

Danube Region Strategy Knowledge Society



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ANALYSIS RIS3 IN EUSDR – MONITORING, EVALUATION & RECOMMENDATIONS



Introduction

National/regional research and innovation strategies for smart specialisation (RIS3) are integrated, place-based economic transformation agendas that do five important things:

- They focus policy support and investments on key national/regional priorities, challenges and needs for knowledge-based development, including ICT-related measures;
- They build on each country's/region's strengths, competitive advantages and potential for excellence;
- They support technological as well as practice-based innovation and aim to stimulate private sector investment;
- They get stakeholders fully involved and encourage innovation and experimentation;
- They are evidence-based and include sound monitoring and evaluation systems.¹

A national/regional research and innovation strategy for smart specialisation can be seen as an economic transformation agenda based on four general principles summarised in four 'Cs'²:

- (Tough) Choices and Critical mass: limited number of priorities on the basis of own strengths and international specialisation – avoid duplication and fragmentation in the European Research Area – concentrate funding sources ensuring more effective budgetary management.
- Competitive Advantage: mobilise talent by matching RTD + I capacities and business needs through an entrepreneurial discovery process.
- Connectivity and Clusters: develop world class clusters and provide arenas for related variety/cross-sector links internally in the region and externally, which drive specialised technological diversification – match what you have with what the rest of the world has.
- Collaborative Leadership: efficient innovation systems as a collective endeavour based on public-private partnership (quadruple helix) – experimental platform to give voice to unusual suspects.

Developing smart specialisation strategies in all Danube region countries (or their regions) is one of the targets of EUSDR PA7 and therefore support to process of RIS3 development in non-EU Danube Region countries is defined as one of the specific objectives in DTP PAC project for period 2020-2022.

In order to collect data regarding RIS3 design, implementation, monitoring and evaluation, PA7 team launched in 2021 a survey concerning RIS3 processes in the Danube region countries. The survey questions are presented in Annex I. The objective of the questionnaire was collection of best practices and initiatives related to smart specialisation strategies across the Danube region in order to support countries and regions with relevant policy recommendations. Among the 11 Danube region countries that have adopted smart specialization strategies, the feedback was

¹ European Commission (2012). Guide to Research and Innovation Strategies for Smart Specializations (RIS3), p. 8. Retrieved from:

https://ec.europa.eu/regional_policy/sources/docgener/presenta/smart_specialisation/smart_ris3_2012.pdf

² European Commission (2012), p.17.



received from three EU countries (Bulgaria, Czech Republic, Slovakia) and two non-EU (Montenegro and Serbia). Therefore, this deliverable summarizes RIS3 experience of the experts from these five countries.

1. RIS3 Implementation

The major **sources for funding RIS3 implementation** in the EU countries are:

- state budget (institutional and project financing; ESIF co-financing from the state budget)
- EU funds (European Structural and Investment Funds; EU programmes such as Horizon 2020, Horizon Europe; newly prepared EU instruments – e. g. Recovery and Resilience Facility, the Just Transition Mechanism and the Modernisation Fund (the amount of funding and the possible links to RIS3 strategies is still being refined))
- private business sources (domestic, foreign).

In the non-EU Danube region countries, funding sources are: state budget; IPA 2018 and donor funds (e.g. in Serbia donors are UNDP, USAID, Philip Morris International through StarTech project).

Majority of the EU Danube region countries have established **working groups related to S3 priorities**. These working groups (often named domain platforms or national innovation platforms) are mainly consultative and have the aim to identify needs, help better define priorities or identify business opportunities. They also propose prospective topics in the field of R&I; specify the areas of possible links between practical needs and the focus of public R&D organisations; identify technology gaps (infrastructure needs) in R&D organisations; map the potential and interest in co-operation between businesses and R&D organisations; assess the feasibility of the proposed solutions/topics.

The activities of the working groups/platforms are the essential mechanism of searching for the path of transition and development of prospective industries. It is a way of gaining and aggregation of diffused needs and potentials from important stakeholders and identifying key transformation activities. The quality of their work is increasing in each programming period and they significantly contribute to the entrepreneur discovery process (EDP).

