



WORKING MEETING

**“S3 IMPLEMENTATION: PRIORITIES, RELATED POLICIES AND IMPACT
ASSESSMENT”**

SEVILLE, 4TH APRIL 2019.

**1) STOCKTAKING OF NATIONAL/REGIONAL PRIORITIES AND LINKAGES WITH
POLICY MEASURES IMPLEMENTED/PLANNED ON THEIR BASIS.**

- Will the national/regional priorities be revised to refine the S3 strategy and/or to adapt to new market conditions and the global context?

Our regional priorities have been revised during the RIS3 **mid-term evaluation in 2017** and its subsequent update for the period 2018-2020.

Their validity was evaluated by considering their importance in the 3 dimensions that were analysed to elaborate our Regional Specialisation Pattern (economic, scientific and technological), plus their interest for national and European Research & Innovation policies. The result was that the 5 thematic priorities were still valid, but fine-tuning was made into them, incorporating new issues / areas, deleting obsolete ones, and rearranging some.

Nevertheless, during the Strategy implementation, and also because of the participation at some mutual-learning activities (e.g., Interreg-Europe project “Beyond EDP”), it was understood that thematic priorities should not only be based on regional assets / strengths (as they had been defined in the RIS3), but a different approach was needed, mixing up the regional assets with existing or foreseen societal or business needs.

However, since it was only a mid-term evaluation and update, it was considered that the existing Strategy’s smart specialisation approach could not be radically changed, and so 7 “flagship initiatives” have been introduced with this new vision, besides the already existing 5 thematic priorities. These 7 flagship initiatives are more focused than the existing thematic priorities and, as it has been stated, follow a demand-pull logic:

- Circular Bio-Economy
- Knowledge and Competitiveness
- Social and Healthcare Innovation
- Cybersecurity
- Industry 4.0
- Stairway to Excellence
- Connected Schools



For the **next programming period**, it is expected that the smart specialisation priorities will still be based on the Regional Specialisation Pattern (RSP), but with some important changes:

- The RSP defined in 2013 during the elaboration of RIS3 2014-20 was based on existing strengths from the economic, scientific and technological points of view; but the mid-term evaluation stated that the methodology used to elaborate the RSP did not allow to identify new emerging sectors that could be opportunities for the region, and the solution proposed was the use, in the Pattern's Economy pillar, of flow variables instead of volume (static) ones.
- But it still posed the problem of the difficulty of anticipating future trends, so some kind of prospective, qualitative analysis, based on the entrepreneurial discovery process and on other more specialised techniques, will have to be introduced in order to identify future trends, both global and local.
- Also, as it has already been done in the flagship initiatives, not only existing or future strengths will be taken into account in order to identify the smart specialisation priorities, but also the present and still to come needs and challenges of both the society and the business tissue. Again, for that, the participation of the quadruple helix will be crucial.
- A fourth dimension will be included in the RSP: Education and Training, in order to add an interesting perspective regarding the future possibilities of development of new activities in the region, since they should be based not only on existing economic, scientific and technological strengths in the region, but also (and especially) on the rightly qualified personnel.

Finally, it is expected that the priorities in the next strategy will be "narrowed down": even if today they are only 5, they are very broad and include a great number of items inside them; in fact, in an analysis of the specialisation of regional RIS3 at national level, Castilla y León was the region with the highest number of priorities according to the classification of specialisations defined by the national Ministry: 23 out of 38 possible, even above Madrid (20), Catalonia (14), Basque Country (16) or Navarre (7), to quote the most developed regions in Spain in terms of R&I policies.

