



INTERREG IVC Project:

Enhancing regional competences in strategic management of innovation policies

KNOW-HUB Handbook on:
Challenges for smart regional specialisation as a way to escape from uniformity of innovation policy



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1 Introduction

This handbook is based on the Peer Reviews and the workshops of the Mutual Learning Cycles that have been carried out during the KNOW-HUB project.

Under the leadership of ARC Funds and C3¹ Coordinator Lower Austria with support by the external expert IDEUM KNOW-HUB partners have elaborated guidelines and a questionnaire for the Peer Review visits. Both were applied in different intensity during the Peer Reviews in every KNOW-HUB partner region carried out by bilateral partner teams. These Peer Review guidelines have not only ensured a structured Peer Review implementation but also led to very important findings about improvement opportunities of the RIS3 policy in the reviewed regions. These Peer Reviews and the Mutual Learning Workshops enabled KNOW-HUB partners to identify their most relevant challenges in terms of their smart regional specialisation paving the road to escape from uniformity of innovation policy.

Several guidelines and questionnaires exist for the elaboration of a Regional Innovation Strategy for Smart Specialisation. This fact demonstrates that there is no standard and no single way of elaboration of a RIS3. Actually RIS3 deals with a very diverse topic which is interpreted by policy makers, regional stakeholders and RIS3 experts in different ways with different focus. This RIS3 diversity is also reflected by the broad bandwidth of elaborated individual Implementation Plans by the KNOW-HUB partner regions.

Thus, it is also not feasible to come up with a common denominator of the most relevant challenges being valid for all regions. This guide is not claiming to provide the most relevant challenges for RIS3 in general, but it is briefly describing those challenges which the KNOW-HUB partners consider to be very relevant for smart specialisation in each of the 6 steps for development of a regional innovation strategy. Several of these challenges in Chapter 2 are illustrated by highlights from measures of partners' Implementation Plans and identified Good Practices.

Chapter 3 deals with the partners' priorities of the identified challenges – the result of a self-assessment carried by the KNOW-HUB partners. The self-assessment is based on the regional individual show cases, the Peer Review results and deducted SWOT results as well as in identified Good Practices from KNOW-HUB partner regions.

¹ Component 3 of the Know-Hub Project: "Exchange of experiences dedicated to the identification and analysis of good practices"

2 Identified challenges for smart regional specialisation

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The RIS3 approach is a loop.

Even though the “Analysis of the regional context and potential for innovation” is described as the first step for the development and implementation of a Regional Innovation Strategy for Smart Specialisation, it is at the same time the review of the achievements of the RIS3 process and former implementation. De facto the 6 steps of RIS3 development and implementation are not a linear process but a loop of all 6 steps with the aim of a continuous improvement of RIS3 as it is practiced in Lower Austria with the CIP RIS NÖ, the Continuous Improvement Process of the Regional Innovation System of Niederösterreich.

Like CIP RIS NÖ the RIS3 approach is a dynamic process gaining a higher level of smart specialisation and implementation on regional level for every loop of the 6 steps. The monitoring and evaluation results of step 6 are very important input for the analysis as step 1 starting the loop on “higher level” again. The more precise and reliable the monitoring and evaluation results are the faster and easier the analysis of RIS3 is and consequently the more efficient the RIS3 implementation can be.

And also among single steps and several steps there can be loops based on the current situation and regional demands. Thus the 6 step approach of RIS3 should be considered as a structured framework but every region has to apply the steps in a flexible way according to the own situation, (new) insights and current (interim) results.

2.1 Step 1 “Analysis of the regional context and potential for innovation”

Author: Hans-Christian Jäger, IDEUM

2.1.1 What does “innovation” mean?

If you “google” for “innovation”, you get more than 300 million entries in less than 0,2 seconds.

“Innovation is the development of new customers’ value through solutions that meet new needs, inarticulate needs, or old customer and market needs in new ways. This is accomplished through different or more effective products, processes, services, technologies, or ideas that are readily available to markets, governments and society. Innovation differs from invention in that innovation refers to the use of a better and, as a result, novel idea or method, whereas invention refers more directly to the creation of the idea or method itself. Innovation differs from improvement in that innovation refers to the notion of doing something different (Lat. innovare: “to change”) rather than doing the same thing better.”²

OECD is claiming that regional innovation policies are suffering from a limited view of innovation. “Science- and technology-based innovation covers only a fraction of the innovation potential that exists in different types of regions[...]. Regions need to invest in mapping the types of innovations that are most relevant for their vision [...]. Advancing in the understanding of innovation could help regions identify strategies to mobilise innovation, science-based or not, for social goals (ageing, environment, health, etc.) and innovation in the public sector as well as job creation.”³

Thus already the regional innovation policy has to be innovative by thinking out of the box. Maybe – and even more very probably – future potentials of regional innovation policy are no topics of policy makers and public authorities so far. Creativity techniques and Regional Foresight can help to look beyond the horizon of the current regional innovation policy, e.g. social innovation is often not being tackled by current regional innovation policy.

² WIKIPEDIA <http://en.wikipedia.org/wiki/Innovation>.

³ REGIONS AND INNOVATION POLICY © OECD 2011, http://www.oecd-ilibrary.org/urban-rural-and-regional-development/regions-and-innovation-policy_9789264097803-en.

2.1.2 Tailor-made analysis for regional RIS3 purpose and objectives

On the one hand the understanding of “Regional Innovation Strategies for Smart Specialisation” (RIS3) is very diverse taking into account all kind of R&D and innovation and all kind of regional characteristics in terms of endogen resources, geographic location, economic and educational situation or administrative and political system. On the other hand RIS3 has to be very precise – because it is a specialized strategy of an individual region in order to exploit own strengths and potentials with the aim to become more competitive and to contribute to the targets of the Europe 2020 strategy.

GIS initiative of Gabrovo Municipality

Gabrovo municipality developed a Geographic Information System with information layers for the economic and innovative development of local companies and academics organised into interactive maps. The on-line tool supports Gabrovo administration in analyses, display and dissemination of results and decision-making about where to locate new businesses or support existing ones. The GIS user-friendly interface also provides collaboration platform for pooling local enterprises and attracting investors.

The GIS analytical, decision-making and monitoring functionalities bridge over some of the weaknesses noticed at the Peer Review made by Weser-Ems region: the limited local data base for strategic planning and the low inclusiveness of local actors in partnerships due to the limited awareness on each others activities. Making English translation of the tool as well as adding layer on cluster development were also suggested by the KNOW-HUB partners.

The S3 strategy in Bulgaria is developed at national level. The GIS initiative of Gabrovo municipality is an example of pro-active measure of local administration in this centralised policy framework.

The Europe 2020 strategy set the framework for the vision of the EU to become a smart, sustainable and inclusive economy. Concretely, the Union has set five ambitious objectives – on employment, innovation, education, social inclusion and climate/energy [http://ec.europa.eu/europe2020/index_en.htm]. There are numerous ways to achieve these objectives and numerous interlinked individual objectives of regional smart specialisation.

Starting the analysis for the full diversity of Europe 2020 strategy and for the full bandwidth of potential RIS3 approaches to strengthening research, technological development and innovation (R&D target) the region will very probably get lost in an unmanageable number of analysis activities. This would be at least very time and resources consuming and delay – or even will never make – the changeover to step 2 because of the long time for finalization of this bunch of analysis activities.

Thus it is of utmost importance to focus the RIS3 analysis already on some pre-selected areas or at least in an indicated direction in order come up with useful and concrete analysis results within a limited and given time frame. Foresight activities can help to identify emerging ideas in order to indicate the RIS3 direction for the region and to define roughly the regional objectives of RIS3 before starting with a tailor-made and in-depth analysis of the pre-selected areas for R&D and innovation specialisation.

The tailor-made analysis also has to focus on those areas which can be directly influenced by the regional policy and indirectly through the influence of regional policy on national level. In particular in centralised countries gaps in the Regional Innovation System often require decisions on national level due to the political and/or financial power on national level. Of course these issues have to be addressed in the analysis, but not exclusively, as the analysis has to provide results as starting-point for RIS3 decisions and measures under regional control. The analysis should have a regional focus with links to national level.

Regional pattern of specialisation of Castilla y León

Assessment of the regional pattern of specialisation of Castilla y León was based on a three dimensional analysis: Economic, Technological and Scientific. The study of the economic pattern of specialisation was based on trends of the number of companies, weight on the GPD, employment and exports; in comparison of the regional economy with other territories. The analysis of the technology pattern was based on Key Enabling Technologies and took into account the availability of infrastructures, R&D projects in national and European calls, and patents. The scientific pattern considered the existence of research institutions, and a bibliometric study, including number of publications, their impact and excellence under a global perspective.