On the other hand, in the non-EU Danube region countries these working groups are still not fully operational, i.e. they are in the process of preparation and ensuring full functionality. The reasons for this are relatively recent adoption of smart specialisation strategies in the non-EU countries, governmental and organisational changes. Their plan is to establish innovative working groups for each S3 priority in order to assure the proper implementation and continuous EDP.



An adequate **stakeholder involvement** is a key prerequisite in implementing a bottom-up approach such as RIS3. The experts from EU countries emphasise that the bodies responsible for the RIS3 implementation in their countries have success in including all relevant stakeholders from various ministries, representatives of the academia, business and employers’ associations. They also stress the importance of including programme managing authorities, regional RIS3 managers and representatives of non-profit organizations.

The experts from non-EU Danube region countries consider participation of stakeholders as sufficient but think that it could be more effective and it will be a focus of their activities in the forthcoming period.

In evaluation of **the most important factors for successful RIS3 implementation**, non-EU countries are focused on basic elements such as political commitment, funding sources, S3 design and stakeholders involvement. EU Danube countries have provided more specific factors related to S3 design, funding and involving stakeholders. Also, they have highlighted some general factors such as developing innovation ecosystem, investing in human resources in the field of R&I, fostering the involvement of business sector (Table 1).

Table 1: Key factors for a successful RIS3 implementation

EU countries	Non-EU countries
<p>Design:</p> <ul style="list-style-type: none"> – evidence based approach to priorities setting – flexibility to update and fine-tune RIS3 domains – visible results of sufficient RD&I support (clear methodology and transparent EDP process) – Increasing the regional approach in RIS3 <p>Funding:</p> <ul style="list-style-type: none"> – ensuring the long term stable funding of research and development from state budget – creating effective synergies between state, EU structural funds and EU framework programmes – targeted (direct) support for key sectors of economy in line with RIS3 domains <p>Stakeholders:</p> <ul style="list-style-type: none"> – ongoing/sufficient communication with relevant stakeholders – cooperation between regional and national institutions dealing with RIS3 	<ul style="list-style-type: none"> – strong political commitment – proper design of the implementation framework – sufficient funding – orientation of the national funding towards S3 and programming for the international funding sources based on S3 – successful involvement of all relevant stakeholders and good mechanisms to reach them easily



<p>General framework:</p> <ul style="list-style-type: none"> – Broad consensus on the need to transformation of the current research and innovation system and its governance. – Creating effective complex innovation ecosystem – Increasing investments in human resources in research and innovation, tackling the brain drain – Boosting the involvement of business sector in research and innovation, including the research and innovation capacities of SMEs 	
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Source: PA7 RIS3 survey

Related to **online tools in the process of RIS3 creation and implementation** majority of countries have web pages for their RIS3 with the aim to inform relevant stakeholders and general public about development in the field. However, Czech Republic is in the preparation of a new RIS3 portal that will include web, communication module, data store and BI tool.

2. RIS3 Monitoring

In the observed countries, RIS3 monitoring team is organised as a particular unit within Ministry of economy/innovation/science or other public body. The EU countries already have well established monitoring framework and their performance towards the objectives of the strategy is regularly and systematically evaluated. The monitoring system includes indicators at the level of the implementation of the strategic objective and indicators at the level of the implementation of the operational objectives. It also includes detailed reports on how operational objectives under the defined financial plan are met, by thematic areas of specialisation and by regions.

Although the effectiveness of the monitoring system is considered as very good, the improvements are expected in the next programming period. For example, Slovakia is planning to strengthen monitoring framework in S3 for period 2021-2027 with the following elements: newly defined competencies as part of the governance, new set of indicators, short term, medium and long term tools with clearly set objectives and deliverables, interim and end reports, new communication platform and database of indicators, annual workshops and evaluation conferences.

The non-EU countries of the Danube region have established monitoring and evaluation framework, but they still have difficulties in its implementation due to organisational reasons.