The large amount of actual priorities has been due to the fact that it had been said that only projects dealing with the RIS3 priorities could be financed under Thematic Objective 1 of ERDF. However, it has also been learnt during this time that it has not been the case in other regions across Europe, where they have been able to finance horizontal calls, not specific for their RIS3 priorities. The effect of such belief (and ban to finance projects with ERDF under TO1 outside RIS3 priorities) has been particularly important in Castilla y León in this programming period, because of the economic crisis that has led to a budgetary crisis that has not been fully overcome, and most money devoted to R&I policies came from structural funds. So, if in the next programming period it is possible to



finance with ERDF also promising R&I projects outside RIS3 priorities (or if there is more regional funding available), it will be easier to focus more the priorities, since the fear of the regional R&I actors to be out of the priorities will be less, and so will be their pressure on the politicians to enlarge the priorities.

- How is consistency/coherence between the regional S3 priorities and related policy measures being assessed? What data collection methods are being used? What is the role/involvement of regional stakeholders in the process?

In the **mid-term evaluation of the RIS3**, the relationship between the actions undertaken in the Strategy and each thematic priority was measured strictly in terms of the number of actions specifically directed to a single priority. So it did not consider “horizontal” calls issued by the two largest ministries (Economy and Education) for companies and researchers respectively, and for all 5 thematic priorities together.

Thus, this approach did not take into account other more relevant indicators, such as the amount of money allocated to each thematic priority, so it was not the best way of evaluating it.

But an aspect that was evaluated was the approach (business or science) of the tools used for single thematic priorities, finding that they were according to the respective main strength for each priority as found out in the Regional Specialisation Pattern.

When the RIS3 was elaborated, one of the requests by the European Commission in order to not demand an action plan for the region was the establishment of **specific output indicators related to thematic priorities** (initially, only indicators linked to strategic and specific indicators had been established). They were selected among the most representative indicators for the thematic objective 1 of ERDF, but accounted for each one of the thematic priorities:

- E021: Researchers / year participating at co-financed projects, in each thematic priority of the RIS3.
- C025: No. of researchers (full-time equivalent) working in research infrastructures improved, in each thematic priority of RIS3.
- C026: No. of companies cooperating with research centres, in each thematic priority of RIS3.
- C027: Private investment associated to public support in research or innovation projects, in each thematic priority of RIS3.

Accordingly, they are recorded annually in the monitoring reports of RIS3.



However, a more in-depth analysis was missing in the mid-term evaluation, regarding qualitative aspects of the consistency between tools and RIS3 priorities, such as the effectiveness of the tools in relation to their expectations, their suitability for obtaining the fixed goals, their overlapping, etc.

The **role of regional stakeholders** is different, depending on which process we are talking about:

- For the annual monitoring reports, the data are directly collected by the regional Commissioner for Science & Technology from the different action's managers (i.e., the regional ministries). Hence, other stakeholders do not participate directly in the process.
- For the Strategy's evaluations (mid-term or final) regional stakeholders do participate, giving their qualitative opinion on the different dimensions of the Strategy. In particular, in the last mid-term review carried out in 2017, the stakeholders were classified into 3 groups:
 - Responsible for RIS3 managing bodies at the different ministries (political level).
 - Technical representatives from RIS3 managing bodies, and
 - Other actors: clusters, research centres, universities, companies, etc.

The **methodologies** used during the mid-term evaluation in order **to obtain these stakeholders' information** were various:

- Interviews (mainly with political heads, and with technical representatives from managing bodies at the Administration.
- On-line questionnaires, addressed to beneficiaries of the RIS3 instruments.
- Mixed working groups, with representatives from the triple helix.

Nevertheless, for the next programming period, and according to the existing drafts of the future ESIF regulations, the role of regional stakeholders from outside the Public Administration will be increased. The so-called "entrepreneurial discovery process" that has been traditionally used for the elaboration and evaluation phases of the strategies, will be extended also to the Strategy's implementation phase, even if it poses a series of challenges.



- What complementary policy measures may need to be contemplated (policy roadmapping) in order to boost the impact of S3?

It is clear that research and innovation policy is not enough to sustain the economic development of a region (or country). Normally (and especially in Southern-European countries) the rest of policies or legislations may hinder scientific and technological development.

