

Vojvodina in Europe



Location

The Autonomous Province of Vojvodina covers a surface of 21,506 km² (24.4% of the total surface of the country) - the largest counties being South Banat (4,245 km²) and South Bačka (4,016 km²).

It is located at the eastern border of European Union



Region of Vojvodina in Serbia: A non-EU region towards a RIS3



Counties of Vojvodina₂

Vojvodina facts



- Vojvodina covers the area of 21,534 km² . Only 199,157 ha (9.0 % of total land area) is infertile land, and not more than 163,650 ha (7.6 %) are forests - making Vojvodina one of the least deforested regions in Europe.
- The rest, i.e. 1,790,565 ha (83.0 %) was agricultural land, of which 1,649,037 ha (or 76.6 % of total land) was cultivable.
- There is about 0.9 ha of agricultural land per inhabitant or about 0.82 ha of cultivable land.
- This compares to the world average of 0.25 ha/inhabitant in the same year and 0.42 ha/inhabitant in Europe.
- The conclusion is obvious that in Vojvodina land is a comparative advantage.

Questions to discuss

- The questions to be discussed are:
 1. How to connect science and economy-industry?
 2. How to increase the awareness of innovation's importance in general?
 3. How to organise innovation process within priority sectors?
 4. How to set up a sustainable financing system to support RIS3 implementation?
 5. How to take part in transnational innovation processes?

Main achievements of RIS3 in the Vojvodina Region



- **Smart Specialization Strategy of the Vojvodina Region:**

In supporting the regional innovation system, BSC centar carried out the project INTERRIS (“Transferring of Regional Strategic Planning and Interregional Innovation Strategies; South Great Plain Hungary and Vojvodina Serbia”) financed under IPA CBC Hungary-Serbia EU funded Program in 2012 in which the first Regional Innovation Strategy of AP Vojvodina Region and Cross-border Innovation Strategy of South Hungary and Vojvodina is developed.

This was the pioneer step of creation of innovation system of Vojvodina together with system of cooperation in innovation area with neighboring countries.

The idea was to start transnational cooperation within the innovation process.

Main objectives of RIS3



The strategy aims to:

- **Promote innovation** as core principle of the knowledge society
- **Implement innovation as the base for fostering economy competitiveness** of the Vojvodina Region by establishing a communication and integration platform and an innovative state administration (introduction of trans-national and cross-border innovation policy)
- **Identify key innovation sectors** and activities
- Established **sustainable monitoring and correcting system** specific to Vojvodina
- Include Vojvodina region into the transnational innovation system and processes

All these objectives were identified **taking into account both data collected and needs of the stakeholders**

Main achievements of RIS3 in the Vojvodina Region



Smart Specialization Strategy of the Vojvodina Region:

- ✓ Innovation principles at strategic (decision making) level
- ✓ Key sectors with potential of smart specialization at regional level
- ✓ Processes to reach the goals
- ✓ Processes to monitor, evaluate and correct innovation process

Main achievements of RIS3 in the Vojvodina Region



Main activities:

- Innovation process in Serbia - state of the art
- International benchmarking activity
- Primary data collection: questionnaires
- Secondary data collection: Literature and statistical data
- Stakeholder analysis
- Supply and demand of regional innovation system analysis
- Conclusion: Strategic framework and priorities
- Regional consensus