This analysis implied also a significant foresight exercise, in particular in technology applications, and a broad participatory process. Initiatives such as the Innovation Observatory (Provence-Alpes Côte d'Azur) and the Project Center (Nord Pais de Calais) have been identified as successful approaches to continue with a constant update of this initial tailor-made analysis.

This approach was identified as an opportunity after the exchanges with KNOW-HUB partners and in particular, after the peer review by Lower Austria delegation, at the beginning of the elaboration of the RIS3 of Castilla y León.

As RIS3 is dealing with regional particularities, the tailor-made analysis should also clearly elaborate individual current and potential future unique selling propositions of the region. General statements, which cannot be proved by evidence, should be avoided in the analysis.

2.1.3 How does regional economy work? – no addiction to statistics

KNOW-HUB partners are emphasizing that the understanding of the business private sector and its interaction with public authorities, academia and civil society is a prerequisite for an effective and efficient regional innovation policy. Monitoring the economic/R&D+I performance of individual companies, of sectors and of the overall regional economy with statistical facts and figures is as important as the deep insight into the interaction of the business community, their supply chains, their objectives, needs and threats, etc..

Business involvement in the RIS3 process of Weser-Ems

The economic structure in Weser-Ems is essentially characterized by small and medium-sized enterprises. Their interest and capacity to address issues of strategic regional development is limited. With this background and due to the large number of SMEs, those responsible for the process have decided to involve a limited number of medium and large businesses in the RIS3 process. To ensure that these companies actually represent the regional economy, the main selection criteria were that they have to be owner-operated, work successful on an international level, conduct their own R & D + I activities and give a significant contract value to regional suppliers. In addition, the companies are supposed to geographically represent the entire region and the key regional industries. They should belong to the widely accepted opinion leaders within the region, who are also able to participate permanently in the implementation of the strategy.

In case of involvement of single leading/large companies in the RIS3 decision making process it has to be verified that these companies actually are representing the opinion of a large number of regional companies instead of using their involvement mainly for own lobbying and gaining crucial advantages over other regional companies.

Often the analysis of the regional economy and its innovation activities is limited to statistics and

macroeconomic data, e.g. when regions define the topics of their cluster policy mainly on the basis of a statistical accumulation of companies in one sector without taking the future potentials of cross-sectoral collaboration into account in terms of contribution to the regional welfare. The willingness and openness of potential cluster members for cooperation with other companies and other relevant RIS actors like academia also has to be taken into consideration.

Sometimes the analysis is carried out with outdated data – even though these are the latest available ones – which can lead to wrong conclusions for regional innovation policy if the regional situation has changed in the meantime. In several cases, in particular in centralized countries of the European Union, there are only few or even no (macroeconomic) statistics available on regional level. In such cases national statistics are often used for analysis even though the respective regional economy might have different particularities and a different performance in comparison with the national average.

What is behind the statistics – diagnosis and participation in RIS3 of Wielkopolska

One of the findings of KNOW-HUB Peer Review was the limited understanding of the driving forces of the Wielkopolska economy and the knowledge of companies' real innovation needs, especially of internal processes. Following these suggestions a systematic plan to improve the understanding the companies needs was elaborate. It included a large-scale questionnaire, involvement of companies in entrepreneurial discovery process and a continuous forum for dialogue with companies. The conclusions were used to identify the potential areas of smart specialisation for the region and the detailed needs of enterprises pursuing innovation processes in different subsectors. Next steps were to deepen the entrepreneurial discovery process by a series of in-depth interviews with companies representing the potential areas of smart specialisation and involvement of companies in working groups for each area. Those working groups discussed the advantages of the regional economy, challenges, potential areas of excellence and necessary actions as well as interlinkages between the areas of smart specialisation. The most important impact of the survey was gaining access to reliable information about needs of companies. This knowledge fed the definition of Wielkopolska Innovation Strategy For Smart Specialisation and will have impact on support instrument of regional operational program. Further improvement of the information collection and use is planned by continuous monitoring process of companies' needs with the use of adaptation of the Good Practices of ASTRIDE and INNOSCOPE from Nord Pas de Calais.

Methodology of the survey: CATI (Computer Assisted Telephone Interview) on the sample of 3500 enterprises. The research was performed with members of executive boards of companies. The results were analysed according to the size of company, its location in one of the six sub regions and subsector.

If regional and up-to-date figures are available these statistics do not necessarily say anything about the actual impact of the regional innovation policy on the regional economy. Because the direct effects of the regional innovation policy – if measured at all – on macroeconomic indicators on regional level are seldom measured by functional links. If the regional economy performs well this is not necessarily indicating that the regional innovation policy is supporting its companies in an effective way. Therefore it is also important to accumulate knowledge about the actual contribution of policy measures to the macroeconomic performance of the region.

Even though there are numerous critical issues and limitations of applied statistics there is often no comment on the gained analysis results about these critical issues which might lead to the misleading assumption that the statistical results are fully reflecting the actual reality.

Instead of addiction to statistics without any critical analysis the RIS3 analysis should be based only on reliable and up-to-date quantitative data for the considered regional economy AND further qualitative information e.g. companies' opinion on the regional innovation policy, their needs in innovation support and their satisfaction with the RIS actors and offered innovation services. Interlinked with the tailor-made approach appropriate and applicable key indicators (quantitative and qualitative) have to be defined.

This challenge is directly linked to the applied monitoring and evaluation activities as tackled in step 6.

2.1.4 Focus on companies' needs

Directly linked to the question “How does regional economy work?” is the focus on companies' needs in innovation support in order to achieve the highest impact of RIS3 implementation on increasing companies' innovativeness and competitiveness. Thus, KNOW-HUB partners decided to put “Focus on companies' needs” as own challenge.

Nowadays it is still not state of the art in European regions that the innovation service providers put the needs of the companies at the centre of their offered services. Often regional innovation policies are structured according to sectors or political administration units which are not necessarily reflecting companies' needs.

As prerequisite for a need oriented approach the target group (=regional companies) for R&D+I support needs to be identified in form of individual companies.

Then the analysis can emphasize the needs of these identified regional companies and describes them in detail answering questions like “What are the companies' needs?” and “Are the companies' needs matched by the offered services?” or “Are any service gaps existing in innovation support for regional companies?”

TIP pro-active approach in Lower Austria

Currently the target group of regional companies for Lower Austria's innovation support is mainly identified through the pro-active approach of the Technology Innovation Partners TIP visiting regional companies, by Cluster and Technopol activities as well as by general information events of TIPs and Lower Austria's development agency ecoplus.

Based on several exchanges with KNOW-HUB partners on need analysis and in particular with Nord-Pas de Calais on their Good Practice InnoScope ® the department for Economic Affairs, Tourism and Technology of the Government of Lower Austria decided to develop a concept for identification of the target group by analysis of companies' structural data complementary to the existing approaches of TIP and ecoplus.

Identification of innovation potentials in Provence-Alpes-Côte d'Azur

One of the main objective set in the Regional Innovation Strategy – S3 is to “Support high potential SMEs growth from the set up to the internationalisation”.

In this perspective the identification of companies with high potential in each stage of their development is a key point, in order then to be able to build a clear service offer tailored on the specific companies' needs.

This implies to set a monitoring system allowing to select potential high growth companies (data base, financial data, qualitative information, CRM system ...).

During the exchanges with Know Hub partners on this question, the tool Innoscope developed by the Nord-Pas-de-Calais French partner NFID was retained to be tested in PACA to screen financial data of the regional companies in order to identify their innovation potential.

2.1.5 Understanding the Regional Innovation System (RIS)

As RIS3 is a holistic approach the analysis has to deal with the “triple helix” system and even better with the “quadruple helix” system, consisting of business sector, public authorities, academia (Research and Technology Organizations (RTO), Higher Education Institutes (HEI)) and civil society. These parties are not only subject to analysis of the regional context and potential for innovation, but at the same time partners in the analysis. Thus the responsible organization for the RIS3 analysis has to pro-actively enter the dialogue with the RIS actors. In regions with a limited number of innovation service providers this dialogue is easier to handle than in regions with numerous intermediaries. In every case this communication and cooperation is facilitating the analysis and is in itself creating valuable results about the current RIS network in terms of formal and informal collaboration of RIS actors, their commitment with the regional objectives and their openness for a coordinated approach.

Public technology and knowledge providers like Research and Technology Organizations and Higher Education Institutes are no innovation service providers as long as they are not interested in and working on innovation with the aim to improve products, services or processes. Thus, the analysis should also foster the understanding of the objectives and actual interest of academic institutions in innovation, and not only in scientific issues.

Single KNOW-HUB partners title this challenge of “understanding the RIS” as “understanding the mass” because the number of public (co-)financed innovation service providers is so huge that the network can hardly be managed. Even the gained knowledge during the analysis stage about the attitude of single actors towards an effective coordination of the Regional Innovation System and towards taking responsibility for regional innovation is an important result.

