



# Online S3 Newsletter

ONLINE S3 Consortium

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## Overview of Central Macedonia's RIS3

During the exercise the team responsible analysed and proposed the new Vision for the RIS3 strategy of the Regional Authority that can be found here: Strategic Vision of RIS3 for 2025 (OnlineS3 Version)

The 2025 Vision for the Region of Central Macedonia is to become an Innovation Node for the wider region of South-eastern Europe by: (a) preserving and strengthening its Human Capital with competences in the fields of Research and Technological Development (b) deepening the collaboration between Knowledge and Entrepreneurship and (c) boosting the innovative environment, aiming at

ending the financial crisis and creating new jobs based on innovation, competitiveness and extroversion. The region will be leader in the area (South East Europe) in the field of Agrifood focusing mainly on preserving diversity, offer healthier local food, promote new functional food based on local varieties, and use any technology available to promote circular economy, low input farming, more and better quality food, support the ecosystem and boost its competitiveness in the global value chains.



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Through the cooperation of all stakeholders, Macedonia aims to overcome the structural problems created by the past economic model and develop the research and innovation strategy needed for the region to become a growth hub.

In order to achieve this goal, the Region will take steps towards a gradual transformation that focuses on (global) value chains, strong networks, open innovation, and the effort to attract Foreign Direct Investment to areas with strategic advantages.

## *Assessment and revision of past priorities*

We have gathered and analysed a number of future technological priorities the participants have set either for themselves or for their departments – organizations. We are presenting some general – common priorities and in the following table we are presenting more specific priorities.

### General Priorities

- Focus on local products, varieties and diversity, make them more resilient, better quality, more nutrient, higher efficiency, safer, using genetics, new nutritional products with extremely low use of chemical fertilizers, ICT, robotics, A.I., drones, and other management tools;
- Tracing, characterizing, standardizing, certifying local products using omics, AI, ICT (block-chain etc);
- Developing innovative healthy & functional foods from natural products & exploitation of food by- and co-products and wastes as e.g. bio-fertilizers;
- Linking agri-food products with other sectors like tourism, cosmetics, and pharmaceuticals;
- New products with greater conservation life in order to reach the most distant markets;
- New sources of energy and food like microalgae;
- More and better networking with stakeholders in our neighbor but also across global value chains;
- Exploiting existing crops to lead to new uses (medical, pharmaceutical);
- Low input agriculture, circular economy, sustainable agricultural systems, by using new technologies such as IoT, renewables, modern greenhouses: hydroponics, aquaculture etc;
- Smart packaging and labelling;

Based on the priorities set by the workshops' participants and thematic areas drawn from the regional scientific production profile compiled using Scopus data, the team was able to identify five (5) regional ecosystems. These are:

1. Agricultural and Biological Sciences
2. Environmental Science
3. Biochemistry, Genetics and Molecular Biology
4. Chemical Engineering
5. Computer Science

Along with this analysis, we have used a scientific list to further identify regional mapping in the Agrifood sector. This list was initially developed for the interregional mapping in the S3 platform context.

*This scientific list encompasses new technologies and KETs and gave us somehow different results and here is the final top ranking:*

Initial S3 platform scientific list - areas	
1	ICT
2	Industrial biotechnology
3	Metabolomics
4	Chromatography
5	Genomics
6	Nanotechnology

### *Region's role in Online S3*

The newly established Independent Division for Innovation and Entrepreneurship Support was responsible for the Online S3 project as the organisation responsible for elaborating, managing and monitoring the region's Smart Specialization Strategy. During its participation in the project, as a pilot region it has carried out the following activities:

- **Information:** Informed 2,043 stakeholders from the quadruple helix in the following ways: sending a short newsletter by e-mail to a defined list of stakeholders from the quadruple helix; posting a short text in Regions' of Central Macedonia available social media (Twitter and Facebook); posting a short inform text to Regions' site.
- **Stakeholder consultation:** After testing the Online S3 tools via 3 workshops, 850 evaluations were implementing by completing the online questionnaires (535 the long and 315 the short).

**Stakeholder involvement and collaboration:** A number of stakeholders from the quadruple helix were invited to participate in 3 workshops for in-depth testing and analysis of the tools and finally 15 specialized experts in RIS3 and 63 stakeholders, representatives from universities research institutions, government and civil society participated.