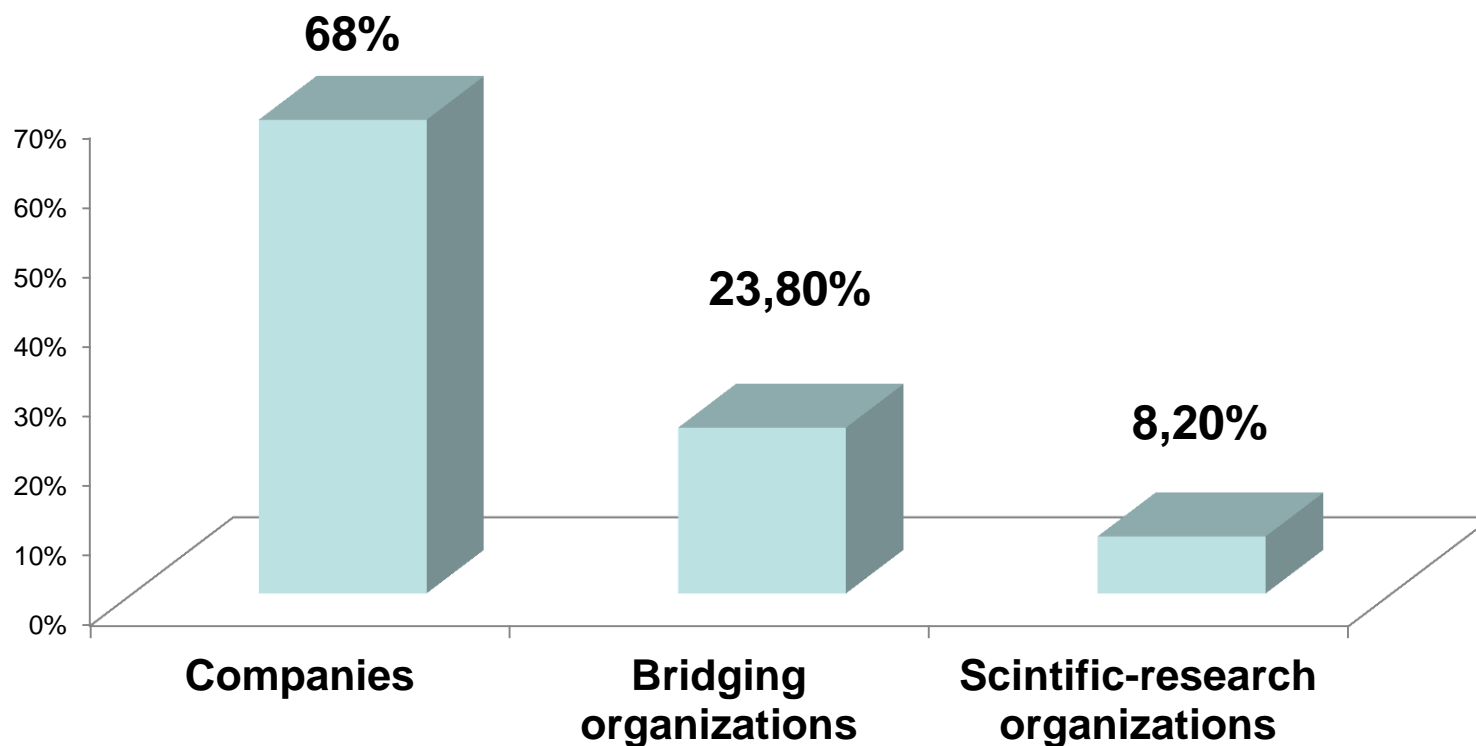
Main achievements of RIS3 in the Vojvodina Region



Groups of organisations:

- **Economic organizations:** big companies, medium and small and micro enterprises
- **Scientific research organizations:** universities, faculties, institutions
- **Bridging organizations:** the Provincial Administration, local self-governments, consulting organizations, chambers of commerce, professional associations

Main achievements of RIS3 in the Vojvodina Region



Structure of organisations included in survey

Strengths

- The existence of institutions of higher education
- Geographic location
- Raw material base
- Bordering the EU

Opportunities

- Geographical and climatic preconditions
- Proximity to the EU, Eurasian Union, North Africa and the Middle East
- Establishment of multidisciplinary development teams
- Establishing of R&D and certification laboratories
- The use of EU funds for innovative activity

