



INDICATORS FOR MONITORING AND EVALUATION OF REGIONAL INNOVATION STRATEGIES FOR SMART SPECIALISATION (RIS3)

Background note

THE IMPORTANCE OF INDICATORS FOR MONITORING AND EVALUATION OF RIS3

Regional innovation strategies for smart specialisation are integrated, place-based economic transformation agendas to promote efficient, effective and synergetic use of the financial resources devoted to research and innovation, in order to increase the competitiveness of European regions, which will ultimately favour the growth and prosperity of Europe as a whole.

Cohesion policy for the period 2014-2020 must be strongly orientated towards results in order to contribute to the Union strategy for smart, sustainable and inclusive growth (European Commission, 2012b). Establishing monitoring indicators and planning evaluations are important elements of the RIS3 design process. Indicators are proxies to capture the context, and the outputs and results of a policy intervention. Their limitations are also acknowledged, in that they can only to a limited extent capture the complexity of the programmes and their effects. Indicators should be clearly defined, the chosen measurement unit shall be indicated and they shall be periodically measured (European Commission, 2011).

Monitoring differs from evaluation in terms of both goals and actors involved in their execution. While *monitoring* aims at "verifying that activities are planned, funds are correctly used and spent on delivering planned outputs and that result indicators evolve in the desired direction" (European Commission, 2012a, p.59), *evaluation* should aim at assessing the effectiveness of the actions undertaken, and the modalities through which the effects have been achieved. The analysis of unintended results should also be a central part of the evaluation phase. As for the actors involved, while monitoring is usually carried out by agents responsible for implementation, evaluation should be carried out by independent experts, in close contact with those responsible for the policy.

It is important to stress here that the definition and the selection of the indicators should encompass both the initial stage of the design of the strategy, and the medium- and long term period, when progress needs to be monitored and evaluation carried out.

The integrated monitoring and evaluation (M&E) mechanism of a RIS3 is expected to include three types of indicators: [1] *context indicators*; [2] *output indicators*; and [3] *result (or outcome) indicators*.

1. A *context indicator* is a datum which provides simple and reliable information describing a variable relative to the context. It gives information about a situation and its evolution in a country/region, or an area relevant to the assistance policy. These indicators are often designed to highlight the specificities of a local context. As Smart Specialisation strategies are - by definition - outward oriented policy agendas, the selected context indicators should make possible to score the region against the average score of its Member State or other similar regions. They could deal with [i] economic and financial fields, i.e. GDP, trade flows; [ii] social fields, i.e. demography, occupation, gender; and [iii] specific sectors, i.e. education, health, environment (European Commission, 2006).

2. *Outputs* are policy actions deliverables whose intended task is to lead to results (Barca and McCann, 2011); output indicators describe the “physical” product of spending resources through policy interventions. Examples are: the length, width or quality of the roads built; the number of hours of extra-teaching hours provided by the intervention; the capital investment induced by subsidies (European Commission, 2011).
3. *Results/outcomes* are specific dimensions of well-being and progress that are intended to be influenced (positively or negatively) by the policy actions, i.e. what it is intended to be changed with the contribution of the interventions designed (European Commission, 2011). Within the RIS3 framework, a result (outcome) indicator can be defined as a quantitative or qualitative variable able to measure the changes connected to a policy intervention included in the RIS3 strategy. For instance, the time needed to go from location X to location Y would be an (outcome/result) indicator when the pursued policy outcome is mobility (while indicators such as the length, width or quality of the new roads would all be output indicators). As outcome/result indicators are measure of changes, they should also have a *baseline*, indicating the situation before the start of the policy intervention. *Targets* for result indicators should also be included in the RIS3 document, both in terms of short-term and medium/long-term.¹

A very important difference between *context indicators*, on one side, and *output* and *result/outcome indicators* on the other side, is that while the former do not necessarily need to be anchored to policy (as they mainly describe the social and economic context of a region), the latter can be defined only once the policy has been agreed upon and the target population that could be (positively or negatively) affected by the policy intervention has been identified.

CHALLENGES

Two main challenges can be identified: [1] structured and evidence- and data-based approach leading to the definition of a set of indicators for monitoring and evaluation of RIS3 and [2] the use of a set of methodological criteria when selecting indicators.

Reflecting on the future of Cohesion Policy, Barca and McCann (2011) call for a system of monitoring and result/outcome indicators where “[...] each Member State and region chooses, according to agreed general principles, those outcome indicators that are most suitable to capture the objectives of its own programmes [...] and to track the progress towards them, and commits to annually” – or regularly if not possible on an annual basis– “report about changes in these indicators and to evaluate impacts”. Given the increased importance that result indicators will have in the 2014-2020 programming period, also with respect to RIS3, the identification of indicators and the arrangements for monitoring and data collection appears as a major challenge.

A second challenge is associated to the need to identify a set of indicators for M&E of RIS3 which adequately comply with a number of well established methodological requisites. Building on the methodological approach set up in Atkinson et al. (2002), Barca and McCann (2011) suggest that indicators for future cohesion policy should fulfil the following criteria, and be:

1. Reasonable: able to capture the different aspects and objectives of the policy intervention.
2. Normative: having a clear and accepted normative interpretation.

¹ See Annex for a list of possible output and result/outcome indicators for RIS3.



3. Robust: reliable, statistically and analytically validated, and complying, as far as practicable, with international standards.
4. Responsive to policy: linked in as direct way as possible and potentially affected by the policy actions.
5. Feasible: built, as far as practicable, on available underlying data.
6. Debatable: timely and openly available to a wide public.

EXPECTED CONTRIBUTION OF THE WORKSHOP

The workshop will gather a number of high level academic and policy experts in the field of regional science and regional policy to discuss around the use of indicators for RIS3. Regions registered in the S3 platform are expected to actively participate in the discussion. They will be encouraged to share their experience and the problems they are encountering in setting up monitoring and evaluation mechanisms for RIS3. The workshop will act as a forum to facilitate and support the creation of small working groups of regions having similar characteristics or facing common problems.

References

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ANNEX

A1. Examples of programmes objectives, outputs and expected results and possible related indicators

Objectives	Expected results		
Programme Aims	Outputs	Short term results	Medium/Long-Term results
Increase awareness of a set of new technologies	Awareness campaign, visits to fairs, advisory services	Adoption of technologies	Improved business performance; continuing awareness and adoption of related technologies
Improve the skill basis of a set of industries	Training sessions, staff exchanges	Improved technical competencies of staff, increase effectiveness of in-house R&D	Improved innovation performance, increased technological absorptive capacity
Increase science-industry links	Student placements, academic-industry cooperation projects or networks	Improved skill, technical competence and knowledge base, change of behaviours, increase in prototypes	New products and services based on innovation, increased quality of production
Increase of research activity in a region	Research subsidies to enterprises or universities/research centres	Increase in research expenditure in firms, increase in patents or publications	Improved innovation performance, enhanced reputation
Stimulate the start-up of new technology-based companies	Finance and information for future entrepreneurs, incubation	Creation of new high-tech companies	Long-term growth and sustained development of new high-tech industrial sectors
Possible indicators	Number of visits, of placements, of projects, of incubated start ups, amount of funding for future entrepreneurs etc.	Number of new enterprises created, number of enterprises having adopted a new technology, number of staff reporting new working behaviours etc.	Increase rate of productivity Increased share of turnover based on innovation, increased export share, new products on the market, growth of employment in knowledge-intensive sectors, R&D expenditure per worker etc.

Source: European Commission (2012), *Guide to Research and Innovation Strategies for Smart Specialisation (RIS3)*, p. 61.