2.1.6 Establish transparency and work on objective results

The aim of the analysis is to gain a realistic and objective picture of the current situation of the regional context, R&D+I competencies and potential for future innovation, including the governance system and political decision making processes of regional innovation policy. This also means that the analysis might reveal weaknesses and threats in this context. From the political point of view – and in particular in combination with upcoming elections on regional level – such findings are not always appreciated and thus might be kept under lock and key. From the point of RIS3 this should be avoided as otherwise the analysis results might be misleading, at least important findings as basis for setting up a proper RIS3 governance structure in step 2 are being neglected.

Experiences show that politicians or public authorities are also trying to take influence on the analysis results in order to push own ideas or political objectives. Of course such subjective influence is not in line with the RIS3 culture. RIS3 is promoting an evidence based policy which requires high transparency of the actual findings about the current situation as evidence base for the development and implementation of the individual RIS3.

2.1.7 Integration of an outward looking perspective

The outward looking element is a crucial success factor of the RIS3 implementation in several ways and thus has to be integrated into the early analysis stage.

The development of a smart specialisation strategy for regional innovation policy cannot only have an inward looking view while ignoring “the rest of the world”. The definition of regional core competencies requires national and international benchmarking in order to be able to become successful also in competition with other regions. Benchmarking helps to define precisely the strategy for fostering the own regional core competencies and potentials e.g. by identification of international niche markets and deduction of the required support measures. RIS3 decision makers have to be aware of competing regions in the fields of own core competencies – the analysis has to provide this required information. Usually it does not make sense to establish and foster the same technologies/knowledge as core competencies in direct neighbouring regions unless the neighbour regions collaborate in these technology/knowledge fields.

The interregional cooperation is also an important RIS3 issue for small regions as they have usually (too) limited critical mass for establishing their competitive core technologies on their own. Instead, small regions should identify strategic partner regions in the same field to come up with the required critical mass on competencies. The analysis has to find such potential strategic partners.

2.1.8 Preparation and presentation of analysis results in an easily comprehensible way

Not only the analysis of the current situation should avoid vast complexity and should be tailor-made, but also the preparation and presentation of the analysis results should be done in an easily comprehensible way in order to increase the acceptance and involvement of policy makers, RIS actors and companies for the following RIS3 steps.

As pictures speak louder than words, analysis documentation should also use graphs and images. In addition, a “map at a glance with the most important findings” is recommended as part of an executive summary.

For the Peer Reviews KNOW-HUB partners have developed a template for regional context setting with a limited number of macroeconomic indicators and additional qualitative data, e.g. degree of autonomy of the region in RTDI matters, existence of a coordination platform, brief overview over governance in innovation policy and overview over recent big investments. The regional context setting includes information about population size and density, size of geographic area of the region, R&D expenditure in relation to GDR, unemployment rate. This regional context setting was filled in by the reviewed partner in preparation of the Peer Review. The reviewing partners consider this information as very valuable to gain a better understanding of the region and as important input for the Peer Review.

2.2 Step 2 “Set up of sound and inclusive governance structure - towards Collaborative Leadership”

Author: Monika Matusiak, PSTP & Poznań University of Economics

In the perception of the partner regions, there are four main challenges connected with building a **sound and inclusive governance structure** for the process of identification and implementation of smart specialisation strategies. Each one raises some challenges mentioned below:

2.2.1 Building on what you have

Which means that in every region there are already some existing governance structures for regional innovation systems, so we never start from scratch. These structures should be a basis for smart specialisation governance, they are both permanent and evolving in character. The main challenges in this area are to be effective and **focus on real problems** and to **ensure the continuity of the governance structure**.

As for the first challenge, it is important that regional actors perceive the governance structure as reliable, able to detect appearing problems, find consensus solutions and effectively implement them in order to solve the problems.

The second challenge, ensuring continuity, is not easy in changing political landscape. One of the methods to achieve it is to involve multiple stakeholders and build consensus concerning the general direction of the policy. In such a big group of actors, changes (political, economic etc.) occurring to a few partners should not threaten the overall implementation of the strategy. Another possible method is to base the continuity on one long-term leader who would consequently motivate stakeholders to implement the accepted policy and would have the authority to achieve it.

Improving coordination of regional innovation stakeholders in Banská Bystrica

One of the findings of the peer review undertaken under the KNOW-HUB project was that even though cooperation among regional innovation stakeholders is quite good there is no coordination and actions taken are often overlapping. This is caused by the fact that in Slovakia R&D&I policies is under responsibility of national state level and so there is no regional body with real competences in coordination of R&D&I matters. Nevertheless it is necessary to reach a regional consensus on regional priority areas as well as on actions to be taken in order to “join forces” in support of innovation in the region and try to prevent activities overlapping.

The Regional Innovation Council has been established within the KNOW-HUB project (called “Regional Action Group” in the AF) that consists of all regional innovation stakeholders as regional government, universities, R&D&I organisations, Chamber of Commerce and Industry, Intellectual Property Office of the Slovak Republic, Regional Development Agency, regional clusters and companies. The Regional Innovation Council should be kept working after the project end under the coordination of one of its members.

2.2.2 Keep in mind who this is for

Before defining the governance structure, it is important to take into account the purpose and beneficiaries of the whole system. This will provide the guidelines for the scope and functions of the system, the main objective of which should be to serve the needs of regional actors. The most important challenges in this area include **undertaking an in-depth stakeholder analysis, ensuring the constant process of listening to the stakeholders' needs and aligning different positions and instruments**.

The appropriate answer to the first of them, preferably achieved through research and dialogue allows learn the real needs and motivations of regional actors. The analysis could include quantitative and qualitative research followed by some in-depth interviews and organizing working groups involving key stakeholders.

Solving the second challenge by means of a proper participative process translated into policies can further help to understand the needs of the stakeholders. It is worth noticing, that any participative process will contribute to actors' involvement only if the leaders of the process implement the solutions that were identified. Should it not happen, it would damage the mutual trust and further involvement of the partners.

Finally, an answer to the third challenge ensures the regional system dynamics and minimizes potential conflicts. Sometimes, especially at the beginning of the process, the stakeholders can propose opposing solutions or instruments that do not constitute a policy mix that lets appropriately implement regional innovation strategy. A well-led participative process, together with further involvement of actors at the implementation stage should solve those issues.

2.2.3 Organize it

After the above points have been considered, the governance structure should be soundly organized, with clear tasks defined for different institutions and procedures for synchronizing and coordinating their actions. There are multiple challenges in this area which are

(1) **to define governance structures and give them legitimacy** so they can perform the tasks given to them,

(2) **to delegate tasks while making sure there is always high commitment to achieve results**, which can be done by introducing competition between actors of the regional system,

Strategy Councils in Weser-Ems

To implement the RIS3, Weser-Ems has formed one Strategy Council for each of the three identified fields of competence in the region, which consists usually of 10-15 regional key players from industry, academia and government. The central task is to develop a master plan with a vision 2020 for the respective field of competence.

The Strategy Councils are spokesmen for the region and lobbyists for the respective field of competence towards the state government and potential external / international partners. They develop aid in decision making, make (among others) recommendations for the optimization of the regional innovation system and the use of subsidies and thus offer the guarantee of a collaborative leadership.

To feedback their recommendations to the regional SMEs "Knowledge Hubs" have been set up, in which particularly intermediaries involved in business, science and management participate; the Knowledge Hubs each comprise 50 to 100 people.

- (3) **to involve different groups of actors** (or change their participation levels) on different stages of planning and management process,
- (4) **to ensure balance between different actors and levels** and create the leadership team built on consensus,
- (5) **to ensure knowledge-based consensus** so the decisions are taken on the basis of facts and understanding of regional needs and not as an effect of lobbying and trying to safeguard individual interests. All the actors should also have a similar understanding of innovation, smart specialisation and other important issues,
- (6) **to ensure leadership** making sure there is a clearly defined responsibility for the whole governance system,
- (7) **to define the decision-making process** finding answers to the question: If there are many actors involved, who takes the final decision?,
- (8) **to involve central government and EU structures** so they understand and accept the way the governance system works and its main objectives, and take it into account when planning national and European policies,
- (9) **to make sure there are multiple relations between different actors and governance levels** and that they are not only hierarchical, but also vertical and mutual, and finally
- (10) **to help actors create synergies in their actions** by ensuring there is a shared vision and resources to implement it.

2.2.4 Provide resources – allocating budget

No governance and policy implementation is possible without appropriate resources. Together with clearly defined tasks, the institutions involved in the governance structure need financial, human and organizational resources to implement the planned actions and achieve a critical mass of their intervention which will ensure the effect of the whole smart specialisation strategy in the region.

The main issue in this area is to **allocate budgets** so it is possible for the stakeholders to achieve the tasks and object. This is an aspect often missing in strategic processes, usually because for many regions it is difficult to foresee the financial allocation for the innovation strategy, especially if the intervention is mostly financed from central government or external sources. Another cause may be the difficulty in estimating the cost of planned activities, especially if they are undertaken the first time. The lack of allocated budget severely damages any implementation process so it should be considered one of key points of any planning processes.

