the different types of knowledge existent, we can extrapolate the main factor that influences into the decision of the companies to cluster. As we have seen before, there are three types of knowledge: analytical, synthetic and symbolic. The creative sector agents correspond to the last one, as they share a symbolic type of knowledge, creating and generating mainly new ideas and intangible creations. The generation of new ideas is favored by gathering many professionals together and putting their minds into work jointly, as they have to be capable to come up with ideas and content that has never been produced or thought before.

Particularly, when the creative agents cluster in a specific area, in a higher or lesser extent they do enjoy many important advantages. Just to name some of them, there are less logistic costs; better communication with professionals of the sector that allow

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<sup>9</sup> Cluster: <http://www.businessdictionary.com/definition/cluster.html>

companies to find quicker skilled workers, facilitate the knowledge sharing and mentoring, find better suppliers and more commercial opportunities with the customers around the area; more facility to find solutions to the complex problems of the particular sectors; take advantage of certain public policies and government measures, etc. Ironically, most of the companies and professionals that gather in the same place to develop its activities locally are doing so in order to go global. They want their products to reach as more people as possible throughout the world with the help of the different agents that are clustered in a given location. (Novo Guerrero, 2014)

Although the creative industry participant have many reasons for clustering, they would not be able to do so if they wouldn't share some similar characteristics between each other that makes the creative clusters to count with specific characteristics such as the existence of a set of rules that are really similar, many related long-term projects; some social characteristics like the social diversity and the tolerance of the most part of the population towards that diversification of the people within the region; political proximity to the government; recognizable place that is an icon and a reference for any professional; proximity of a reference in the industry, a main actor within the sector that is a role model for the rest of the enterprises, etc.

So far, we have seen characteristics that all the clusters made of the different creative sectors share more or less. Let us see now some geographical characteristics of the creative clusters in the European Union area (Boix, Hervás-Oliver, & De Miguel-Molina, 2013):

First of all, there are high clustering levels principally in the main European countries like France, England, the Netherlands, Germany or Spain. The fact is that throughout the European area the clustering concept has already been developed and extended, thing that help the enterprises to keep developing and growing.

In second place, creative clusters are in general quite scattered across the region. However, the distribution of those clusters is really uneven. Some countries (the richest ones) tend to gather most of the clusters and the biggest ones, with some exceptions that can be easily counted. In third place, in the European area there are clusters that

actually are concentrated on various countries. This of course would be not possible without the European Union's treaty that allow free migration of European people despite the political borders.

In fourth place, these clusters tend to appear mainly around high-crowded metropolitan areas. The professionals tend to gather around big cities that allow them to enjoy all of its facilities, transportations system, and international reach opportunities, as well as becoming part of all the cultural diversity that only large cities can provide. Lastly, each cluster correspondent to a certain industry will locate in the area where that activity is most developed. Consequently, there is no an idealistic location where all the industries could be equally satisfied, but each one of the clusters tend to locate in the areas where its activity fits the best with the characteristics that we have just explained.

If we now focus our scope within Spain, we will be able to observe that in the national territory there are many clusters for a really big variety of industries, and, although there are some exceptions to the general rule, the majority of the mentioned clusters count with most or all of the characteristics that we have explained before in this same section.

In the Valencian Community, we also can find some examples of clusters generated in order to create an environment prone to generate knowledge spillovers and many of them are formed by companies and organizations dedicated to the creative sectors. Among the clusters that we can find within our desired scope we have, for example, among others, the following ones: SCALAE<sup>10</sup>, in which we are going to deepen a little bit more next; the "Audiovisual Valencian Cluster" (Cluster Audiovisual Valenciano or CAV)<sup>11</sup> (Audiovisual Valencian Cluster, 2018), that is an initiative to connect and communicate all the enterprises from the audiovisual sector of Valencia in order to generate knowledge spillovers through those enterprises and therefore boost the innovative processes and new business models, products, applications, etc.; AIJU<sup>12</sup>, which is a technological institute specialized around all the range of products and

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<sup>10</sup> SCALAE: <http://www.scalae.net/>

<sup>11</sup> CAV: <http://www.clusterav.com/>

<sup>12</sup> AIJU: <http://www.aju.info/>

services dedicated to children. Its main purpose is to accelerate the process of creation of new products and its delivery to the market (Technological Institute for Children and Leisure Products (AIJU), 2018); AITEX<sup>13</sup>, that is a textile private association for modernization and research of products that would mean an added value to the companies of various economic fields like design, fashion, healthcare, etc. (Textile Research institute (AITEX), 2018)

In particular, SCALAE is a publisher, a documentation agency and in general a group of professionals and companies that gathered together because of their common ideology and principles towards architecture. In general terms, what they are proud to do is to keep record and divulge many types of architecture, making shore that their target audience understand the concepts behind the creations and show them at a natural scale, without editing any details and showing them as natural as possible.