Weaknesses

- The level of innovation in the region is very low (according to the OECD indicators of innovation)
- Lack of political support
- Lack of institutions and organizations that support innovation processes
- Lack of a databases containing innovation potential of the region
- The Republic of Serbia is not a member of the EU
- Lack of earmarked funding resources
- Lack of knowledge of innovation processes
- Lack of high educated personnel
- The education process is not oriented towards practical knowledge
- A disproportionately small number of highly educated personnel who can creatively participate in the innovation process (technical and technological profiles)

Threats

- Lack of innovation funds
- Lack of innovation strategies and appropriate bodies for their implementation and correction
- Concrete and visible political support



Introduction to our region's work on research and innovation



Strategic vision for the future of Vojvodina Region:

Vojvodina region creates a sustainable innovation system which will make it a recognizable European region in the area of innovation

Introduction to our region's work on research and innovation



Principles at strategic (decision making) level:

- Communication platform
- Integration platform
- Innovative state administration (introduction of trans-national and cross-border innovation policy)
- Innovation company concept (by providing education to increase company innovation levels)

Introduction to our region's work on research and innovation



Key sectors at regional level:

- Agricultural production and food industry
- Renewable energy sources
- Information communication technology and professional electronics
- Metal industry
- Tourism

Introduction to our region's work on research and innovation



Why these key sectors:

- Agricultural production and food industry - the best agricultural region in Europe (land and climate quality, tradition, science and research level, human resources)
- Information communication technology human resources, clustering, actual results
- Metal industry: tradition of big production companies, skills and knowledge, clustering
- Tourism: big potential (multicultural region, geographical issues, climate, eco possibilities, clusters)

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Possibilities within key sectors:

1. Agricultural production and food industry

- Organic agricultural production:
 - Crop production
 - Viticulture
 - Fruit growing
 - Livestock production: native species (mangulica, oxes, sheep, donkey)
- Functional nutrition
- Healing herbs
- Phytopharmacology

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Possibilities within key sectors:

2. Information & communication technology

- Information systems
- Services (teleworking, E-Agriculture, E-Medicine, E-Manufacturing, E-Tourism)
- SW (android applications, games...)

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Possibilities within key sectors:

3. Metal industry

- Equipment for renewable energy systems
- Equipment for agriculture (irrigation system, agricultural machinery)
- Process equipment for food industry
- Process equipment for petrochemical industry
- Supply for automotive industry, railway systems, shipbuilding

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Possibilities within key sectors:

4. Tourism

- Spa tourism
- Health tourism
- Hunting and fishery tourism
- Ethno tourism
- Ageing tourism
- Personalized tourism

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Horizontal issue for all sectors:

Ecology and environment protection

- Waste water management
- Recycling
- Decrease of harmful gas emission
- Energy efficiency
- Renewable energy source (Geothermal resources, Biomass/biogas, Biodiesel, Mini hydropower, Wind turbines, Solar energy)

IDEA GENERATING

- To increase investments in the development of ideas
- To have better knowledge of consumers
- Innovation guidelines from management
- To develop new innovation resources
- To stimulate innovation activities
- To use external R&D resources

INNOVATION PROCESS BEING DEFINED

- Going through all the stages of an innovation process must be consistent, disciplined and without arbitrariness and improvisation
- Each innovation process is managed as any project

HUMAN RESOURCE QUALITY

- A need for a high number of quality scientific research and engineering personnel
- Quality trained, stimulated and disciplined working force
- Human resource must have functional, applicable knowledge
- Human resource must undergo a process of continuing education

CREATING FAVOURABLE ENVIRONMENT

- R&D and innovations are a concern of the entire society, but not of individuals or groups
- Creation of industrial infrastructure
- Stimulus to innovation processes, protection of intellectual property, tax incentives, favourable legal regulations...
- Verification of new product or service at the market

AVAILABILITY OF INNOVATION RESULTS

- Results of innovation processes must be easily available
- R&D institutions must analyse and identify companies that need innovation support
- To educate companies how to exploit innovation

CONTINUITY OF INNOVATION PROCESSES

- The state must support long innovation processes because they may not generate direct added value
- There should be an appropriate banking infrastructure
- The very state must initiate complex R&D activities which many innovation results stem from

