Multilateral and international support to STI policy capacity, addressing countries' needs and gaps and maximizing complementarities

Prof. Dr. Viktor Nedović, Assistant Minister
Ministry of Education, Science and Technological Development
Republic of Serbia

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STI Roadmaps for SDGs – Expert Group Meeting, 8-9 May 2018, Tokyo, Japan

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SOME BACKGROUND INFORMATION

- **Global Competitiveness Index 2017-2018** - Rank 78/137
  - 12th pillar: Innovation - Rank 95/137
    - 12.01 Capacity for innovation - Rank 117/138
    - 12.02 Quality of scientific research institutions - Rank 47/137
    - 12.03 Company spending on R&D - Rank 107/137
    - 12.04 University-industry collaboration in R&D - Rank 95/137
- **Gross Expenditure on R&D (GERD) (% of GDP)** - 2016/0.90
- **11500 researches (FTE) involved in current R&D projects**
- In recent years, the Republic of Serbia has improved its scientific research potential, which is illustrated by the fact Serbia, in the total world production of scientific works, accounts for 0.3% and is ranked 46th on the list of over 140 countries (SCImago Journal&Country Rank), and the University of **Belgrade is ranked on "Shanghai List"** of the world's best universities **between 200th and 300th position**.
- **Serbia H2020 Summary Statistics -** Number of mainlisted proposals 239, EU financial contribution 60.218.917 EUR (E-CORDA. Beginning of 2018)
- **Chapter 25 (Science and Research)** – negotiation position accepted

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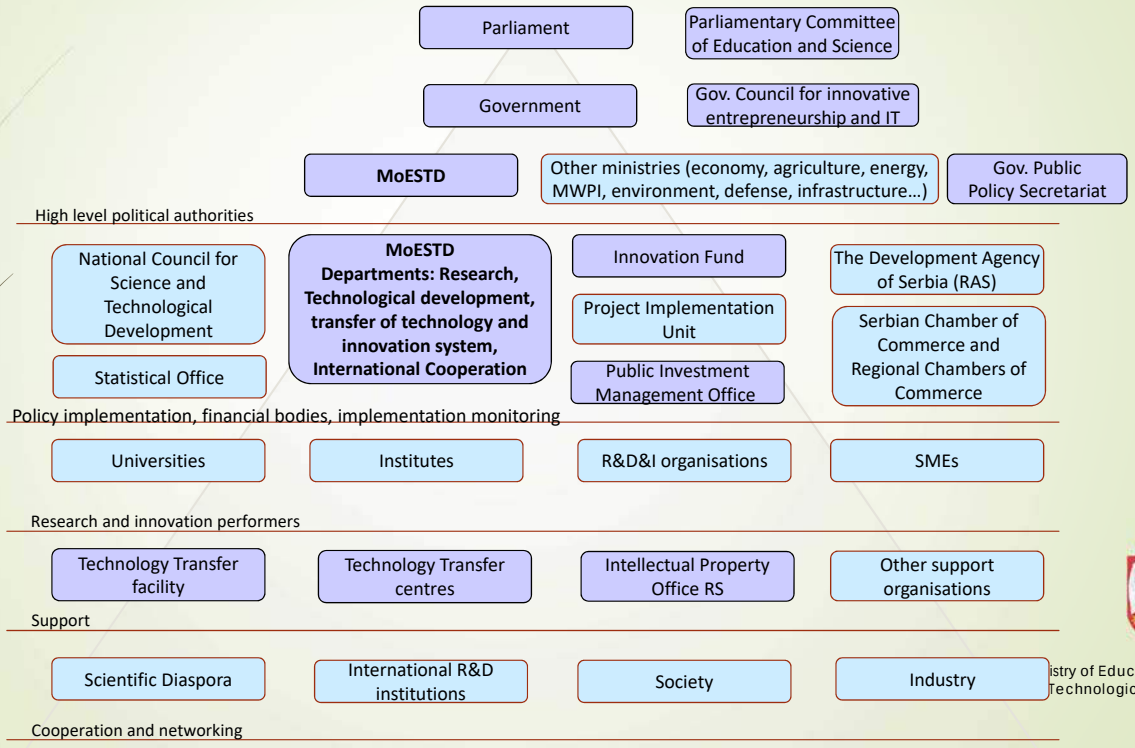
Serbia - STI Institutional Framework