SCALAE has various means of communication through which they are able to generate spillovers and spread knowledge across the professionals and fans of the architectural sector. Some of these communication tools include the following (SCALAE, 2018):

- Publication of the most important and interesting news related to the architectural field, being loyal to their objectivity principle and without omission of any details.
- Releases of new collections of articles of many authors on the descriptions of cities and, in general, of their creations.
- Radio content through an internet site, emitting podcasts on the different issues about architecture like interviews, historical facts, etc.
- Advising about the content and information included in the publications about architecture made by both organisms and particular professionals as well as assisting editorials, helping them to gather data and complete their information, making sure that the information published is 100% faithful to reality and contrasted.

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<sup>13</sup> AITEX: <http://www.aitex.es/>

- A wide library of the most influential architects, as well as architectural information and history with a global scope, covering all the possible movements and types of architecture.

As we have just seen, clusters have an enormous importance in the economy and the business web in general, as they allow all kind of companies to enjoy the knowledge spillovers the different connections that they are able to make that otherwise would have been impossible to obtain. Nevertheless, the clusters are of a big importance particularly for the enterprises that operate in the creative sector, as their creations are based mainly on the generation of ideas that later are carried out by various, usually tangible, ways. In the case of creative activities, the fact of being surrounded by many people dedicated and experienced in the industry really helps to develop and improve their creations.

### **3) Development of the CCII through the S3**

So far, we have learned, on the one hand, how the Smart Specialization Strategies are being developed throughout the European territory. This includes the stakeholders affected and that influence in them, how the priorities are being selected, what are the mechanisms that allow this specialization to happen, etc. On the other hand, we have elaborated more on the Creative Industries: Their classification, their current situation in the European Union, etc.

Now it is time to combine both elements and analyze how they could interact with each other and work together in order to develop and spread the influence in order to strengthen the position of the creative industries in the different economies of the EU with strategies like the Smart Specialization.

At a first glance it may seem that the interaction that can be created are just the same as the ones carried out in the rest of the sectors. Nevertheless, the creative sector



companies have some peculiarities that make the corresponding authorities and entrepreneurs to adapt the strategies in order to maximize the effect that they can achieve and benefit as most as possible not only the companies, but all the stakeholders in general.

Said all that, what can be done in order to promote the CCI through the Smart Specialization Strategies? Next, we are going to analyze specific measures that can be carried out to achieve the already mentioned goal, according to the European Union, more specifically, the Working Group of EU Member State Experts on Cultural and Creative Industries. Just as in the document, we are going to divide all these measures into three blocks: (Working Group of EU member states experts on cultural and creative industries, 2012)

- Mapping regional assets
- Inclusive approach on the decision-making process
- Strategic and inclusive approach on investments and financing

Therefore, as we have just mentioned, firstly, the mapping of the regional assets could be important to carry out, or the strengths of each one of the regions, which is the foundation of the Smart Specialization Strategies. This would allow to know on which industry each region should focus on based their relative strengths. It is important to remark the relative part of the previous sentence, because, even if in a given region there is a certain industry more developed than others, putting efforts on their developments through the Smart Specialization would be worthless if a neighboring region is developing the same industry and are already more advanced than the first ones.

More specifically, in order to locate those priorities, the first thing and most basic to do is identifying the patterns in each region. However, this cannot be done simply by observation, as it is needed a full quantitative as well as a qualitative analysis of each region to have a better scope on the possible strengths and competitive advantages that it can develop. Furthermore, it can also be developed a comfortable ecosystem on the

region that supports cooperation and development of the CCII, trying to attract professionals and companies that could be potential partners in the future for the industry. Besides the measures just exposed, another typical tool of the S3 can be used, benchmarking, which would allow to compare the performance of the core activities among regions and see a possible existence of any competitive advantage. In some sectors there is a need to take into account that in the creative sectors there could be variants of the same products, in which case there would be possibility of specialization in each one of the variants. For example, In the gaming industry, one region could invest more in the Virtual Reality technologies, whereas a neighbor region could develop more the conventional console software to run games with more quality in terms of graphics.