THE QUALITY OF EDUCATION

- There is a direct link between quality of education and competitiveness of industry
- Plans and programmes, the number of enrolled students must be in accordance with long-term plan of industry development, and the state is the only one that makes decision concerning it
- The education institutions must be capable to provide hands-on training

STATE INVOLVEMENT

- Continuity of development policy regardless of political mandate
- A strong link between education, science and industry
- To initiate R&D activities through state institutions and public enterprises

MANAGING INNOVATION PROCESSES

- Development of innovation processes must be strategic decision of the management
- The management must provide all the preconditions for a successful management of an innovation process
- An innovation process must not be an employees' casual activity
- Motivation of employed is crucial during innovation process

How to reach goals (I):



Awareness and culture in the innovation society through real political support in the following way:

- ✓ To create legal and other preconditions for verifying innovation process results and projects in the market
- ✓ To develop common development platforms and connecting them
- ✓ To create the same legal preconditions for the exploitation of innovation potential under the same conditions both for the public and private sector

How to reach goals (II):

Survey of the current state of the APV

To create and maintain:

- Databases containing innovation resources of the region:
 - ✓ innovative companies and services
 - ✓ unused innovation potential
 - ✓ scientific and research organizations, researchers and scientists with achievements
 - ✓ bridging organizations in innovation activities
 - ✓ patents, small patents, marks, trademarks, industrial designs
 - ✓ innovation projects in the region and in surroundings
 - ✓ clusters and other organizations, micro, small and medium sized enterprises (technology parks, business incubators ...)
 - ✓ innovation activities funds...

How to reach goals (III):

Activation of innovation process

- ✓ To establish centres in order to promote innovation system and to make them work
- ✓ To activate clusters and cross border clusters (knowledge clusters)
- ✓ To establish a system for assessing commercial potential and for financing innovation and R&D projects
- ✓ To provide permanent and secure funding for innovation process
- ✓ To equalize the innovation development of the region
- ✓ To constantly popularize innovation processes by informing the public through:
 - Modernizing and interconnecting R&D organizations in the APV and region
 - Modernizing and interconnecting education organizations in the APV and region
 - Creating a common plan for continuing education and certification

How to reach goals (III):



- Establishing conditions for unhindered mobility of highly educated professionals
- Intensifying the applied research and to connect science and industry

RIS3 - priorities, measures (I)



Horizontal Priority 1: Developing innovation competences for future generations

- **Measure 1.1: Increase of awareness of innovation importance in priority sectors**
- **Measure 1.2: Establishing of cooperation between enterprises and education system**
- **Measure 1.3: Increasing the role of creative sector in industrial production**

RIS3 - priorities, measures (II)



Horizontal priority 2: Supporting enterprises to become and stay innovative within the Vojvodina Region

- **Measure 2.1: Assistance services for transforming innovative ideas in business ideas**
- **Measure 2.2: Implementation of financial instruments for encouraging the establishment and development of new innovative companies in the region**

RIS3 - priorities, measures (III)



Horizontal priority 3: Technical assistance for sustainable innovation system

- **Measure 3.1: Development of the S3 implementation, monitoring and evaluation systems**
- To this purpose the following projects will be considered of priority:
 - Create a regional consortium for smart specialization at the level of Vojvodina Region
 - Generate innovation indicators specific to the region but according to Oslo Manual
 - Develop monitoring studies to analyse the implementation.