Among the observed countries, only Czech Republic reported using IT tools for RIS3 monitoring. They currently use two IT systems: 1) Research, development and innovation information system administered by the Office of the Government – central project records and



2) Public administration information systems called List of research organization – administered by the Ministry of Education, Youth and Sports.

3. RIS3 Evaluation

Evaluation activities are recognized as an important step of RIS3 and therefore EU countries are conducting ex ante (at the initial design phase), interim (during implementation, in the form of continuous monitoring of R&I development, evaluation indicators and assessment of implementation process) and ex post (at the end of programming period) evaluation. RIS3 evaluation is an integral part of program cycle and includes the strategic management, planning and implementation of interventions. The evaluation design and activities are usually carried out in mixed mode - partly by internal capacities and partly by external tendered evaluators.

The non-EU countries of the Danube region are planning to conduct interim and ex ante RIS3 evaluation. They will engage external evaluation agency through a public call.

4. Challenges in RIS3 implementation

Although RIS3 concept is being implemented for almost a decade, countries are still facing with different problems in its practical implementation. Summary of the challenges indicated by the experts is provided in Table 2. It is important to note that even EU countries have issues related to lack of qualified human resources, complicated project application submission, insufficient involvement of relevant stakeholders.

Table 2: The main challenges in RIS3 implementation

EU countries	Non-EU countries
<ul style="list-style-type: none"> - Lack of competences to coordinate and evaluate the implementation of RIS3. - Fragmentation of the research and innovation support by different ministries and agencies, fragmentation of various support schemes and tools. - Complicated application for the calls within European structural funds - project submission and implementation with extensive administrative and personal burden on the applicants and beneficiaries. Long duration of the evaluation, public procurement and frequent cancelling of the calls. 	<ul style="list-style-type: none"> - Lack of political awareness and commitment - Inefficient coordination and communication between line ministries. - Insufficient financial resources. - Stimulating private sector funding. - Assuring involvement of all relevant stakeholders. - Creation of the strategy framework.



<ul style="list-style-type: none"> - Insufficient involvement of scientific and business community. - Low innovation capacity of the country. 	
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Source: PA7 RIS3 survey

5. The main achievements of RIS3 implementation in the Danube region countries

There is clear evidence in theory and practice that the S3 process are highly beneficial in streamlining R&I investments and efforts in a more coordinated way, increasing its impact on the economy. This is especially relevant for lagging regions and countries outside the EU which could use these lessons to improve its R&I performance.

Smart specialisation strategies have brought different improvements in the Danube region countries. The non-EU countries are at the beginning of RIS3 implementation and therefore their achievements are related to strategy design, formulating policy measures and launching policy instruments. On the other hand, the EU countries already have valuable experience from the programming period 2014-2020 and the experts have indicated specific results such as enabling flexibility in approving the annexes of the RIS3 document, establishment of online portal for communication between relevant stakeholders, involvement of new stakeholders etc. The summary of main achievements is presented in Table 3.

Table 3: Major achievements of RIS3 implementation

EU countries	Non-EU countries
<p>Specific:</p> <ul style="list-style-type: none"> - Introduction of the “flexibility principle” in approving the annexes of the main document of the national RIS3 strategy. - Inviting new stakeholders into the RIS3 ecosystems - Improved cooperation between national and regional RIS3 level - Preparation of the RIS3 IT portal for communication between the RIS3 actors <p>General:</p> <ul style="list-style-type: none"> - Identifying research and innovation priorities based on the capacities, human resources and economic potential – supported by the corresponding calls from EU structural funds. - Creating platforms and dialogue between relevant stakeholders throughout different 	<ul style="list-style-type: none"> - Identification of national priority areas in accordance with S3 methodology. - Creation of the efficient implementation framework. - Increased innovation budget. - Launching majority of policy instruments from the RIS3 Action plan.



sectors. - Analysis of the state of research and innovation system. - Increasing the innovation capacity of the country. - Encouraging business expenditures on R&D.	
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Source: PA7 RIS3 survey

6. RIS3 and Covid-19

The analysis has shown that since the Covid-19 outbreak happened in 2020, i.e. in the last year of the programming period, there was no need to revise RIS3 objectives, indicators and thematic priority areas. However, the impact of Covid-19 has been discussed in relation to priority areas such as public health, medical technology, and health tourism.