The second main measure would be to install an Entrepreneurial Discovery Process in order to involve as most agents linked with the industry as possible that would allow creating strategies that would be more or less beneficial for each one of the agents operating within the industry. This is important because everybody has the right to take part on the big decisions that strongly affect the field where they are putting that much effort and resources. As we can see, this is also a really important point in the S3 that we developed more in depth earlier in this project, and it applies also to the CCII.

Within this group, the authorities, as well as the rest of the stakeholders could help the development of the sector by adapting some habits. For example, relationships among regional authorities could be reinforced in order to strengthen partnerships and expand communication channels. Building new platforms and uniting more clusters could also benefit the regions, as these measures would attract more private sector players such as companies or capable independent professionals. Opening frontiers to the sector's development would benefit it by facilitating knowledge spillovers and skill sharing to facilitate and encouraging learning.

The third and last block that we are going to highlight is in many ways linked to the second one that we have just seen. It turns around of the inclusive approach concept, but in this case, instead of taking an inclusive approach on the decision-making process,

it is taking an inclusive approach on the access to investments and financial resources to facilitate the entrepreneurial activity on the creative sector.

The best way to make sure an equitable funding access in an area is to coordinate all the programs and institutions that are indeed giving away funding to the companies. If a certain company receives more funds than the corresponding ones to it, that would mean that another company has been deprived of that financing opportunity to start or keep developing its activity. Another measure proposed would be to develop new innovative financial instruments that would fit the need of funding of the companies such as guarantee or equity funds that would involve more than one creditor including private investments.

Encouraging the giving of funds into preserving cultural heritage is also a good idea, as they usually become a really good focus point to attracting tourism and enriching at the same time the city's historical wealth. Last but not least, finding possible links between the Creative Industries and other a priori non-related sectors could become a good source of incoming investments into the sector. We have to take into account that CCII, besides linked to cultural and entrepreneurial policies, it takes part in many other areas and topics where their contribution can be crucial. Some of those policies are included in the table below, so we have to take into account that there is a need to measure the effectiveness of the policies both in terms of a direct effect to the creative industries, and the side effects to those policies:

Innovation	Social cohesion and wellbeing	Tourist development
Research and development	Cluster development	Branding strategy
Export and internationalization	Economic diversification	Sustainable development
Regional development	Education and lifelong learning	Integration and cultural diversity

*Table 6 Areas affected by the Creative Industries*

*Source: European Agenda for Culture 2011-2014. European Union*

#### **4) Conclusions**

In conclusion, throughout this project we have studied in depth focus the Smart Specialization Strategies and the Creative Industries. On the one hand, it has tried to cover as most as possible about the functioning, the implications, the possible effects, etc. about the policies that can be implemented in the regions in order to develop all the European regions. However, the main challenge to carry out this project is that it is intended to develop all the regions equally and eliminate all the possible inequalities in terms of economic status and ultimately achieve the smart, sustainable and inclusive growth.

On the other hand, we also have analyzed the characteristics and the potential of the Creative Industries, as well as differentiate their contribution to the different economies of the European territory. The analysis of the main problems that these industries may encounter when growing is essential as the first step in order to overcome them is the awareness that they exist, which are they, and from there act accordingly in order to effectively use the available tools to make those industries as more profitable as possible.

Although the Smart Specialization Strategies have some well-established principles, there are two of them around which will turn all the implementation of the mentioned policies. The first one is the fact that it is a place-based approach, as one of the main factors in the decision-making process has to take into account the location of the region where the strategy is going to be implemented. The second principle that is worth to highlight is the EDP process, which makes possible the inclusive decision-making process that allows to involve as many stakeholders as there could possibly be influenced by the measures.

This cooperation process has to be extended not only within the internal stakeholders of a given regions, but cooperation links have to be created across the boundaries of the regions in order to establish strong and long-lasting partnerships that would allow knowledge spillovers and resource sharing to reach the maximum potential of each region within the priority sectors of each region. These partnerships in the long run can create Global Value Chains that would allow to specialize each region in just one part of the whole process and thus building products with more quality because of the specialization benefits. In this regard, in the Creative Industries, because of the appearance of big corporations, there is a very high need of clustering for the professionals dedicated to this sector, which encourage the knowledge sharing and cooperation between the companies.