Political level

**Parlament of
Autonomous
Province of
Vojvodina**

**Government of
Autonomous
Province of
Vojvodina**

**Provincial
Secretaries**

Operational level

**Innovation
center of APV:
BSC Centre**

Direct holders of innovation processes

**Small and
Medium
Enterprises**

**Scientific-
research and
Educational
Institutes**

**Bridging
organisations:**

- **Incubators**
- **Clusters**
- **System of
Commerce**
- **Consultancy
firms**

Implementation and budget (I)



- **BSC Centar** will be operationally leading the implementation of the strategy in the period 2014-2020
- It will consult the **Smart Specialization Regional Consortium** which will include all the organizations that hold the capacity to animate, facilitate, provide TA, coordinate and monitor the projects (clusters in smart specialization priority areas, employers' associations, chambers of commerce, universities, research institutes, county boards of education, representatives of business support structures, county councils, urban poles for growth and development)
- There is **not a specific budget** allocated for the implementation of the RIS3 – the financing sources still have to be identified

Entrepreneurial dynamics



Economic resources, structure of business environment

- Regional GDP of Vojvodina is 720,301 mill. RSD (25.6% of the Republic of Serbia). In 2009, the **regional GDP per capita** was of 366,000 RSD/capita.
- In 2010, the services and industry sectors brought the largest contribution to the establishment of regional gross added value with 52.5% and 27.7% respectively. Although nearly half of the employed population of the region is active in agriculture, the contribution of this sector to RGAV is only 9.9%.
- In 2011, there were 23,845 with 240,055 employees. The number of SMEs increased by 0.3% compared to the previous year. Micro firms and SMEs constitute 96.9% of the total number. Medium-sized companies make up 2.5% and large companies 0.5%.
- Large companies in 2011 employed 34.9% of all employees, medium enterprises employed 26.3%, while the micro and small enterprises employed 38.9%.

Regional Action Plan

Priorities and measures	Target group	Projects	Funding source
<u>Measure 1.1.</u> Increase of awareness of innovation importance in priority sectors	All stakeholders	Program for implementation of innovation into: Nursery schools, schools, high schools and universities	European funds National public funds
<u>Measure 1.2.</u> Establishing of cooperation between enterprises and education system	Pupils, students and master, PhD students, big companies and SMEs, entrepreneurs	-Database of inno demand and supply -Specialized praxes programs for pupils and students in companies - database of bachelor, master and PhD thesis created according to companies demand -Joint research program for new product/service	European funds National public funds Target groups own funds
<u>Measure 1.3.</u> Increasing the role of creative sector in industrial production	Pupils, students and master students from creative sector, big companies and SMEs, entrepreneurs from creative industry sector	Establishing of creative industry clusters Cross border and transnational creative industry clusters Creative industry incubator	European funds National public funds Target groups own funds
<u>Measure 2.1:</u> Assistance services for transforming innovative ideas in business ideas	Entrepreneurs, big companies, SMEs, Spin-offs and start-ups Pupils and students Bridging organisations RD	Trainings: TRISS Business plan PCM Competitions: From the idea to the profit	European funds National public funds Beneficiaries' own funds Angel funds, Ventures funds, Innovation funds
<u>Measure 2.2:</u> Implementing financial instruments to support creation and development of innovative companies within the region	Entrepreneurs SMEs	Study for the most efficient innovation funds Stimulation of endowments Action plan for business angels funds and networks Action plan for Venture capital funds Emission of innovation project shares, securities Innovation project stock market	European funds National public funds Beneficiaries' own funds Angel funds, Ventures funds, Innovation funds Shares Securities Endowments Conscious personalities
<u>Measure 3.1:</u> Development of the S3 implementation, monitoring and evaluation	All stakeholders	Study of monitoring methodology Annual innovation report Innovation journal	European funds National public funds Target groups ' own funds

Monitoring of RIS3



- The monitoring of RIS3 will be developed according to the following **activities**:
 - Activities of monitoring will be realised each year due to fact that the process is at its beginning.
 - BSC Centar will use:
 1. General indicators will be obtained from secondary sources (statistical data from the National Institute for Statistics)
 2. Output and result indicators will be obtained from the Annual Implementation Reports of OP for the period 2014-2020, elaborated by MAs/ IBs
 3. Comparison with results of selected other regions
 - If the information is not sufficient to reflect the progress of implementation of the strategy – resort to the use of **complementary monitoring questionnaires** by those organizations which are implementing relevant projects.
 - The results of both monitoring actions proposed will be centralized in an **Annual Report** and discussed at the plenary of the Regional Consortium.

