



Junta de Andalucía

Consejería de Transformación Económica,
Industria, Conocimiento y Universidades

AGENCIA DE INNOVACIÓN Y DESARROLLO
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***Assessing the potential impact of Smart Specialisation
by analysing the macro-linkages between the enhanced
quality of policy governance resulting from the adoption
of the strategies, induced changes in innovation
ecosystems and the effects in terms of growth and jobs***

***RIS3Andalucía
Preparatory Work-document***

RIS³
ANDALUCIA

June 2020



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Background Note from IDEA Agency, RIS3Andalucia Technical Secretariat, prepared in view of the 3 Webinars organised by the Smart Specialisation Platform in November 2020

Guidelines: Potential links of the three aspects focusing the working group considered together with the indicators that have been used and/or will be use for S3 impact assessment.

Enhanced quality of policy governance resulting from the implementation of S3 Strategies

This can relate to: - New institutional arrangements (new coordination mechanisms between government bodies, allocation of responsibilities); - New governance system and approach, new infrastructure; - New forms of stakeholders involvement, new relationships between relevant actors (EDP); - Improved administrative capacity, new skills, other...

The principles, approach and schemes guiding RIS3Andalucia Governance (public-private co-decision, openness and transparency, quadruple helix stakeholders, participative processes, inclusiveness,...) were new elements for the regional planning, that have definitively spilled-over the rest of regional sectorial plans and strategies in Andalusia designed during this period

Thus we can confirm the evidence of its successful influence on regional sectorial economic planning, as the own Intermediate Evaluation Progress Report of RIS3Andalucia has shown:



Influence of RIS3Andalucía in regional planning	INFLUENCE	
	Objectives	Programming
	Assessment	Assessment
Andalusian Industrial Strategy 2020	High	High
Andalusian Mining Strategy 2020	Medium	Medium
Andalusian Strategy for Energy 2020	Medium	Medium
Strategy for the Promotion of ICT sector in Andalusia	High	High
R&D&I Andalusian Plan	High	High
Research and Innovation Strategy for Health	High	High
Strategic Plan for the Internationalization of the Andalusian Economy	Low	Medium
Andalusian Strategy for Circular Bio economy	Medium	Medium
Andalusian Strategy for Innovation Public Procurement	High	High

Some regional Strategies have assumed not only the RIS3 priorities as basis of the own strategy, but also implemented a similar governance with the creation of specific working groups, implementing and developing through this way its own Entrepreneurial Discovery Process (EDP).

- In the case of EIA2020 (Andalusian Industrial Strategy) these groups, composed by members of the quadruple helix, have served to debate, exchange ideas, agree on the different interests, and define the lines of actions and measures to be developed under the Strategy.
- The working groups composed by regional stakeholders involved with the design of the Andalusian Aerospace Strategy
- A similar influence has had the Andalusian Agro-Tech Digital Innovation Hub.



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RIS3 governance is also having an influence on the dynamic of current EU projects in which Andalusian actors are partners, i.e. the creation of specific Regional Stakeholders Groups under Interreg Europe projects.

Furthermore, the RIS3Andalucia Intermediate evaluation process has also shown the need for a new approach to RIS3 Governance. With the objective to assure a continuous impulse during all the programming period, the governance architecture should include a greater level of its institutionalization, both intra and inters the different Administration departments, maintaining the proper participation of the quadruple helix regional actors. The existence of a mechanism (regulation) linking the responsible at public level with the recommendations raised from the participative working groups would be also desirable.

Induced changes in innovation ecosystems towards economic transformation

For instance in the domains of industrial transition, environmental driven innovation, clusters, knowledge networks, breaking down silos in disciplinary and/or intersectoral work, outward-looking dimension, etc.

Induced changes have occurred in the field of Industrial Transition “Industry 4.0” and Digital Transformation (though it is difficult to measure the direct influence of RIS3 in such a context).

There has been an alignment of the portfolio of technological services to RIS3 Andalucía; i.e. in the case of services offered by CESEAND EEN and CITPIA

There are also evidences of some changes happened related with the external projection foreseen by RIS3Andalucia. Regional actors at the regional ecosystem map have enlarged its perspective and approach:



- Synergies and complementarities with European Territorial Cooperation projects.
- Reinforcement of collaboration with European Networks and new EU regional initiatives, such as Dual Use, ENDR, Vanguard, Scale up, H2020-JTI as CleanSky.
- Promotion of the Andalusian leadership and presence on S3 sub-thematic platforms. As result of the creation of Thematic Platforms promoted by the S3platform. Andalusian government and stakeholders have been very active in leading and joining these groups.