2.3 Step 3 “Shared Vision about the future of the Region - Mobilizing stakeholders”

Author: Denitsa Marinova, ARC Fund

This chapter identifies main challenges while creating a shared vision for future smart specialisation of the region.

The groups started discussion by taking forward some specifics of the process of designing shared vision that can serve as departure points for identifying challenges:

- The process involves diverse stakeholders,...
- ... That have to build shared understanding on...
- ... here to be positioned in the future.

2.3.1 Communication and acceptance

Communication and acceptance of the vision by local stakeholders is crucial. A vision created by isolated individuals (top-down), rather than collaboratively, usually lacks wider acceptance in the region. On the other hand, when initiated bottom-up, the process has to overcome certain segmentation among the different stakeholders especially when the goals of their groups/institutions conflict the overall goal for the region.

2.3.2 Keeping the process well-structured and transparent

The process of vision development has to be well-structured and transparent, especially when organized by the region itself in order to get political endorsement of the vision at all levels – regional and national. Following a pre-defined methodology, keeping track record on the decision-making process as well as including steering experts might be a good practice in this regard.

2.3.3 Make local people think globally

Make local people think globally for ensuring the international dimension of the vision for the region's development and its global competitiveness. Inviting external experts to the discussions may help local stakeholders in “minding the bigger picture”.

2.3.4 Building consensus among diverse visions of stakeholders

The shared vision is not a mechanical sum of single visions. It should create unique identity for the region and set directions for its evolution. The key challenge is how to integrate different and often conflicting interests and perspectives of the participating actors. One approach is to build the vision around common social benefits.

If done properly, designing shared vision is actually a teambuilding process that naturally arrives with common statement about the region.

Club “COMPASS” in Gabrovo Municipality

Club “COMPASS” is a public-private partnership established to attract young people to STEM disciplines (science, technology, engineering and mathematics) and to increase youth employment in Gabrovo municipality by networking between local businesses, the technical university and local administration. It is a joint effort to preserve and support technical and innovative spirit of the region by bridging the gap between the needs for engineers by the local machine building companies and the out-dated curricula of the local technical university. The initiative unites different local actors under one of the strategic priorities of the region – development of human capital and encouragement of lifelong learning.

2.3.5 Ensure that the vision is not “visionary”

In some regions the old RIS remained a paper-based pilot exercise that was not financed, hence no success stories were born to inspire for the RIS3. A change in attitude in these regions can be made by including some demonstration activities while designing and communicating the RIS3 vision – Good Practices from other regions, other success stories to champion the vision.

The vision should also balance between being ambitious, yet credible. The vision has to be ambitious in order to picture the renewing and transforming elements for the region. It answers the question “Where we want to be positioned in the future”. It is the branding statement on the future of the region.

Health Industry Strategy for Észak–Alföld

The vision of Észak-Alföld region in Hungary set in its RIS3 strategy is the following: “Locality and vitality: by 2020 the region of Észak-Alföld will become such a rural environment, which – building on its resources, characteristics and traditional values – is capable of boosting an internationally competitive, sustainable, knowledge based economy.”

In the S3 strategy it is described that the health industry is very important for development of the region and to reach and implement the vision. Based on the fact that the health industry is focused in Debrecen city because of its famous knowledge-centre, in this year the City of Debrecen decided to elaborate a so-called Health Industry Strategy.

Based on several exchanges with KNOW-HUB partners on need analysis and in particular with Basque country on the Bio Basque Good Practice, which has a long history including several recommendations, the Észak-Alföld region developed a well-detailed strategy for its health industry.

The realistic dimensions of the vision can be ensured by setting measurable goals, that reflect region’s strengths but also imperfections, thus capturing the key specific for the region. The vision should be further accompanied by a plan/strategy for its realisation.

Visions in RIS / RIS3 are often designed by benchmarking with other regions – to be the 1st region in EU in the field of...In this case visions might be more based on competition with other regions than on finding new values.

2.3.6 Keeping the process objective by using correct data and evaluations

The vision should be based on credible analyses and data sources in order to avoid misleading assessments due to lack of data or biased information provided by interest groups.

2.3.7 Motivation to start the process

Someone should initiate the process by identifying pressing needs/problems or coming opportunities thus justifying the necessity of having long-term vision. It could be a leader, a local champion that can encourage openness and sharing of views and ideas in the local community.

2.3.8 Creating ownership to the vision

The vision should be unique, not repeating visions of other regions or documents but reflecting the region's individuality. Local stakeholders should have influence on the process and the vision itself. Vision should also be kept understandable to all stakeholders and easy to articulate in order to create common identity and to convert "the region" into "our region".

2.3.9 Keeping stakeholders engaged

It is a challenge to keep the vision fresh in the stakeholders' minds over the time. On the one hand, it is related to cultivating sense of ownership and responsibility to the regional actors by allocating roles in the vision's implementation (link to step 2. Inclusive governance). On the other hand, it is a matter of having strong leadership and good communication to keep the process running (local organization to animate the network of regional actors). Setting clear targets for the vision realisation (the '2020' milestone, for example) can also keep the momentum for the local activities and processes.

Continuous entrepreneurial discovery in RIS3 of Wielkopolska

The policy makers of Wielkopolska believe in continuous participatory approach not only in RIS3 definition but continuous entrepreneurial discovery process and implementation. The working groups for the smart specialisation areas were designed to be evolve into Wielkopolska Smart Specialisation Forum. The forum is to keep the engagement of important innovation actors, especially companies. The forum is to enable dialogue as for the activity development, partnership creation, update of the strategy and its implementation evaluation. Dedicated staff to animate the forum will be assigned.

2.3.10 Too many visions

It is a common case for the region to be subject of a set of strategies (with own specific visions) that cover different aspects of regional development – economic, social, S&T. There are also national and European strategies that require sub-ordination of regional goals and priorities. The vision for the region can get lost in the complexity of these policy frameworks. It has to be designed to create coherence to diverse activities and policy levels.

2.3.11 The “scale of the vision” and the “size of the pocket”

This challenge reflects the perception that the ambition of the vision depends on the power of the region. The vision should inspire for new ways of thinking and acting, it is the strategy and the action plan that suggest the means for its implementation.

2.4 Step 4 “Selection of a limited number of priorities for regional development – Smart Choices and Critical Mass”

Author: Monika Matusiak, PSTP & Poznań University of Economics

The main challenges connected with the selection of a limited number of priorities for smart specialisation can be grouped as follows:

2.4.1 Fact-based selection

The priorities should be based on an in-depth analysis including specific research on areas considered as possible smart specialisation in order to understand their specific needs. The main challenge here is choosing the subjects that need a more thorough analysis, as there are no clear procedures for such a selection. Should we base it on statistical data, future potential, traditional sectors or some mix of the three?

2.4.2 Tackling influence and focusing priorities

In real processes that happen in regions it is very difficult to clearly focus on a limited number of sectors/issues, which is due to the nature of politics and activities of interest groups – choosing a limited number of priorities means excluding some sectors and groups that also expect support from regional government. The result is that many politicians prefer to have a lot of strategic priorities to win as many regional actors as voters for the next election as possible.

There is also the question of how many priorities should be defined so they cover the complexity of regional economics but still provide focus for policies and strategies. Another problem is involving the representatives of the quadruple helix in the process of setting priorities without losing focus.

Competence maps for Lower Austrian Technopols

Technopols are centers of technology and business which are purposefully established in direct proximity to recognized educational and research facilities. The Lower Austria Technopol program is leading the way through its pioneering bundling of education, research and business with focus on selected technology fields. Internationally acclaimed research activities are being carried out and new economic initiatives have come about at each of the Technopols.

At the KNOW-HUB Peer Review of the current RIS3 of Lower Austria it turned out that the visibility of Technopols can be improved significantly. Consequently competence maps were developed as pilot for two Technopol locations based on an enlarged mapping of the full set of competencies at each Technopol. These maps ensure now high transparency of competencies and demonstrate the critical mass of Lower Austria's Technopols in their activity fields.

Interlinked with these competence maps a standard marketing set will be elaborated in order to improve also the corporate identity of the Technopols.

2.4.3 Planning for the future

Any knowledge of the regional economies we have is based on historical data and experiences – these are the things that worked in the past. While setting priorities for the future we work with a high level of uncertainty – how to check which sectors will stay competitive in the future, which ones have hidden innovation potential, etc. The problem here is the possibility to overlook certain promising areas which could be the basis to build the regional competitive advantage in the future.

2.4.4 Can everybody be excellent?

Smart specialisation is about looking for areas of excellence in a limited number of sectors, but can every region build such a strong specialisation, even the ones with fairly diversified economies? If so, how should the areas of excellence be identified? Is it possible to be a successful average region?