The effects of pandemics have been also taken into account in the process of RIS3 design for the next programming period. The experience from Covid-19 pandemics was used for shaping actions in areas such as clinical practice, innovative medical products, resilience of the industry and society, technological innovation, resilient production chains, etc.

The measures taken by the governments addressing consequences of pandemic tackled also implementation of the Strategy. This included launching specific calls (focused on research activities, synergies between business and academia, transfer of technologies, ecological and societal innovations, open innovation, preproduction support and strengthening of the industrial capacities) and financial support to business sector.

Policy recommendations

Research and Innovation Strategies for Smart Specialisation have been recognized as a driver of innovation and regional economic transformation. This approach enables wider involvement of stakeholders in R&I strategy development, closer cooperation between business and research sector and linking scientific knowledge, technological capacities and market opportunities. The main recommendations for RIS3 policy makers drawn up on the results of the PA7 survey are summarized below.

Recommendations for policy makers in charge of RIS3 in EU and non-EU Danube region countries:

- **Investing in human resources and skills to ensure efficient RIS3 implementation, monitoring and evaluation**



There is a need to more focus on capabilities of the staff involved in RIS3 processes since human resources are indispensable element in these activities. This includes not only improving university programmes, but also investing in skills development of the human capital engaged in RIS3 activities. This will help relevant institutions in tackling challenges emerging from design and implementation of smart specialisation activities.

- **Enhancing the strategic involvement of all quadruple helix stakeholders in RIS3 processes**

Academia, public sector, industry and civil society should be fully engaged in the entrepreneurial discovery process (EDP) that brings together all relevant actors in developing the regional innovation ecosystem. It is particularly important to include representatives of civil sector since the practice has shown that in many countries is used triple helix approach.

- **Developing online tools for communication between stakeholders**

Using online tools for communication between stakeholders involved in RIS3 activities is extremely beneficial since it enables faster communication, coordination and information sharing. This includes online platforms, communication modules, open databases, etc.

- **Strengthening monitoring and evaluation framework**

The survey results have shown that there is an urgent need to improve monitoring an evaluation system and its practical implementation. This includes developing relevant framework and establishing efficient organisational units for executing monitoring and evaluation tasks. The monitoring should also involve participation of stakeholders that were involved in RIS3 implementation. Monitoring framework should be supported by proper online tools which facilitate the overall process.

- **Increasing participation in S3 thematic platforms**

Among the observed countries, only Slovakia participates in thematic platform for industrial modernisation which suggests that this opportunity is not yet fully exploited in the Danube region. Thematic S3 platforms are encouraging regions and countries to create new European value chains and therefore improve collaboration between regions with similar or complementary RIS priorities. Thematic partnerships help regions to improve their knowledge base, innovation capacity and position in global value chains.

- **Strengthening collaboration to induce regional/national innovation capacity**

Smart specialisation strategies have the most success in communities with strong cooperation between public sector, universities, industry and civil sector, both in the phases of strategy design and implementation. The strategic collaboration will result in different initiatives that will increase the innovation capacity.



Additional recommendations for the policy makers from non-EU Danube region countries:

- **Increasing political commitment and public awareness**

The key prerequisites for initiating and implementing RIS3 process are political commitment and increased public awareness. Political leadership is the most critical ingredient in the S3 process because it creates the capacity to mobilise all other resources. In order to engage organisations and individuals from different sectors and implement this bottom-up approach, it is necessary to have strong support from relevant governmental bodies. There is also a need for continuous political support to ensure strong and enduring cooperation in all phases of RIS3 process.

- **Improving cooperation and communication between line ministries**

Successful governance and implementation of RIS3 requires more efficient coordination and communication between line ministries. This includes leadership as an essential element of RIS3 design and delivery. The stability of strategy governance very often depends on the stability of the political and policy processes in the country in question. The stability enables the development of strong relationships between different levels or departments in the public sector. This is also important for creating relationships with other sectors – academia, industry, civil society. Building on these relationships, the public sector has a key role to play in the implementation of initiatives that emerge from involvement with a variety of actors.