All the tools within the Online S3 platform were tested, namely:

**Phase 1: Governance**

- 1.1. Vision Sharing
- 1.2. Stakeholder Engagement
- 1.3. Debate at a glance
- 1.4. Legal and administrative framework

**Phase 2: Analysis of context**

- 2.1. Regional Assets mapping
- 2.2. Research Infrastructure mapping
- 2.3. Clusters, incubators and Innovation ecosystem mapping
- 2.4 Benchmarking
- 2.5. Regional scientific production profile
- 2.6. Specialisation indexes
- 2.7. SWOT Analysis

**Phase 3: Strategy Formulation**

- 3.1. Collaborative vision building
- 3.2. Scenario building
- 3.3. Delphi-Foresight

**Phase 4: Priority Setting**

- 4.1. EDP Focus Groups
- 4.2. Extroversion Analysis
- 4.3. Related Variety Analysis

**Phase 5: Policy Mix**

- 5.1. Intervention Logic
- 5.2. Action plan co-design
- 5.3. Budgeting
- 5.4. State aid law compliance for implementation
- 5.5. Calls consultation
- 5.6. Innovation maps
- 5.7. Open Data tool

**Phase 6: Monitoring and Evaluation**

- 6.1. Monitoring
- 6.2. Definition of output and result indicators
- 6.3. Balanced scorecard
- 6.4. Beneficiaries and end user's satisfaction online survey
- 6.5. Social media analysis

The Directorate focused mainly on the following tools:

- 1.1 Vision Sharing
- 1.4. Legal and administrative framework
- 2.1. Regional Assets mapping
- 2.2. Research Infrastructure mapping
- 2.3. Clusters, incubators and Innovation ecosystem mapping
- 2.5. Regional scientific production profile
- 2.7. SWOT Analysis
- 3.2. Scenario building
- 4.3. Related Variety Analysis

The Directorate has deployed these Online S3 tools to:

- inform the society at large and create awareness of the smart specialisation strategy;
- consult business actors for cooperation on the basis of common areas of interests;
- involve business and public-sector actors to discuss possibilities of revising the smart specialisation agenda and improve the strategy;
- reach out and liaise with relevant stakeholders from the Quadruple Helix in order to establish close contacts, identify related activities and support the opportunities this offers to redesign the research and innovation strategy for smart specialisation.

These tools have allowed the Regional Authority to speed up the stakeholder consultation and engagement processes by linking information from different sources and connecting them to the RIS3 statement. They also provide an easy way to visualize regional data, enabling comparisons with other regions and the monitoring of business and technological trends.

The main learning points from the whole process are:

- ✓ Having a complete set of tools in one tool box adds value to the whole process
- ✓ RIS3 strategy methodology is by default complicated and demanding, thus this set of tools provides also a robust added value and training as well a better understanding of some quite scientific methods
- ✓ Developing a set of roadmaps is of a huge importance due to different use of the tools from different stakeholders for different aims.

For the revision of the RIS3, the tools that have mainly used and added value were the following:

### **Vison Sharing added value**

It gave the team the initiation of discussing about the new future oriented type of growth model and helped the team and participants educate themselves not only in a common

sharing of Vision and priorities exercise but also on brainstorming on specific technological trends that will affect Agrifood and related thematic areas.

### **Regional assets mapping added value**

The added value of this tool can be placed on two points: (1) use data from different regions to bench mark our own and (2) promotion of planning that is based on real and justified data and thus governance is more transparent, monitoring is easier, and stakeholders could engaged much more efficiently to the whole procedure.

### **Regional scientific production profile added value**

This tool gave the team a lot of knowledge regarding the Agrifood thematic area research activities focus. The team initially went through Scopus to search about the publications in the Region. We were able to identify a number of thematic areas during the last decade. Then we identified some Agrifood related areas and contacted more in-depth research using key words like KETs and compare those to the thematic areas of researchers and SMEs participated in the workshops. This is a tool of a high added value since we can contact thorough investigation on the R&D output. Its main limitation concerns its inability to gather directly data form Scopus and thus it can be considered semi-automated procedure.

### **Scenario building added value**

Only few participants had heard and even fewer have used the Scenario analysis tool. The team showed participant's examples of such activities and how other organizations, regions, cities etc have used it. The participants were asked to identify and scan a number of main technological trends and uncertainties in their perspective areas and fields, no matter how specific or niche it was. Despite the time limitations the tool offers huge added value since it can support future decision making and growth model and opens people mental ability. Again despite the partial use of it, since it's used along with assets and priorities offered the team an interlinked approach. Lastly the tool can provide vital data regarding the contextual environment of an organizations adding value to Threats and Opportunities (the OT in the SWOT analysis).

### **Related variety analysis added value**

The tool generated a lot of discussion. Use of it showed that a few sectors in the region gather both an increased amount of human resources and growth, but little but little by way of technological innovation or through patents. This sector is the machinery of food production and for sure, a key driver of growth in the region. It also generates some spill over effects in related sectors like chemical and pharmaceuticals. Despite the challenge of using related variety analysis, it is still the "go to" tool as it serves to highlight future growth in sectors that share common ground in terms of research and innovation.

*ONLINE S3 project aims to develop an e-policy platform augmented with a toolbox of applications and online services, which will assist national and regional authorities in the EU in elaborating or revising their smart specialisation agenda, in terms of policies and strategy.*

**ONLINE S3 Project**

<http://www.onlines3.eu>

**ONLINE S3 Platform**

<http://www.s3platform.eu/>



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