2.4.5 Smart cross between administrative and economic barriers

There are a few problems connected with intersectoral and intergovernmental issues while developing smart specialisation. Firstly, economic specialisation rarely sticks to administrative borders, so we can expect interregional specialisation areas that need a specific kind of cooperation.

Nord-Pas de Calais: fostering cross border collaboration

Nord-Pas de Calais aims to stimulate, encourage and implement sustainable cross border collaboration between different actors in the knowledge and industry. Lately Nord-Pas de Calais and West Flanders agree on implement new cross border clusters in energy, agro-food, materials. These meta clusters involve both Flemish and Nord-Pas de Calais clusters which are so far not used to work together. Therefore Nord France Innovation Développement (NFID) will take concept parts and experiences of Good Practices from the KNOW-HUB partners Lower Austria and Weser-Ems into consideration.

The cluster program Lower Austria is closely cooperating with the provinces of Upper Austria and Salzburg in the Plastics Cluster, the largest network for plastics technology in all of Europe. Lower Austrian cluster partners profit in more ways than one: they are members of a large, supra-regional network, but enjoy the local assistance provided by the regional development agency ecoplus.

The Centres of Competence in Weser-Ems develop new technologies aiming at solving technological problems of regional companies. The fields of competence for each centre have been elaborated during the RIS exercise and are fruit of selection and consensus among regional stakeholders. The centres are financed both by public sources (grants from national government and EU programmes) and private money (fees, shares and sponsoring).

These Good Practices will be very useful for developing concrete and sustainable cross-clusters in Nord-Pas de Calais fully consistent with the priorities of our RIS3.

Secondly, regional specialisations should not only be based on niche competences but also ones that complement the national areas of competence. Thirdly, there is the question of intersectoral innovation and specialisation built on the interplay between a few areas of economic activity. These questions need to be considered while selecting the priorities for smart specialisation.

2.4.6 Objective assessment

It is important to ensure an objective assessment of smart specialisation priorities by independent expert bodies that are not directly connected with any interest groups. Such a procedure allows the selection of priorities which are promising to the whole regional economy.

2.4.7 Consensus-finding and target groups

For the priorities to be effective, they must be based on wide consensus. Taking into account all the previous points, such a consensus can be difficult to achieve and there is a need to define procedures and criteria that will make consensus as widespread and as objective as possible. There is also the need to identify the specific target groups to address sectoral issues and involve the representatives of the quadruple helix in the consensus-finding process.

2.5 Step 5 “Establishment of suitable policy mix with regards to policy implementation”

Author: Gabriella Fiori / Emilie Calmes, ARII-PACA (former Méditerranée Technologies)

The majority of regions has designed strategies, though, the very challenge is their implementation - HOW to achieve the objective set up in the strategy? Which portfolio of instruments and policies are most effective to fulfil the objectives?

The answer is in the definition of a policy mix with combination of policy interacting instruments in order to underpin innovation.

Based on the KNOW-HUB partners' experiences the RIS3 recommendation for Step 5 is: “The strategy should be implemented through a road map, with an effective action plan allowing for a degree of experimentation through pilot projects.” with the following conclusions:

Importance of the policy mix

Setting a policy mix is necessary to have a coherent, coordinated and effective policy. Cooperation, subsidiarity, complementarity, and harmonization between the different decision making levels and policy instruments are necessary:

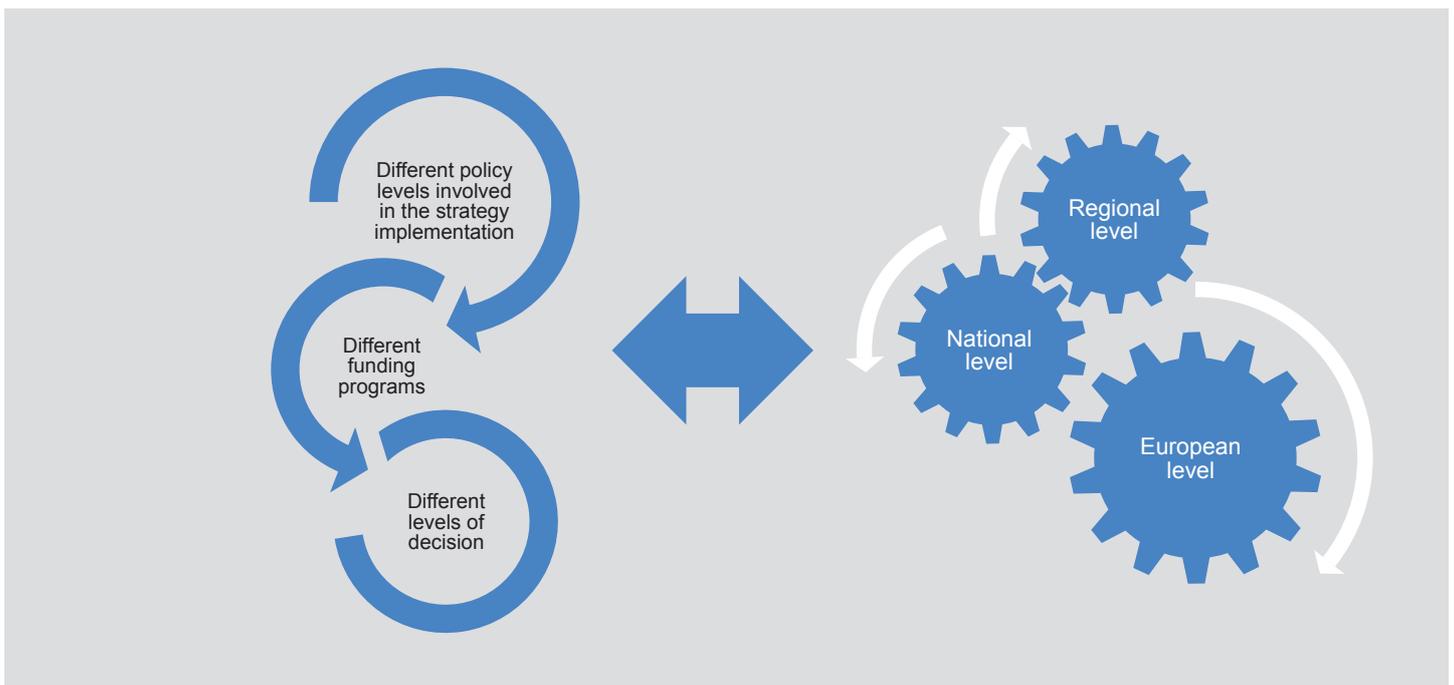


Figure 1. Coordination in Policy Mix at different levels

The crucial questions to answer are:

- How to ensure appropriate policy coordination across the diverse policy fields, and the various levels of authorities?
- How to put them together to have an effective and efficient support to innovation and economic growth?
- How to put the right ingredients together to suit our strategic goals, given the different programs constraints?

We have to design the most adequate action plan and measure mix to serve our goals together with the most appropriate financial instruments to fund them.

There are first two basic challenges to set these action plan:

The first one is to ensure that there is no gap in the innovation chain, the second one is to avoid an overlap in decision-making and tools.

Be aware of a balanced mix of individual conditions

Regions are facing different situations to address the policy mix, depending on their level of autonomy, their competences, the funding, and their governance.

These different situations have to be taken into account, as there are the basis to develop a “realistic” action plan.

Final policy mix targets

Policy mix should cover all different needs of beneficiaries who are companies, and in particular SMEs. For that, companies’ needs have to be understood and taken into account.

This implies the use of a monitoring system of companies’ needs over time, but also to the ability to deliver different services for different companies’ profiles.

Characteristics of the policy mix

A policy mix should be flexible, adaptable, able to change, evolve depending on regional, national and international context.

The underling challenge concerns the evolution of already existing tools and their mix with new ones.

A possible solution in order to find the right equilibrium is provided by the implementation of pilot projects, which allow testing new instruments and evaluating their efficiency before implementing them at a large scale.

How to “deliver” policy mix?

Depending on the main variables already mentioned (autonomy, regional competences, funding and governance), the action plans have to be drawn with definition of priorities and objectives, budgets and pilots.

For each action line, there is to define precisely:

- the objective
- the tools and projects to put in place to answer to the objective: existing ones and/or new ones
- the target groups: who is concerned by each measure
- the intermediaries matter: which actors are involved with which responsibilities
- the funding sources to implement the actions
- the timeframe for implementation of each action
- targeted objectives to assess results and impacts of the actions

In order to build consensus, the process of implementation of the policy should be well structured, understandable and transparent. It should also be accessible and readable for beneficiaries. And it has to be adjustable in order to follow the evolutions of the regional, national and international context.

The conditions and characteristics of definition and implementation of a policy mix mentioned above are translated by the KNOW-HUB partnership into the following challenges for the regional stakeholders. These challenges are of particular importance for the process of RIS3 policy implementation.