Smart Specialization Platforms lead by Andalusia			
Name	Thematic Platform	Regions involved	Leader Entity
European Regions for Sustainable Building	S3P-Energy	43 Regions: in action and/or having shown interest to participate	Andalusian Agency for Energy
Traceability and Big Data within the Agri-food value chain	S3P-Agrifood	Regions: 20 Associated members: 11	Andalusian Regional Ministry for Agriculture, Livestock, Fishing and Sustainable Development
Digitalization and Security for Tourism	S3P-Industry	Regions: 8 Supported by the European Regions Network for Competitive and Sustainable Tourism	Andalusian Regional Ministry for Tourism, Regeneration, Justice and Local Administration
Advanced Materials for Batteries	S3P-Industry	Regions: 21	Andalusian Agency for Energy

Source: RIS3 Technical Secretariat



Potential impact of Smart Specialisation in terms of growth and jobs

What methodology and mechanisms have been developed in your country/region to assess the impact of the Smart Specialisation approach in macro-economic terms, in terms of sectoral impact, brain drain – brain gain impact, and more generally in terms of jobs and growth

Concerning the RIS3 potential impact, through the intermediate evaluation we have observed that the progresses reached have been uneven with regard to the convergence of the indicators of the final objectives, as following table includes:

Convergence Analysis of the indicators for the final objectives

Final target indicators RIS3 Andalusia	Spain	UE28
R&D expenditure / GDP (%)	No	No
Private R&D expenditure (%)	No	No
Innovation intensity of innovative companies	No	
R&D Staff	No	No
Innovative companies	Yes	
Innovation Spending	No	
Patents applied	Yes	
GVA in High and Medium-High Technology sectors	No	
High and Medium-High Technology manufacturing exports	Yes	
Households with connections above 100 Mbps (%)	Yes	
Andalusian companies incorporated into the digital market (%)	No	No
Population using regularly Internet (%)	Yes	Yes
Companies interacting with Public Administration through Internet (%)	No	
Population interacting with Public Administration through Internet (%)	Yes	Yes
Fast broadband coverage (%)	Yes	Yes

Source: Indicators System of RIS3Andalusía 2020. IECA, 2019; own elaboration



We have also identified that RIS3Andalucía has resulted in some additional effects going beyond the foreseen impacts, regarding:

- Spatial concentration in cities and metropolitan areas
- Sectorial concentration en in medium-high and high technology activities
- Generalized contribution of measures to environmental sustainability
- Persistence of gender inequalities.

Additional spill-over effects addressing particularly the context and activities of the Agents of the Andalusian Knowledge System¹ have been the following:

- High degree of cooperation in the development of R&D projects
- An increase in the level of business competitiveness based on greater specialization, internationalization and concentration of efforts to solve the key needs of companies

Some other spill-over effects addressing the Companies²:

- better market positioning
- development of complementary projects
- increased number of clients
- staff recruitment
- expansion of services
- new markets and products,
- reinforcement of corporate image,
- greater productivity, competitiveness and specialization.

¹ An *Agent of the Andalusian Knowledge System* is understood as a group of people, institution, organization and / or entity at regional level intervening in the processes of generation, transmission, transformation, use and dissemination of knowledge. They are categorised according with the Decree 254/2009 (May 26) of the Ministry of Innovation, Science and Business that approves the Regulation establishing the classification and regulating the procedure for accreditation and the Electronic Registry of System Agents Andalusian Knowledge.

² See Spill-over Effects at the RIS3Andalucia document "*Progress Intermediate Evaluation. RIS3 Andalucía. Final Report*" pg. 29.



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Statistical data available to conduct the impact assessment

The collected data here included are intended to be used only as part of the meta-analysis. Please note that part of the information provided will be used in a report that will be shared with participants, so that we can learn from each other experience. Please let me know about any information provided that should remain confidential.

a) The most recent data provided at regional level by the Andalusian Institute of Cartography and Statistics (official regional source):

It is noteworthy that the Andalusian Institute of Cartography and Statistics (IECA) has design a “System of Indicators for the Monitoring of the Andalusian Innovation Strategy, RIS3Andalucia” counting with the indicators of the final objectives established by the own Strategy. The final purpose of this initiative has been basically to facilitate the monitoring of the Strategy.