Monitoring of RIS3-General indicators (I)



1. General indicators from secondary sources statistical data from the National Institute for Statistics;

GDP/capita (EUR PPS), expenditure on research and development in regional GDP (%), employment rate of the labour force (%), employment rate of population aged 15-64 (%), number of SMEs per 1,000 inhabitants, the value of FDI/capita (Euro), number of registered patents /100,000 inhabitants, number of employees working in research and development sector at 10,000 civil employed, average labour productivity in industry in the four sectors of smart specialization (Euro / person employed), coverage of imports (CIF) and Exports (FOB) (%).

Monitoring of RIS3-Output and result indicators (I)



2. Output and result indicators

- Indicators of innovative activities according to the Institute of Statistics of the Republic of Serbia
- Business entities according to the innovation, activity and size
- Presence of different types of innovation according to territory and the size of the business entity (in percentage)
- Business entities according to the type of innovation and sectors of activities
- The share of total income from product / service innovation
- The sales market of goods or services
- Partners with which businesses entities have agreed cooperation based on innovation
- Expenditure on innovation activities
- Procurements and innovations in the public sector

Monitoring of RIS3-Output and result indicators (II)

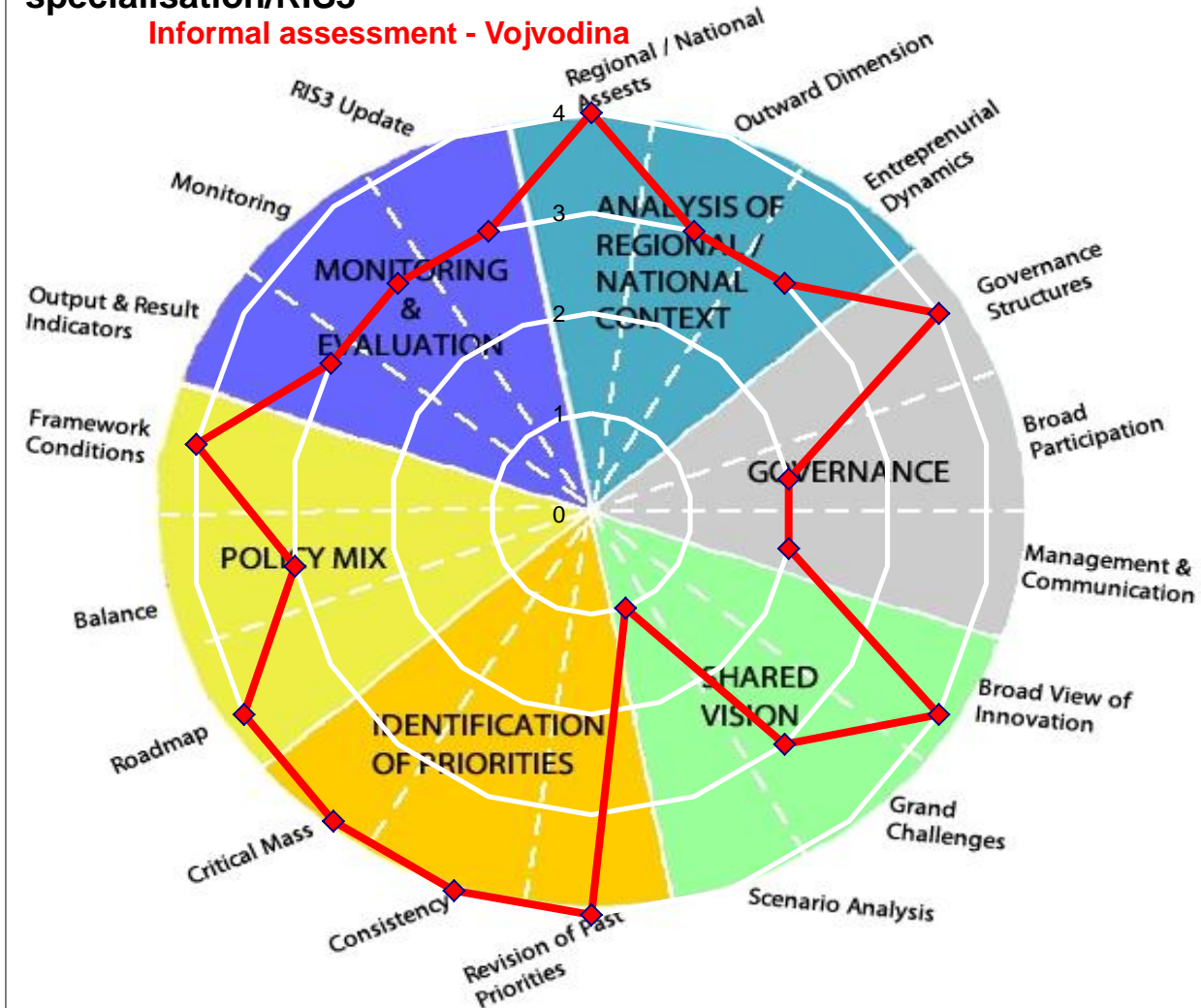


2. Output and result indicators

- The importance of the of business entities' goals
- The importance of strategies for achieveng business entities' goals
- Barriers for achieving the goals of business entities
- Structure of innovation types in total innovation activities of Innovators
- Expenditure on innovation activities, the introduction of technological innovation of innovators
- The share of revenues from the innovation of products / services in total revenue of Innovators
- Business entities according to the innovative activities
- The effects of introduced technological innovations that are rated as significant by innovators
- Employees employed on R&D activities
- Number of scientific research organizations

Driving economic change through smart specialisation/RIS3

Informal assessment - Vojvodina



Self-assessment

Next steps

- Adoption of the RIS3 with Action Plan by the Regional Assembly of Vojvodina