They have to do with several areas, especially in the public sector: procurement, recruitment, fiscal policies (for companies), knowledge transfer from universities and research centres to businesses, etc. And, of course, administrative simplification is crucial, because unnecessary bureaucracy in general means a sterile amount of work for the policies' beneficiaries.

In particular, the legislation to support the creation of new companies in / from universities in Spain has been very restrictive in the past, and even if some progress has been made in recent years, the one relating to the incentives for researchers to cooperate with companies in technology / product development instead of basic, publications-linked research, needs to be improved.

Business expenditure on R&D in our region has a strong correlation with public subsidies to companies in this field, which means that businesses' expenditure is too much dependent on public aids, and that they are nor really convinced about the convenience / need to invest in it.

Other pending point in Spain is the availability of permanent positions in universities for distinguished researchers. A whole reform is needed in the jobs provision at public universities, which, as of today, doesn't seems to be really supporting the recruitment of the best people for the available positions.

There exists a paradox dealing with the availability of local financing for research and innovation, because it might prevent the attendance of companies and researchers to national and European programmes. It has been proven that, both in our region and in the whole of the country, the highest rate of participation at the European R&D Framework Programmes (now Horizon 2020) has coincided with the period of drastic reduction of regional money because of the economic crisis since 2010. However, a deeper analysis show that the higher participation in European programmes is not only due to a higher number of proposals, but also to a significant success rate, which is the result of a thorough work by different institutions to improve the quality of the proposals. Moreover, Spain is the country with the highest percentage of project leaders, which points to the same direction (that the increase in the participation is not a coincidence).

And of course, other policies are far more powerful to promote economic (and social) development than research and development ones. Taking apart monetary policy, which



is not so linked to R&I, it is important to make sure that our innovative products can compete at least in the same conditions with those produced elsewhere, and that countries with lower standards of social and environmental protection cannot carry out a disloyal competition.

If we consider S3 as a way of transforming the economic structure of the region (towards new, more rewarding activities), then the way to boost it would be by favouring the change and transition of economic sectors to new activities, and more importantly, the emergence and growth of new sectors.

So, policies will be needed in order to support the companies' creation and growth, providing them with tools, services (e.g., training and advice) and finance to get to a size that will allow them to access new markets. Other way to diversify the economic tissue can be the attraction of foreign direct investments (FDI) in those new sectors that want to be developed, maybe because they are rapidly growing, intensive in knowledge, or because they can create quite beneficial effects on other already existing companies or sectors, and generate new activities around them, for instance by subcontracting. The attraction of FDI will need the existence of adequate infrastructures, an interesting environment, and financial conditions that will make the investment more profitable than in other settings.

Furthermore, horizontal policies are required to put in place the necessary resources that support the healthy growth of enterprises. First of all, money (for instance, during the last crisis, it has been very difficult for companies in Spain to have access to banks' financing). Secondly, physical infrastructures, including transport networks, cheap energy and reliable and fast telecommunications. Last, educated and trained human resources, which are really the basis for the whole system to work soundly. Concerning education and training, it is not only a matter of the general educational level of the region or country's population, but of its suitability for the companies' needs. Then, it is very important to have the business sector on board when deciding what courses are going to be delivered at the University or in Vocational Training, and also to define the contents of such courses or careers.

Finally, at European level, the influence of competition policy on the innovation-support policy is key. The European Commission always speaks about synergies between different instruments and even policies, but it is true that competition policy is the main obstacle to support the phases of the innovation process that are closer to the market (i.e., with higher Technology Readiness Levels). This makes more difficult to solve the so called (since a long time ago) "Europe's innovation paradox", and to overcome these last phases of the innovation process that have been named more recently as "innovation gap" or "innovation Death Valley". Accordingly, competition rules should be more flexible in some cases dealing with innovation, beyond the existing exceptions in State-Aid rules, if innovations are to be promoted until their successful introduction in the market (let's not forget that there is no innovation until it's been able to generate revenue).