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Serbia - STI Policy Framework

- Law on Scientific Research Activity *(Official Gazette RS, No 110/05, 50/06-corr., 18/10, 112/15)*
- Law on Innovation Activity *(Official Gazette RS, No 110/05, 18/10, 55/13)*
- Law on Serbian Academy of Science and Arts *(Official Gazette RS, No 18/10)*
- HE Law
- **Strategy of Scientific and Technological Development of the Republic of Serbia for the period 2016-2020 - Research for Innovation *(03-03-2016)***
- Action Plan for Strategy Implementation
- Research Infrastructure Roadmap
- Smart Specialization Strategy
- Company Law, Labor Law, ...

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STRATEGY FOR SCIENTIFIC AND TECHNOLOGICAL DEVELOPMENT OF SERBIA FOR THE PERIOD FROM 2016 TO 2020 - "RESEARCH FOR INNOVATION"

- **Vision of the Strategy**: „*Within five years, science in Serbia will be based on a competitive system that supports excellence in science and its relevance to economic development, competitiveness of the Serbian economy, and development of society as a whole.*“
- **Strategy mission**: „ *the establishment of an effective national research system integrated into the European Research Area which through the development of innovation contributes to economic growth, social and cultural progress, raising the standard of living and quality of life.* “

The novelty of this strategy, compared to the previously adopted strategies, is that in its core lies:

"research for innovation" in the function of economic and overall social development of the country.

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STRATEGY "RESEARCH FOR INNOVATION"

- In order to achieve the defined vision and mission, this Strategy defines **six** specific objectives, as follows:
- Encouraging excellence and relevance of scientific research
- Strengthening the connections between science, economy and society to encourage innovation
- Establishing an effective management system for science and innovation in the country
- Ensuring excellence and availability of human resources for science and economy and social affairs
- Improving international cooperation in the field of science and innovation
- Increasing investment in research and development through public funding and encouraging the investments of the business sector in research and development

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Development of the ecosystem: Innovation Fund

- Founded by the Law on innovation activity to provide financing support for innovation
- Operational since 2011
- Working under the supervision of Government of Serbia and Ministry of Education, Science and Technological Development (MESTD)
- Cooperating with international financial institutions (WB), organizations, donors (EC) and the private sector

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Innovation Fund Programmes

	TARGET GROUP
MINI GRANTS PROGRAM	micro or small sized company, existing for no longer than three years at the time of application
MATCHING GRANTS PROGRAM	micro, small and medium enterprises
COLLABORATIVE GRANT SCHEME PROGRAM	SME and academic R&D
TECHNOLOGY TRANSFER FACILITY	academic R&D

NEW: Innovation vouchers

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THE FIRST SCIENCE TECHNOLOGY PARK IN SERBIA

Founded in June, 2015 in **partnership of the Government of Republic of Serbia** (on behalf of Government: Ministry of Education, Science and Technology Development), **City of Belgrade and University of Belgrade** with the aim to create the innovation ecosystem for accelerated technology development of Serbia by connecting business to science and encouraging commercialization of innovation.