- Formalize the position of BSC Centar which will lead operational activities of RIS3
- Implementation of RIS3 Action Plan
- Establish monitoring and correction process by publishing an annual report which will compare results with those previously reached and with results of selected other regions
- The RIS3 should be included in the all future strategic documents

Qs for peers



Question 1: How to connect science and economy-industry?

- **Why:** Vojvodina has 1 university established in 1960. It consists of 14 faculties, the most in Novi Sad and others in Subotica, Zrenjanin and Sombor with a long tradition and excellent results on scientific research and innovation. Companies are not aware of existing opportunities to ask for support and co-operation.
- **What has been done:** Identification of the RDI regional supply and demand side (researchers, projects, results, labs, patents...)
- **What is working:** For example: Regional completion - the best technological innovation

Qs for peers



Question 2: How to increase awareness of innovation importance in general?

- **Why:** Innovation of the region must be the objective of all stakeholders involved in innovation process
- **What has been done:** Activation as a bottom-up approach a regional consortium for innovation
- **What is working:**
 - New RIS3 Strategy, Cross-border RIS3 strategy South Hungary-Vojvodina
 - Vojvodina at S3 Platform
 - S3 peer review workshop in Novi Sad

Qs for peers

Question 3: How to run innovation process within priority sectors?

- **Why:** Innovative ideas should be transformed into the business ideas
- **What is working:** Research institutes and faculties are functioning but not well connected with priority sectors companies.

Qs for peers



Question 4: How to set up sustainable financing system to support RIS3 implementation?

- **Why:** Innovation has to be pre-financed, investments (risky and non risky) must be converted into innovation
- **What is working:** Innovation Fund of R Serbia, support to technological innovations of Provincial Government

Qs for peers



Question 5: How to take part in transnational innovation processes?

- **Why:** Innovations reach beyond regional boundaries
- **What is working:**
 - Cross-border RIS3 Strategy South Hungary-Vojvodina
 - S3 peer review workshop
 - DANUBE-INCO.net project

Thank you for your attention!

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