- What do you see as important critical junctures on the road ahead?

I cannot really envisage “critical junctures”; I don’t think that changes occur radically or digitally (0/1). From the point of view of public policies to support innovation and economic transformation, the risk is not being able to adapt to an increasingly changing world. That is, that public administrations cannot provide on time what companies will need in the future because of such changes.

In particular, from my experience with my own region, which seems to be also applicable to other southern regions / countries in Europe, there is a need to modernise, to move to a less hierarchical model of government to a more participative governance, as it is done in northern countries. And it will require a lot of training of people, and mobility in order to be aware of what is going on in other countries in Europe. In relation to this, the possible disappearance of the Interreg Europe programme would be bad news, because it is helping to increase the cohesion of Europe. In fact, the most important factor for development is not the amount of money invested in the less developed territories, but the investment in their human capital: it is more important (and less costly) to know what has to be done and how it can be done correctly, than injecting a lot of money.

This should also play a role in the way policies are defined and their goals set: so far (in less developed regions and countries), goals are set by a political vision, but without a realistic connection with the starting situation or with the resources mobilised by the policy instruments to achieve them.

Monitoring and evaluation must also be improved, including, inter alia, counterfactual analysis to be able to determine the real effect of the policy, and discard other external (maybe even more powerful) influences. Monitoring, and especially evaluation, will have to be considered not only from a financial or administrative point of view, but also from a technical point of view: what are the results that have been achieved with that public funding, and how have they been beneficial for the Society?

And the international dimension of European policies should be also enhanced, because there are more and more important actors in the world. So, if it is important to learn from each other within Europe, it is also increasingly important to be aware and to be able to learn from newly important players in the world (the so-called third countries).

Other important issue is to be able to incorporate somehow into the policies design the vision of the younger people, because the world, the future world, will be shaped by them, and they understand and foresee better than the elderly people what it will be like (of course, this doesn’t mean that the experience of the older ones should be neglected).



2) HOW DOES YOUR COUNTRY/REGION PLAN/PROPOSE TO ASSESS THE IMPACT OF S3 (BEYOND CHECKING THE LEVELS OF OUTPUT/INDICATORS PROPOSED)?

The current RIS3 will be evaluated in 2021, after it will be completed. And obviously, the main way of evaluating it will be to measure the degree of attainment of the objectives set in the Strategy itself. These objectives have been established in a quantitative manner, and where possible, linked to public, statistical indicators, so that they can be easily known by anybody, they cannot be manipulated internally, and that they are comparable with other regions, with the national average, etc.

However, these quantitative, statistical indicators have some problems: one is that they are published after too much time, and other one is that they do not bring qualitative information that can help explaining the reasons that explain the evolution. Therefore, additional, qualitative indicators are necessary.

- For instance, changes in terms of funding decisions, or in terms of policymakers' and stakeholders' behaviour?

New policy requirements from the European Commission can have the positive effect of forcing the administrations to become more professional and implement “modern” management techniques.

So it will be definitely not only interesting, but also necessary, to find out, in the final evaluation of the RIS3, to what extent it has been able to change the way of doing things, not only in policy makers, but also in beneficiaries. So, qualitative aspects dealing with participation and cooperation will have to be specially looked at in the final evaluation:

- The Strategy’s governance, and the level of participation of stakeholders in the different phases of it; in particular, the role of the entrepreneurial discovery process, which in the next programming period will keep, if not increase, its importance. The indicators to measure this could be the total number of stakeholders that participate in each phase of the Strategy, the proportion of stakeholders coming from each leg of the quadruple helix, and the rate at which participating stakeholders are renewed (substituted by new ones).
- Cooperation between actors: the importance of clusters, technology centres, knowledge transfer schemes, and the way they have been able to generate new joint activities. The data to be collected here will be not only the number of existing clusters or technology centres, but the number of members belonging to them from the three legs of the triple helix, and more importantly the different activities (research or innovation projects, new companies, new products, etc.) that have been made jointly by the different actors existing in them. There are several ways (and frequencies of collecting these data: in this example, they will be requested