2.5.1 Avoid overlapping in decision making and tools

The question behind this challenge is how to ensure coherence and consistency both horizontally and vertically? How to avoid overlapping of different actors and policy levels?

This requires to set clear strategies and objectives, through the coordination of actors across thematic and implementation levels. In this regards the Balanced Scorecard Approach as developed and applied by Lower Austria partner is a good approach.

The governance has also to be defined clearly, as well as clear strategic contracts. Negotiations with other levels, either national and/or local, must take place, such as in Castilla Y Leon where there are contracts and joined financing with other (lower) levels, and in PACA where there are negotiations with national level.

The basic principle is to adapt the framework of the higher level.

2.5.2 Ensure that there is no gap in the innovation chain

The objective is not necessarily to cover the whole innovation chain, but to address efficiently the identified difficulties through the financing of well-selected activities.

In this regard, background information is necessary in order to understand the innovation process well. Questionnaires addressed to regional companies are a good way to gather this kind of information as done in Wielkopolska, Lower Austria or PACA.

Based on the understanding of the innovation process, and after questioning what public money can and should do, a careful planning of instruments can be done by filling the gaps of existing tools.

Establishing “Innovation Assistants” in Banská Bystrica

So far too few companies in Banská Bystrica have a well developed innovation strategy and are putting sufficient emphasis on their innovation activities. Thus, crucial support within the innovation chain is to motivate regional companies to innovate.

Based on the peer review of the own regional innovation policy and on the exchanges with the KNOW-HUB partners Banská Bystrica has elaborated the measure “Facilitating innovation in non-innovative companies through “Regional Innovation Assistants” (RIA)”. These RIA will help companies to identify potential innovation projects/activities and benefits through advice and on-site visits of companies’ facilities. RAI must have good contacts to R&D centres, universities and regional business in order to improve the innovation supply chain and the networking among actors of the regional innovation system.

Banská Bystrica will import the concept of the Good Practice “Innovation Assistant” from Lower Austria.

2.5.3 Set the adequate financial engineering

A pre-condition is to have a good knowledge of existing funding schemes. Then, among the different funding schemes, these best tools and the proper way of their combination are to be chosen to fulfill the objectives targeted.

Financial engineering has to consider the individual regional situation, including the existence or the gap of own responsibility for structural funds money. Based on this degree of responsibility financial engineering also comprises the preparation and provision of own regional funding schemes.

In any case a regional initiative like RIS3 should be combined with own financial resources – or at least with the power for regional actors / stakeholders to decide upon allocation of money – in order to be attractive for the regional authorities and stakeholders.

2.5.4 Understand and take into account companies' needs

Different sources of information can be used: statistics, research, company audits, self-assessment tools, large-scale questionnaires, CRM systems, monitoring of programs. All these information has to be merged to better understand companies' needs.

CRM – Customer Relationship Management system for Provence-Alpes-Côte d'Azur

Since the creation of the Regional Innovation Observatory in 2009 we have developed several tools and approaches to understand and better take into account companies' needs (questionnaires and in particular the biennial SMEs barometer, financial data analysis, punctual surveys on specific targets,...), but these approaches are not coordinated enough, information is not as much capitalized as it could be and not enough shared among regional stakeholders and with intermediaries.

In this regard and thanks to the exchanges within the Know Hub project, especially with the Nord-Pas de Calais partner NFID who has a huge experience in information platform development with their system called ASTRIDE, we have decided to develop a CRM – Customer Relationship Management system and are currently working on its definition.

The objective is to gather and share through this system all the information we have on the regional companies in order to better target them, understand their needs and support them in their development.

2.5.5 Evolution of already existing tools and their mix with new ones

In order to avoid an overlap between new and old tools, a continuous improvement process of the Regional Innovation System is required thanks to monitoring and evaluation.

2.5.6 Translate the strategy into practice – the policy implementation process

A core question is: How to keep the strategic approach along the implementation process?

First, communication is a key point: it has to be permanent and both ways.

The other condition is to ensure that all the competences are mobilized and actors are involved along the objectives. In this regards the Balanced Scorecard Methodology is a good tool to align the process of translating the objectives into activities for the different actors, as well as the online tool to coordinate intermediaries developed by Nord-Pas de Calais.

The difficulty lies in giving flexibility in activity planning within a broad objective.

2.5.7 Be flexible

Although all policy instruments have to be aligned with the Regional Innovation Strategy for Smart Specialisation, the policy mix has to be flexible, adaptable, able to change and evolve depending on regional, national and international context.

2.6 Step 6 “Integration of Monitoring and Evaluation Mechanisms - Smart Specialisation as Continuous Improvement Process”

Author: Hans-Christian Jäger, IDEUM

Without monitoring and evaluation no evidence-based innovation policy and thus no implementation of Regional Innovation Strategies for Smart Specialisation is possible due to missing information about gained results and achieved impact. Thus Step 6 is not “the last one”, but at the heart of RIS3.

*The Guide to Research and Innovation Strategies for Smart Specialisation (RIS 3)*⁴ (see page 60) defines monitoring and evaluation in the following way:

“Monitoring differs from evaluation in two main respects. Monitoring aims to verify that the activities are planned, funds are correctly used and spent on delivering planned outputs and that result indicators evolve in the desired direction. Evaluation, however aims to assess effects (i.e., the contribution of the interventions to changes in the result indicator) and to understand why and how the effects are being achieved. It should take account of unintended results as well as the underlying mechanisms.

Monitoring is normally carried out by actors responsible for implementation, while evaluation should be carried out by independent experts, but guided closely by those responsible for the policy. Monitoring and evaluation complement each other. Monitoring provides part of the empirical basis for evaluation, while evaluation may raise the need for improved monitoring indicators (to capture new elements, e.g. the depth of partnerships involved in collective actions).”

2.6.1 RIS3 Scoreboard as roof for the RIS3 process

Monitoring and evaluation has to match the RIS3 characteristics. It has to be process and result oriented following the individual objectives of the Regional Innovation Policy for Smart Specialisation.

Balanced Scorecard (BSC) application in Castilla y León

The Balanced Scorecard (BSC) concept is developed as central monitoring and evaluation system for the overall RIS3 of Castilla y León. It is the result of a long-term process within KNOW-HUB including in-depth exchange with Lower Austria about the successful BSC application for their RIS3 policy, a KNOW-HUB training workshop on BSC and a series of workshops in Castilla y León with stakeholders and external support by IDEUM.

The former monitoring system, in force during the Regional R&D&I Strategy of Castilla y León 2007-2013, contained a set of statistical indicators, linked to each one of the strategic objectives. These indicators however did not provide enough information for evaluating actual outputs and results of the innovation policy, as they did not account for the contribution of the individual programs/actions.

The developed BSC objective map for the RIS3 of Castilla y León (the “Rood Map”) defines a multilevel set of objectives accounting for the needs of customers (i.e., companies, universities, research centres, etc.), the characteristics of the launched measures to achieve excellent results, and the assets/knowledge required for the above. The definition of a corresponding set of macroeconomic and operational indicators for the objectives ensures actual applicability of the monitoring system.

For single RIS3 programs own multilevel objective maps with relevant indicators are developed with clear links to the objectives of the RIS3 “Roof Map”.

⁴ Guide to Research and Innovation Strategies for Smart Specialisation (RIS 3). March 2012.
<http://s3platform.jrc.ec.europa.eu/de/s3pguide>

The set of indicators should measure the output of policy instruments and their impact in form of contribution to defined overall objectives. The actual results (effects) and the result efficiency have to be documented in order to be able to demonstrate the added value of innovation policy and the efficient use of public money.

2.6.2 Start smart with simple systems

Elaborated regional indicator systems and related monitoring systems often have a very high complexity which is hampering their application because high complexity requires high skills and experiences, otherwise such systems are hardly manageable and public authorities will stay in the stage of development and discussion.

Sometimes the data for selected indicators are available only on national, but not on regional level. In this case it should be checked whether own regional surveys can be carried out or whether existing surveys on national or European level can be regionalised by enlarging the regional sample in order to get a representative sample for the region.

It is better – in particular for regions with few experiences in monitoring and evaluation – to start with simple, hands-on and a limited number of monitoring and evaluation exercises in order to achieve concrete findings and experiences. Concrete monitoring and evaluation findings can be used for discussions with RIS3 actors and companies leading to further improvement of RIS3. This added value will also increase the trust of RIS actors and their willingness for cooperation in monitoring and evaluation. This is the basis to extent regional monitoring and evaluation activities.

Starting with a complex, hardly manageable system from the beginning implies the high risk of lowering the acceptance by the RIS actors with higher likelihood not to succeed with the monitoring/evaluation activities and not to come up with valuable findings.