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GOALS

- Development of high-tech sector (growth of existing and creation of new technology companies)
- Employment of young highly educated people and reducing the brain drain
- Knowledge and technology transfer and commercialization of innovation
- Development of innovative products and services with added value
- Export growth and strengthening the economy competitive position
- Business networking and globalization

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RESULTS

60 COMPANY MEMBERS

400 + EMPLOYEES

10 MILLION EUR REVENUE

4 BUSINESS SUPPORT PROGRAMS

IT, Internet of Things, smart cities, robotics and mechatronics, agriculture and food, energy efficiency, AI

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International partnership

- Bilateral
- Regional/macroregional
- Multilateral

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Bilateral

- Agreements on scientific and technological cooperation concluded on the governmental level with more than 70 countries, and among them active cooperation are with:
  - Republic of Slovenia (2002)
  - Republic of Hungary (2005)
  - Kingdom of Spain (2003)
  - Republic of Slovakia (2001)
  - Republic of Croatia (2005)
  - Republic of Portugal (2009)
  - Republic of Italy (2013)
  - Republic of Belarus (1996)
  - People's Republic of China (2009)
  - Austria (2010)
  - Germany - DAAD (2008)
  - Montenegro (2014)
  - Republic of France - Program of Integrated Activities – PAI "Pavle Savić" (2003) and CNRS (2008)

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Regional/Macroregional

- EUSDR
  - PA7
    - To increase the effectiveness of investment in R&I through establishment of a funding coordination network
    - To increase the number of EPO patent applications filed from the Danube Region by 20% by 2020.
    - To enhance regional research and education co-operation to reach 20% of academic mobility within the region by 2020.
    - To increase the annual output of co-publications in the region by 15 % by 2020.
    - To develop RIS3 in all Danube countries (or their regions) by 2020.
- WB Steering Platform on Research and Innovation
- Berlin process

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Multilateral

- Horizon 2020
  - the biggest EU Research and Innovation programme ever with nearly €80 billion of funding available over 7 years (2014 to 2020) – in addition to the private investment that this money will attract.
  - It promises more breakthroughs, discoveries and world-firsts by taking great ideas from the lab to the market.
  - Three main pillars: Excellent Science, Industrial Leadership, Societal Challenges

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Horizon 2020

- **Joint Programming Initiatives -** following Joint Programming Initiatives (JPIs) have been launched to date:
  - Alzheimer and other Neurodegenerative Diseases (JPND)
  - Agriculture, Food Security and Climate Change (FACCE)
  - A Healthy Diet for a Healthy Life
  - Cultural Heritage and Global Change: A New Challenge for Europe
  - Urban Europe - Global Urban Challenges, Joint European Solutions
  - Connecting Climate Knowledge for Europe (CliK'EU)
  - More Years, Better Lives - The Potential and Challenges of Demographic Change
  - Antimicrobial Resistance- The Microbial Challenge - An Emerging Threat to Human Health
  - Water Challenges for a Changing World
  - Healthy and Productive Seas and Oceans

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Horizon 2020

- **Public-Private Partnerships** - **Joint Technology Initiatives (JTIs)** that organise their own research agenda and award funding for projects on the basis of open calls.
  - The new Joint Technology Initiatives are active in a number of areas of strategic importance for the EU:
    - **Innovative Medicines 2 (IMI2):** to develop next generation vaccines, medicines and treatments, such as new antibiotics (website | factsheet)
    - **Fuel Cells and Hydrogen 2 (FCH2):** to accelerate market introduction of clean and efficient technologies in energy and transport (website | factsheet)
    - **Clean Sky 2 (CS2):** to develop cleaner, quieter aircraft with significantly less CO2 emissions (website | factsheet)
    - **Bio-based Industries (BBI):** to use renewable natural resources and innovative technologies for greener everyday products (website | factsheet)
    - **Electronic Components and Systems for European Leadership (ECSEL):** to boost Europe's electronics manufacturing capabilities (website | factsheet)
    - **Shift2Rail:** to develop better trains and railway infrastructure that will drastically reduce costs and improve capacity, reliability and punctuality (website | factsheet)