In order to analyze whether these priorities are developing well and if the strategies taken are being effective, a continuous monitoring process has to be implemented. This policy evaluation process would allow see the policy makers and the whole stakeholder group in general to see how the strategies are being developed, their effectiveness and the possible solutions and actions that are needed to be taken in the future to achieve as most effectiveness of the Smart Specialization Strategies regarding the priorities that were set initially as possible, as well as to change the priorities in the region in the most extreme cases. This monitoring process would best work with the indicators selected by recognized professionals in the areas, as well as the corresponding public authorities.

The Creative sectors have a really good perspective towards future, as they can become the main economic influence in many developed regions. As they contribute to the economy with a symbolic value for their major part, they do not need many physical resources, but human knowledge and skill, and developing the different skills that will allow to enter the people in the Creative industries will be a priority for many developed regions throughout the world, and, particularly, in EU.

The policies that are going to be establish toward the creative sector should be aimed mainly for the population that share some common characteristics, as they are the one who are more likely to get their hands on one of the activities that fall into the creative category in search of money and fame, that usually are the main rewards in these activities. Some of the characteristics that the creative actors and the sector in general share are the following: youth, productivity, big corporation predominance, self-employment, clustering, good education and training.

Although the implementation of the Smart Specialization Strategies is really promising in the CCII sector there are some really important obstacles to overcome in order to guarantee the success of the implementation of the policies. Some of these obstacles we have already seen in this document, like keeping up with the growth, digitalization, globalization, the access to monetization, talent, the copyright protection and the adaptation to the appearance of new business models that could threaten the most traditional companies.

With the Smart Specialization Strategies, the creative industries have a really good opportunity to explode their growth and keep expanding their influence in the EU economy. The S3 would be helpful for the creative Industries to reorganize the sector and to drive them to the best ways possible in order to achieve effectiveness in the least amount possible of time.

Therefore, to start, it would be very helpful to identify priorities and help the professionals to identify which is the best location for a given artist or worker to find good environment in their area and succeed. Then, the policies could get involved to help to make an inclusive decision-making process through the EDP process. Moreover,

equitable financing opportunities can be promoted by the institutions through the Smart Specialization Strategies to give an opportunity to everybody to develop their activities and keep staying in the market.

Lastly, the regions should be more concerned in the future to check through the monitoring processes that more and more creative industries are being involved in the Smart Specialization Strategies and developed to gain more and more influence in the European economy through time.

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## **6) Annexes**

**Annex 1:**

Policy objective	Market failure addressed	Main agents involved	Tools
To avoid ill-informed policy decision	Information externalities	Entrepreneurial actors	<ul style="list-style-type: none"> <li>• Creating platform and mechanism to facilitate – intra and –iter regional interactions</li> </ul>
To increase knowledge spillovers		The remainder of society  Public Administration	<ul style="list-style-type: none"> <li>• Providing key information about emerging technological and commercial opportunities</li> <li>• Providing incentives to involve non-traditional actors</li> </ul>
To learn about costs and opportunities and engage in strategic coordination	Coordination externalities	Entrepreneurial actors  The remainder of society	<ul style="list-style-type: none"> <li>• Networks &amp; associations</li> <li>• Cluster policies</li> <li>• Technologies banks</li> <li>• Public-private partnerships</li> <li>• Sectoral platforms</li> <li>• SME support organizations</li> <li>• Demonstration projects, technology extension services</li> </ul>
To reward entrepreneurs who discover new domains	Incomplete appropriability	Entrepreneurial actors  The remainder of society	<ul style="list-style-type: none"> <li>• Prizes for inventions and discoveries (e.g. government-funded research)</li> <li>• IPRs</li> </ul>
To incentive entrepreneurial actors to engage in innovative activities	Regulatory failures	Entrepreneurial actors  The remainder of society	<ul style="list-style-type: none"> <li>• Innovation for public sector innovation (e.g. Innovation-oriented procurement)</li> <li>• Fiscal incentives</li> <li>• Public web consultations</li> <li>• Regional workshop</li> <li>• Innovation vouchers</li> <li>• Internationalization support services</li> </ul>