once for the Strategy's evaluation. A second alternative is the definition of specific, ad-hoc systems of indicators established linked to the respective public-support scheme (for clusters, technology centres...), as in the example for the University-Business Knowledge Transfer Plan that is mentioned in the next section. In addition, a third choice would be introducing the relevant questions in the yearly statistics or surveys conducted by the National Statistics Body. Each option has its advantages and drawbacks: for instance, the latter one would allow having a general view of the situation of the whole of the region / country, but in turn, it would not reflect the effect of the measures undertaken in the RIS3. Therefore, a combination of them would provide the best (or most complete) results, through counterfactual analysis.

- Outward looking: to what extent are companies and researchers widening their cooperation networks, and inserting in global value chains. So far, there are available data about their participation in Horizon 2020 and similar programmes, but they do not give, by themselves, qualitative information about the links among the research groups, companies, etc., and accordingly what are the existing networks. Then, a special exploitation of those data must be done in order to understand the relationships between actors; there are some examples of commercial software with this purpose. Concerning more specifically the participation in global value chains, it has a more economic than technological or research dimension, and it must be studied from the sectorial policy point of view. The first step must be the definition of the value chains that are to be studied, according to the sectorial priorities (which can coincide, or not, with the S3 priorities), and then follows the analysis (conducted normally by a specialised consultancy company) of who are the key players in them, and the existing (and desirable) relationships of our regional links.

Probably, the last two points should be analysed not only in the Strategy's evaluation, but more systematically in the monitoring process.

- And more broadly and importantly, towards the regional economic transformation that S3 is promoting?

As it's been written above, the validity of the thematic priorities was evaluated in the mid-term evaluation, by considering their importance in the 3 dimensions of the Regional Specialisation Pattern (economic, scientific and technological). So, measuring again the indicators that had led to the definition of the regional specialisation pattern, it was possible to know whether the specialisation was evolving in the desired direction or not.

Nevertheless, and as explained before, the smart specialisation priorities chosen were the areas in the Regional Specialisation Pattern where there were strengths in at least two of the three pattern's dimensions, but there were no additional criteria, such as existing opportunities or demands. That specialisation policy will therefore foster the existing specialisation pattern, but it does not promote the diversification of the economy, or the



appearance and growth of new, emerging activities. But it is not due to the monitoring / evaluation system, but to the policy approach.

In this second approach, the monitoring of the emergence of new, promising, innovative activities requires specific tools, designed ad-hoc by the responsible authority, as they will not appear in normal statistics (or, if they do, they may be hidden in broader, already-existing categories). Such tools will have to be defined according to what they want to measure, that is, the objectives pursued (internationalisation, solution of societal problems or needs, joint projects, no. of companies and jobs created, etc.). Being more tailored means that they will be less helpful for benchmarking.

As an example, in our University-Business Knowledge Transfer Plan, a complete set of indicators has been established, that is measured yearly, directly by the Plan's beneficiaries (the regional universities), which provide the information in a short deadline. And the achievements of each university in these objectives, is also the basis for the allocation of funding for the next Plan's period.

Nevertheless, to conclude, it must be taken into account that evaluation with a very long-term perspective may be useful for academic purposes, but not so much for policy-making, because the response time is important. Policy makers need to know as soon as possible whether the policy is yielding the expected and convenient results or not, in order to adapt it quickly whenever it is necessary. This means that they must have the most updated, recent and relevant information to be able to make sound and right decisions, and in this way a good monitoring system can be considered more important than ex-post evaluations. It does not mean that evaluations are not necessary; on the contrary, they are important because they can be done with a different methodology, and with more time and calm, allowing therefore to tackle issues that were not possible to deal with in the monitoring process, and to learn important lessons for the future.