- **Establishing fully operational working groups per S3 priorities**

These working groups are essential for successful implementation of the strategy and continuous EDP. The practice has shown that creation of working groups as part of the RIS3 governance model is a very good instrument of dynamisation, participation and empowerment of regional stakeholders. These working groups enable regular contact with key stakeholders, encourage collaboration, identify cooperation opportunities, generate new projects and discover new innovation trends.

- **Providing more financial resources for RIS3**

Since non-EU countries do not have access to EU Structural funds, it is challenging to allocate sufficient financial resources to RIS3 implementation. Therefore, the efforts should be focused on identifying new funding sources and allocating more funds from the state budget to the RIS3.



Annex I: EUSDR PA7 Survey on RIS3 in the Danube region

General information

Country/region:

Please indicate your role within the RIS3 processes in your country or region (multiple answers are possible):

- Responsible for RIS3 design
- Responsible for RIS3 implementation/ monitoring/evaluation
- Knowledgeable about RIS3 in the country/region

Enabling factors/General framework for RIS3 implementation in your country/region

1) What are the RIS3 priority areas in your country/region?

2) What are the major sources of funding of RIS3 implementation in your country/region? What is the annual level of financial support of RIS3 implementation in your country/region?

3) Are there working groups in each RIS3 priority area in your country/region? If yes, please describe their operational structure – members, frequency of meetings, communication.

4) Please rate the efficiency of these working groups in the process of RIS3 implementation. What is your approach in updating and revision of RIS3 Action plan?

5) Do you think that there is a sufficient level of stakeholder involvement in your country/region in the process of RIS3 implementation?



- 6) What are the most important factors for the successful implementation of RIS3 in your country/region? Please state at least 3 factors.

- 7) Have you used online tools in the process of RIS3 creation and implementation? If yes, which ones?

Monitoring

- 8) Please describe how the monitoring of the RIS3 implementation is organized in your country/region? Is there particular unit for it, and where is it located? To whom it is responsible? How is it interconnected with other parts of the RIS3 system in your country/region?

- 9) Please evaluate the effectiveness of the monitoring and evaluation framework defined in the strategy/AP.

- 10) Are you satisfied with the functioning of the created framework?

- 11) Please evaluate the effectiveness of communication between agencies implementing RIS3 and its steering bodies.

- 12) Is there an IT system for RIS3 monitoring in your country? If yes, how do you assess its effectiveness?



13) Do you have a monitoring report and for what period? If yes, is the report publicly available?

Evaluation

14) What type of RIS3 evaluation system exists in your country/region? Ex ante, interim, ex post? Please describe.

15) Which body/organisation in your country is in charge of RIS3 evaluation? Is there a public call for the selection of evaluators?

16) Have you conducted an evaluation of RIS3 so far and is there an evaluation report?

Thematic Platforms and Macro-regional S3 Partnerships

17) Do you participate in S3 thematic platforms? – agrofood, energy, industrial modernization

18) If yes, please indicate in which thematic platforms and in how many partnerships? What is your experience so far?

19) How do you evaluate efficiency of the partnerships in which you participate?

The main challenges/problems with respect to the RIS3 implementation in your country/region – please indicate at least three



The main achievements of RIS3 implementation in your country/region

RIS3 and Covid-19

- Do you think that Covid-19 pandemics has imposed the need to make a revision of RIS3 targets, targeted indicators and/or thematic priorities? On which way and how fast the established system for RIS3 implementation reacted to Covid-19 pandemic in your country/region? What is the result of it?

- Which priority of your RIS3 was most affected by the Covid-19 pandemics?

- Has the pandemics influenced the reduction of financial resources for the implementation of RIS3 or the absorption of EU structural funds by the business sector?

- Has your government taken certain actions/measures related to RIS3 implementation in order to support the strategy in the times of pandemics?