*Table 7 Policies that could encourage EDP*

*Source: Smart Specialisation Platform*

**Annex 2:**

<b>RECOMMENDATIONS FOR BUILDING RIS3 MONITORING MACHANISMS</b>
<b><i>Establish a structured mechanism of stakeholder involvement for the definition of RIS3 monitoring</i></b>
Gather stakeholders to devise solutions for problems because they are the ones who have the knowledge
Assess whether the internal administrative capabilities are sufficient to coordinate the implementation of monitoring mechanism
<b><i>Identify the main building blocks constituting the logic of intervention of the RIS3 and make sure you share this logic with stakeholders</i></b>
Identify the challenges, the objectives and the proposed solutions based on the choice of the priority
<b><i>For each RIS3 priority, define explicitly the expected change(s) reflecting the specific and operational objectives you want to achieve</i></b>
Explain the choices and underlying assumptions in the RIS3 document
Make sure changes are realistic to be supported by the stake holders and ambitious to make a true impact
<b><i>Identify appropriate result indicators measuring expected changes</i></b>
When official statistic cannot be used to reflect truly the changes, use proxy indicators explaining why they have been chosen, their limitations and discuss plans for improving their precision
Consider alternative data collection systems
Dialogue with national and regional statistical offices on new information needed to be collected
<b><i>Define a set of output indicators which can quantify the implemented measures (mix of policy instruments) for achieve each of the expected changes</i></b>
Explain how indicators reflect cause-effect relations of policy instruments and results
<b><i>Organize the indicators into a dashboard-like visualization device</i></b>
Make sure the dashboard is included in the RIS3 document with all the relevant information
Promote the monitoring dashboard through the internet and any other means to stakeholders, potential beneficiaries and citizens
<b><i>Describe how the follow-up of RIS3 monitoring will be ensured</i></b>
Define link between monitoring mechanism and its data and the innovation governance system
Define how the mechanism engages with other stakeholders and how the EDP process is included

Table 8 Recommendations for building a good RIS3 monitoring Mechanism

Source: Gianelle, C., & Kleibrink, A. (2015). *Monitoring Mechanisms for Smart Specialisation Strategies*. Seville: European Commission

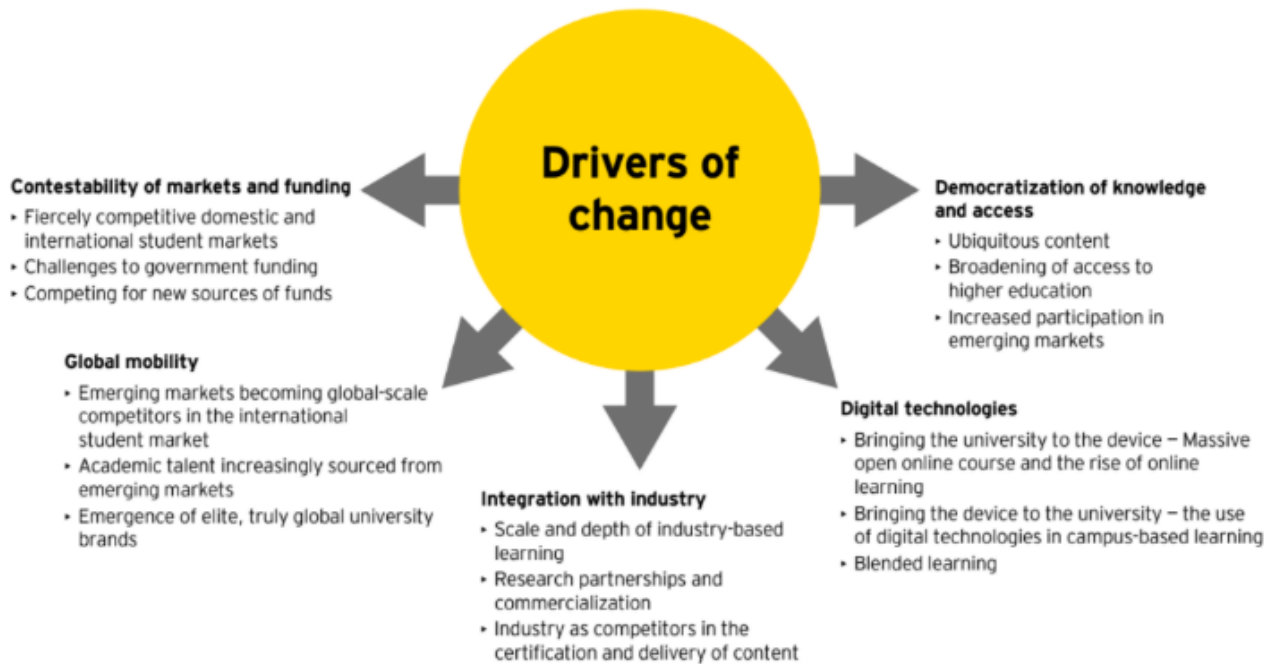
**Annex 3:**

Figure 16 Measures to achieve educational excellence

Source: Ernst & Young "University of the future", 2012

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