2.6.3 Create a positive image of monitoring and evaluation

Monitoring and evaluation of regional innovation policies and its instruments has usually a negative image because monitoring and in particular evaluation is often linked with “control” and “punishment” in case of critical or negative results, e.g. when an evaluation is leading to the closure of an evaluated service provider or to the abandoning of an evaluated service. Such negative experiences in monitoring evaluation seem to be a mainly destructive element of the Regional Innovation System even though it should ensure the quality of the offered innovation services and improve the impact of the RIS3 on regional welfare.

Regional, but often also the national policy, has to change this image by applying monitoring and evaluation as supporting tool for single services and its providers, innovation programs and the overall Regional Innovation Policy. This means that negative or critical results of monitoring and evaluation don't automatically initiate a destructive action like closing the service or intermediary organisation, but to consider such findings as an opportunity for improving a service, program or policy. The mind-set of the RIS service providers will change as the “Fear to Fail” attitude will disappear.

For a positive image it has also to be ensured that monitoring and evaluation procedures and results are transparent and objective. The purpose of monitoring and evaluation is not to confirm an in advance already defined statement but to reveal the actual situation and analyse gained results. Any abuse of monitoring and evaluation is not only harming the evaluated organisation or service, but the overall Regional Innovation System.

2.6.4 Establish a constructive monitoring and evaluation culture

Together with the image change a constructive monitoring and evaluation culture has to be established in the Regional Innovation System, involving all RIS actors like policy makers, public authorities, intermediaries, research and technology organisations as well as companies as beneficiaries.

Documentation of the monitoring and evaluation results with a feedback to intermediaries and companies is an important incentive for participation and an important characteristic of constructive monitoring and evaluation culture.

As soon as monitoring and evaluation results can demonstrate considerable impact on the improvement of innovation services and their added value for companies the RIS actors will become more open for monitoring and evaluation, their contributions to monitoring and evaluation will become more honest and thus more valuable. Data gathering from service providers and from companies as beneficiaries of RIS3 will become easier.

In European regions the companies as beneficiaries of State Aid Schemes (SAS) are often obliged to participate in the evaluation of the SAS, in other regions this participation is on voluntary basis. The assumption that the evaluation in regions with the obligation for companies' participation is easier and leads to more reliable results in general is wrong. A constructive monitoring and evaluation culture cannot be enforced through such obligations. The intensive and open way of interaction between the public authorities and other organisations offering innovation support is the more relevant factor for the quality of monitoring and evaluation results.

Kaleidoscope application in Észak-Alföld

Setting of measurable targets (ex ante and ex post) and output/outcome indicators is very important to feed monitoring and evaluating processes. The Kaleidoscope is the information system of the National Innovation Office's Science and Technology Observatory which is designed to promote the networking of the RDI stakeholders. The Regional Innovation Agencies have a crucial role in engaging RDI actors to register into this system. With the help of this database, RDI stakeholders can be involved in diagnosing problems as may exist within the sector and work out possible solutions. It contains the sector's relevant organizations and those data and analysis which are important for the policies.

During the exchanges with KNOW-HUB partners on this question on need analysis and in particular with Nord-Pas de Calais on their Good Practice InnoScope® we realized that although the InnoScope is a so-called CMS system, it is a real Good Practice and we can learn a lot from/about this system. Similar system can be developed on regional level as well with guiding of experts of KNOW-HUB partner NFID to identify the regional innovation potential.

2.6.5 How to make monitoring and evaluation sustainable

Monitoring and evaluation are no "one shot" activities but require permanent activities with a long-term horizon like the overall Continuous Improvement Process of the Regional Innovation Strategies for Smart Specialisation. Only long-term activities enable the identification of trends and slow improvements like the impact of single policy instruments/programs on the regional macroeconomic indicators. The direct impact of individual services on single beneficiaries will have only long-term impact on the regional performance if the long-term orientation of monitoring and evaluation is ensured.

The ideal system would be a “self-improving monitoring and evaluation system” learning from experiences of former monitoring and evaluation activities.

But experiences in Europe and also in several KNOW-HUB partner regions according to the Peer Reviews show that monitoring and evaluation is rarely established on a long-term basis. Full political and financial backing is required; establishing a positive image and a constructive monitoring and evaluation culture is not sufficient. Usually the implementation of RIS3 and evaluation & monitoring are considered as separate action fields with separated budget lines. Instead of this evaluation & monitoring have to be integrated into RIS3 and its instruments with clearly defined budget. Therefore monitoring and evaluation have to be integrated already in the stage of strategy development and program conceptualisation.

Regional Research and Innovation Scoreboard for Nord-Pas de Calais

Nord France Innovation Développement (NFID) manages the implementation of the RIS3 in Nord-Pas de Calais. Following the conclusions of the RIS assessment (2007-2013 period) NFID will develop a new Regional Research and Innovation Scoreboard to assist the steering committee in monitoring relevant indicators with clear links to the action plan, measuring the impact of RIS3 activities in real-time and benchmarking.

Lower Austria's well developed Impact Assessment and Monitoring System serves as show-case for Nord-Pas de Calais, in particular in terms of application of “qualitative impact profiles for single services/programs” and the Balance Scoreboard System (BSC) which monitors innovation policy implementation with an integrated, multi-level approach.

The region of Provence-Alpes-Côte d'Azur (PACA) implements the Innovation Observatory, which involves statistical and project-based data. It is monitoring the strategic axis (DAS) and is completed by the Innovation Barometer that is fed with data and interviews from enterprises.

The import of parts of both Good Practices will complement our tool ASTRIDE, an on-line platform for monitoring the activities of mature companies and innovative start-ups. The integration into the well-acknowledged and successful ASTRIDE tool will facilitate the sustainability of the comprehensive monitoring system in Nord-Pas de Calais.

2.6.6 How to link the different policy levels and different time horizons?

Monitoring and evaluation is dealing with different levels of individual projects, programs and regional innovation policies. Thus one of the main challenges is the question how to link the monitoring and evaluation results of the different levels in order to show the contribution of the single projects to the program level; in particular to demonstrate the contribution of regional innovation policy instruments to the overall performance of the region as mirrored on the long run by the macroeconomic indicators. To close this time gap a sustainable monitoring and evaluation system is a necessity – as explained in the chapter above – but not the sufficient condition.

Appropriate methodologies have to be developed and applied to demonstrate regional effects of innovation policy instruments. As usually no up-to-date regional input-output tables exist this statistical deduction of regional effects is very difficult. At least a long-term observatory of regional performance and macroeconomic trends in combination with a cockpit of direct results of single policy programs helps to get a better understanding of the possible impact of regional innovation policy on regional performance.

2.6.7 Who is responsible for monitoring and evaluation?

As monitoring and evaluation is affecting all RIS actors, the same RIS actors should be involved and feel responsible. The regional authority being responsible for the regional innovation policy has to ensure this involvement in a proper way as well as has to coordinate all the monitoring and evaluation activities of the RIS which can be carried out by different RIS actors. Even though this seems to be self-evident, it is not the common case in Europe. Often the evaluation is under control of the financing organisation which is not the authority responsible for regional innovation policy. This situation can for example appear in European Countries when the regional innovation policies are mainly financed by Regional Operational Programs, which are managed by institutions at national level.

Who is finally ordering and supervising external evaluations for projects or programs, has to be decided between the authority for regional innovation policy and the program responsible organisation. Depending on the regional framework there is no single best solution.

For monitoring it is recommended that the responsible organisation should monitor the own services and programs: if necessary with external support, in particular when skills or experiences are missing when starting with monitoring activities.

In particular in large regions it might be necessary to establish a monitoring system for innovation policy instruments on the sub-regional level reflecting local particularities and not hiding sub-regional disparities. This doesn't mean necessarily to have a sub-regional monitoring system but to ensure that the regional monitoring system allows the reflection of sub-regional activities and particularities.

Further information about the different level of monitoring and evaluation interlinked Good Practices with the respective responsibilities can be found on the SCINNOPOLI – SCANNING INNOVATION POLICY IMPACT – website⁵ and in the SCINNOPOLI Policy Recommendations.

⁵ <http://www.scinnopoli.eu/Results.html>

3 The most important challenges for KNOW-HUB partners

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After having elaborated the list of most relevant challenges for KNOW-HUB partners in developing and implementing a Regional Innovation Strategy on Smart Specialisation KNOW-HUB partners carried out an self-assessment about the most relevant challenges for their own region with a scale range from “1 = challenge is not important” to “5 = challenge is very important”. Every KNOW-HUB partner made an assessment only for those challenges that have importance for the own region. KNOW-HUB Partner were not obliged to assess every challenge, which means that less important challengers where not nominated by the single partners.

Some partners have nominated numerous challenges as important for the RIS3 in the own region, other regions have nominated less. Out of 10 KNOW-HUB partners who are representing regions or sub-regions 3 partners have assessed challenges, while other partners have assessed between 4 and 31 challenges being important for their own RIS3.