The System of Indicators of RIS3Andalucia consists of 28 indicators (12 of context and 16 of results for the medium and long term), defined in the own planning framework from information sources provided by official statistics, guaranteeing technical rigor for data production, obtaining information according with reliable, stable, precise, efficient and proven methodologies, as well as the availability of regular updated information.

Information available at the IECA webpage: <https://www.ieca.junta-andalucia.es/indris3/index.htm>

b) If relevant, your own regional quantitative and qualitative indicators (including the number of EDP meetings organized, the number of participants, and their outcomes)

Some other quantitative and qualitative regional indicators, such as the number of EDP meetings organized, the number of participants and/or their outcomes, do not seem to be relevant to reach the final objectives established by the Strategy, because they could be considered simply as output indicators, but not outcome ones, so that they don't seem to serve for measuring the impact.



In this context, and considering the results obtained through the RIS3Andalucia mid-term evaluation, it would be interesting the design and implementation of a panel with standard indicators for S3, that include the definition of a synthetic RIS3 indicator serving to measure the progresses in the level of specialization of the regions. It is important that this indicator could be also comparable.

c) On the basis of our assessment plans, data on the variables forming the logical chain of impact, following the rationale of your RIS3 (from result indicators to ultimate impact on standard key economic variables such as growth, employment, incomes, etc. (For instance, the impact of patents on profitability, market share for firms, investment, hiring, and on growth (GDP or regional equivalent), etc.).

In order to build the chain of results we need to consider all the links. The initial ones will vary according to the actions, but the final ones are the outcome indicators for Thematic Objective 1, which in the case of the Andalusian ERDF OP are the following:

R001D. % companies making technological innovations
R001E. % companies that make technological innovations and cooperate with universities, public organisms for research, technological centres,...
R001S. Spanish participations in international project consortiums within H2020 program (number)
R003G. % documents published in scientific journals Q1
R003H. Scientific production of Andalusia (number)
R112G. Patents applied to SPTO ³ (number)

The budget for TO1 within the Andalusian ERDF OP reach to 537.3 million Euros for the 2014-2020 period, being the GDP in 2014 of 146,702 million Euros, so that trying to attribute some impact of RIS3 on certain macroeconomic variables such as growth, employment, GDP or income of the region, can be tagged as a rather pretentious task, taking into account on the one hand the short existence of the Strategy and on the

³ The SPTO is the “Spanish Patents and Trademarks Office” (OEPM for its acronym in Spanish).



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other the low budgetary relevance of RIS3 with regard to the regional economy. In any case, using these variables in the current context to measure a possible impact would also give us an image far removed from the reality.

The objective of RIS3, according to the outcome indicators set for the TO1, is innovation in itself. A different question would be to assess the effects of this innovation on the beneficiary entities, but to do that a long time horizon would be necessary, as already mentioned.

That being said, it is difficult to attribute to RIS3Andalucia certain impacts that were not initially foreseen. We are considering that it more appropriate to assess the contribution to its effects on the convergence.

d) if you are intending to integrate any analysis of the repercussions of the coronavirus crisis in your RIS3 impact assessment, please indicate your reflexion on this point.

Indeed, the current situation that we are suffering due to COVID19 pandemic should be taken into account and it will have an impact. We should bear in mind the inclusion of the correspondent data, variables and elements at the time to assess the global RIS3 impact.

Furthermore, for the moment we are noticing that this element is influencing the way that we are preparing ourselves as region for the next S3 generation at the same time that is influencing the way that EU is defining and delimiting investments and priorities for 21-27.

A final reflection

RIS3, as strategies that entail a cultural change having as final purpose the regional economy transformation through research and innovation investments policy, are long-term strategies, which require a time to calibrate and measure their impacts rigorously, spinning with the true evidences the chain of results and the final effects on the economy of the regions. So we are already at an early stage to advance the concrete answers for the question of RIS3 real impact at this moment.



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Consequently, approaching the analysis of RIS3 impact from an attribution perspective (counterfactual analysis) cannot be accurately assessed at least 5 years after the end of RIS3 validity period (namely 2025).

Nevertheless RIS3, as strategies aiming to promote a change at the regional innovation systems, the way in which this change is being afforded and accomplishing should be tackled earlier, applying a less quantitative and more qualitative approach, through methodologies such as the MSC (Most Significant Change) or similar, whose implementation is based on mixed tools and focuses on the perception of the beneficiary population. The question using this technique would be: What most significant change have you observed in your company, person, institution, etc., with the implementation of RIS3?