4 challenges out of 56 challenges identified by the KNOW-HUB partnership were assessed by 8 partner regions as important. These are the most often nominated challenges:

Number	Challenge	Importance Scale	Number of Nominations
5.2	Ensuring there is no gap in the innovation chain!	4,0	8
1.2	Tailor-made analysis for regional RIS3 purpose and objectives!	3,8	8
1.7	Integration of an outward looking perspective!	3,4	8
3.3	Make local people think globally!	3,4	8

The most often nominated challenges are not the challenges with the highest importance scale. The TOP 10 challenges with the highest importance scale are:

Number	Challenge	Importance Scale	Number of Nominations
1.8	Preparation and presentation of analysis results in an easily comprehensible way!	4,7	3
5.4	Understand and take into account companies' needs!	4,5	6
4.1	Fact-based selection!	4,4	7
5.3	Financial engineering!	4,4	7
1.3	How does regional Economy work? – no addiction to statistics!	4,4	5
1.5	Understanding the Regional Innovation System (RIS)!	4,4	5
2.3.6	Organize it - Ensuring leadership!	4,4	5
6.6	How to link the different policy levels and different time horizons?	4,4	5
2.4.1	Provide resources - Allocating budgets!	4,3	6
6.5	How to make Monitoring and Evaluation sustainable?	4,3	7

There is a weak correlation between the number of nominations and importance scale per challenge, as depicted in the following diagram:



Figure 2. Correlation between Number of Nominations and Importance Score

The full overview over the importance scale and number of nominations for all 56 identified challenges in their sequence of description in the previous chapter is given in the following table:

Step and Challenge	Importance Scale	# Nominations
1.1 What means "innovation"?	3,5	6
1.2 Tailor-made analysis for regional RIS3 purpose and objectives	3,8	8
1.3 How does regional Economy work? – no addiction to statistics	4,4	5
1.4 Focus on companies' needs	4,1	7
1.5 Understanding the Regional Innovation System (RIS)	4,4	5
1.6 Establish transparency and work on objective results	3,8	4
1.7 Integration of an outward looking perspective	3,4	8
1.8 Preparation and presentation of analysis results in an easily comprehensible way	4,7	3
2.1.1 Building on what you have - focusing on real problems	3,8	5
2.1.2 Building on what you have - Ensuring continuity of the governance structure	3,8	6
2.2.1 Think who this is for - Undertaking an in-depth stakeholder analysis	3,5	4
2.2.2 Think who this is for - Ensuring the constant process of listening to the stakeholders' needs	3,9	7
2.2.3 Think who this is for - Aligning different positions and instruments	4,0	6
2.3.1 Organize it - Defining the governance structures and giving them legitimacy	4,0	6
2.3.2 Organize it - Delegating tasks while making sure there is always high commitment to achieve results	4,0	6
2.3.3 Organize it - Involving different groups of actors	4,2	6
2.3.4 Organize it - Ensuring balance between different actors and levels	3,2	5
2.3.5 Organize it - Ensuring knowledge-based consensus	3,6	5
2.3.6 Organize it - Ensuring leadership	4,4	5
2.3.7 Organize it - Defining the decision-making process	4,0	4
2.3.8 Organize it - Involving central government and EU structures	4,0	4
2.3.9 Organize it - Making sure there are multiple relations between different actors and governance levels	3,0	3
2.3.10 Organize it - Helping actors create synergies in their actions	4,2	5
2.4.1 Provide resources - Allocating budgets	4,3	6
3.01 Communication and acceptance	4,0	5
3.02 Keeping the process well-structured and transparent	4,2	5
3.03 Make local people think globally	3,4	8
3.04 Building consensus among diverse visions of stakeholders	4,0	6
3.05 Ensure that the vision is not "visionary"	3,5	4
3.06 Keeping the process objective by using correct data and evaluations	3,3	4
3.07 Motivation to start the process	3,0	3
3.08 Creating ownership to the vision	4,0	5
3.09 Keeping stakeholders engaged	3,9	7
3.10 Too many visions	2,3	3
3.11 The "scale of the vision" and the "size of the pocket"	3,5	4
4.1 Fact-based selection	4,4	7
4.2 Tackling influence and focusing priorities	4,0	5
4.3 Planning for the future	4,3	4
4.4 Can everybody be excellent?	3,7	6
4.5 Smart cross between administrative and economic barriers	3,3	4
4.6 Objective assessment	3,0	3
4.7 Consensus-finding and target groups	3,8	4
5.1 Avoiding overlapping in decision making and tools	2,8	4
5.2 Ensuring there is no gap in the innovation chain	4,0	8
5.3 Financial engineering	4,4	7
5.4 Understand and take into account companies needs	4,5	6
5.5 The evolution of already existing tools and their mix with new ones	4,0	6
5.6 The policy implementation process (action plans)	4,2	5
5.7 Making a policy mix flexible, adaptable, able to change and evolve depending on regional/national/international context	4,0	4
6.1 RIS3 Scoreboard as roof for the RIS3 Process	4,2	5
6.2 Start Smart with Simple Systems	4,0	4
6.3 Create a positive image of Monitoring and Evaluation	3,9	7
6.4 Establish a constructive Monitoring and Evaluation Culture	4,0	7
6.5 How to make Monitoring and Evaluation sustainable?	4,3	7
6.6 How to link the different policy levels and different time horizons?	4,4	5
6.7 Who is responsible for Monitoring and Evaluation?	4,2	6
Average Score	3,9	297

In addition to the analysis of the importance of single challenges KNOW-HUB partners also assessed the importance of each the 6 steps for RIS3 development by calculating the average scale over the importance scales of the single challenges per step.

As shown in the table below the hands-on steps of Policy Implementation (Step 5 “Establishment of suitable policy mix with regards to policy implementation”) and of Impact Assessment (Step 6 “Integration of Monitoring and Evaluation Mechanisms – Smart Specialisation as Continuous Improvement Process”) are considered by the KNOW-HUB partners as the most challenging steps:

Step	Importance Scale [1 = not important ... 5 = very important]	# of nominated Challenges within Step
Step 1 “Analysis of the regional context and potential for innovation”	3,9	46
Step 2 “Set up of sound and inclusive governance structure - towards Collaborative Leadership”	3,9	83
Step 3 “Shared Vision about the future of the Region - Mobilizing stakeholders”	3,6	54
Step 4 “Selection of a limited number of priorities for regional development – Smart Choices and Critical Mass”	3,8	33
Step 5 “Establishment of suitable policy mix with regards to policy implementation”	4,1	40
Step 6 “Integration of Monitoring and Evaluation Mechanisms - Smart Specialisation as Continuous Improvement Process”	4,1	41
Average Scale / Total Nominations	3,9	297

On the other hand the visionary and priority setting steps (Step 3 “Shared Vision about the future of the Region - Mobilizing stakeholders” and Step 4 “Selection of a limited number of priorities for regional development – Smart Choices and Critical Mass”) are considered a little bit less challenging. This assessment underpins that regions have in particular difficulties with implementation and monitoring/evaluation of RIS3 policy while regional consensus on a shared vision and on selection of priorities is easier to achieve – because the shared vision and selected priorities have no actual consequence for individual RIS actors – until RIS3 policy enters the stage of implementation and monitoring/evaluation.

In order to overcome these implementation obstacles the first 2 steps of the RIS3 process have to lay the foundation for the implementation and monitoring steps by providing sufficient political and financial power, strong governance and by analysis results providing the backing for implementation decisions even though without having full regional consensus.

Acronyms and abbreviations

BSC	Balanced Scorecard
C3	Component 3 of the Know-Hub Project dealing with "Exchange of experiences dedicated to the identification and analysis of good practices"
CRM	Customer Relationship Management
HEI	Higher Education Institutes
R&D+I	Research and Development + Innovation
RIS	Regional Innovation System
RIS3	Regional Innovation Strategies for Smart Specialisation
RTO	Research and Technology Organizations
SAS	State Aid Schemes
SME	Small and Medium Enterprises
SWOT	Strengths, Weaknesses, Opportunities and Threats

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Partnership

- (PL) Poznan Science and Technology Park – Wielkopolska
- (BE) European Association of Regional Development Agencies
- (HU) INNOVA Észak-Alföld Regional Development and Innovation Agency
- (ES) Basque Government
- (FR) Nord France Innovation Développement
- (FR) ARII-PACA, Agence Regionale pour l'Innovation et l'Internationalisation des entreprises (ex Méditerranée Technologies)
- (AT) Lower Austrian Government
- (DE) Association of Counties and Cities in the Weser-Ems
- (SK) Banská Bystrica Self-Governing Region
- (ES) Castilla y León Regional Government. The Castilla y León Universities and Higher Education Foundation
- (BG) Applied Research and Communications Fund
- (BG) Municipality of Gabrovo