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Horizon 2020 success story

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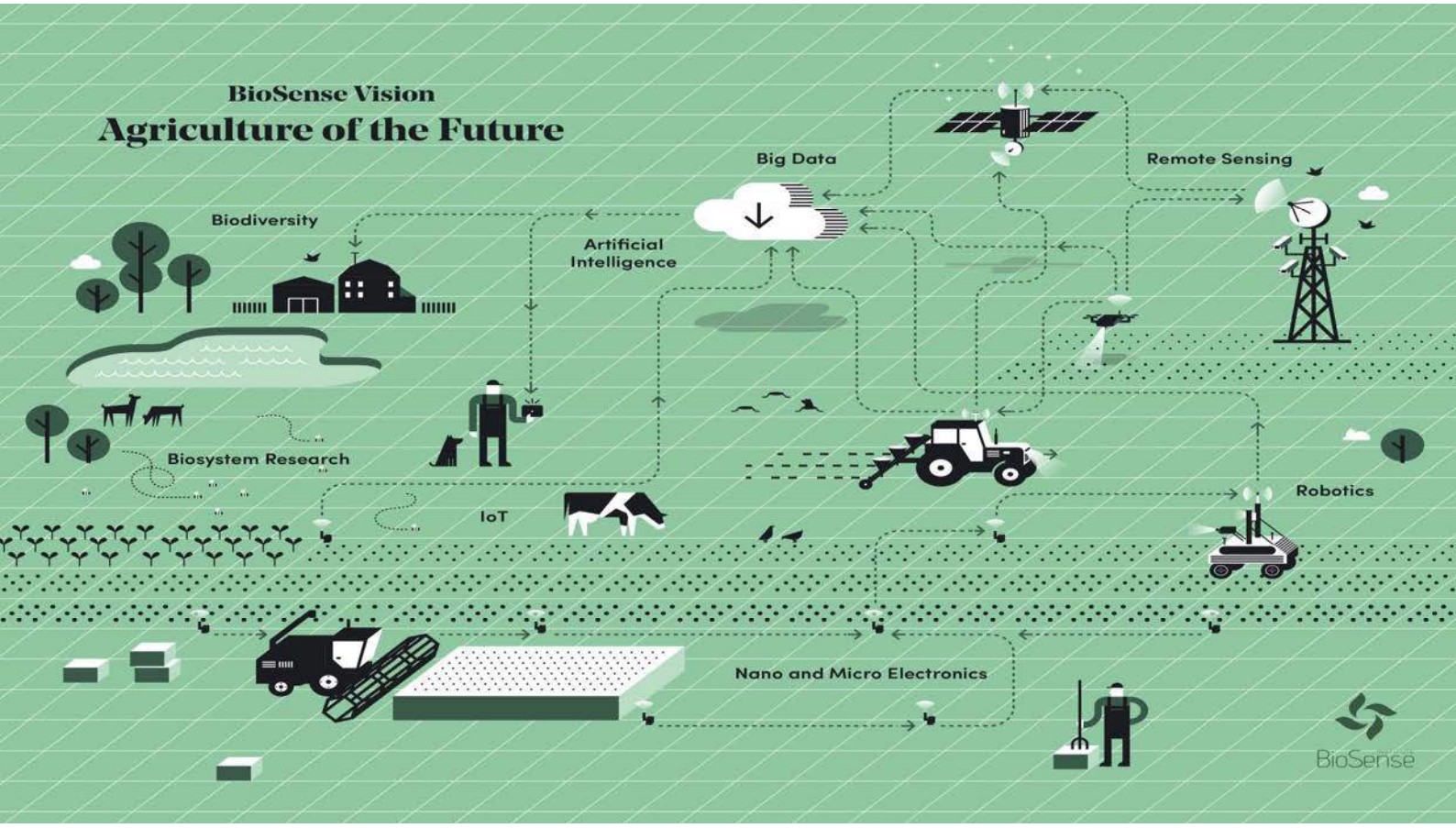
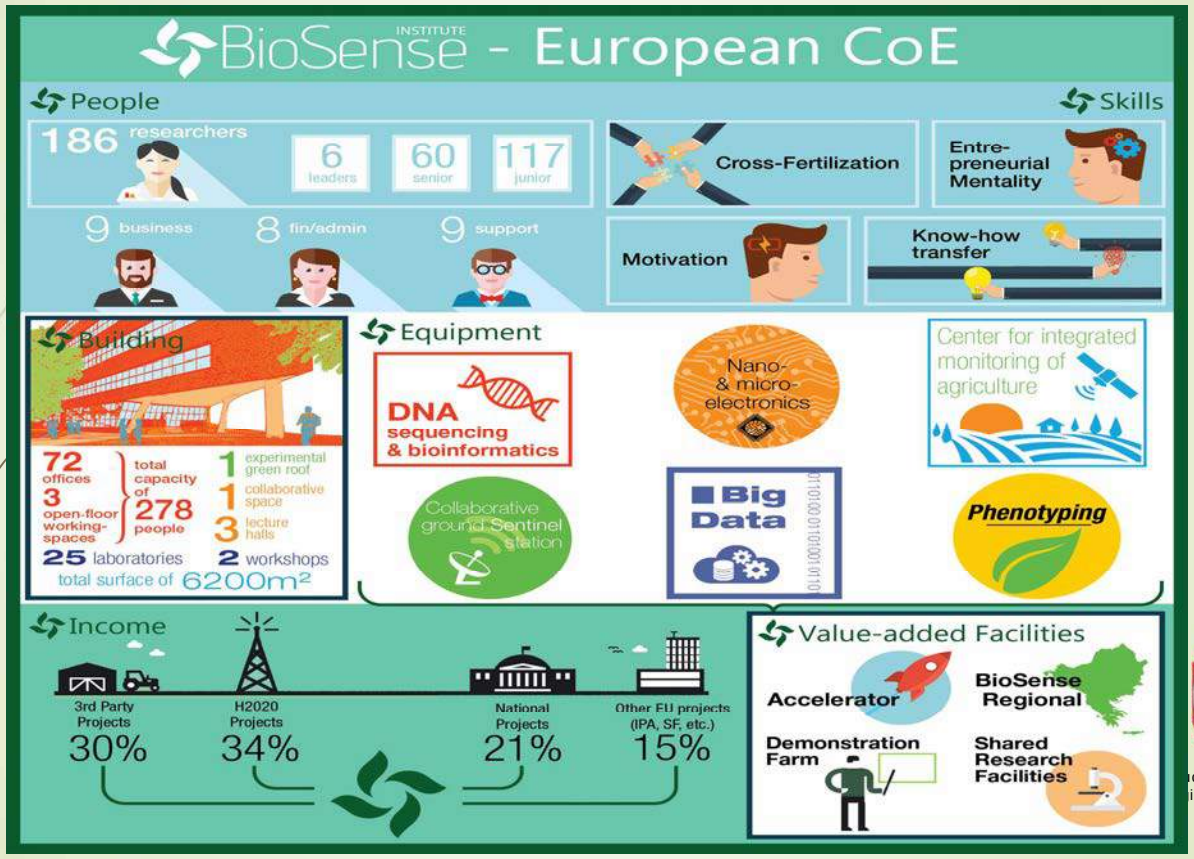
Antares

BioSense INSTITUTE

WAGENINGEN UNIVERSITY & RESEARCH

Република Србија
Министарство просвете, науке и технолошког развоја





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Joint Research Centre

- As the European Commission's science and knowledge service, the Joint Research Centre (JRC) supports EU policies with independent scientific evidence throughout the whole policy cycle.
- It creates, manages and makes sense of knowledge and develop innovative tools and make them available to policy makers
- It anticipates emerging issues that need to be addressed at EU level and understand policy environments
- JRS holds the S3 Platform that provides advice to EU countries and regions for the design and implementation of their Smart Specialisation Strategy (S3)

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Joint Research Centre

- Smart specialisation is an innovative approach that aims to boost growth and jobs in Europe, by enabling each region to identify and develop its own competitive advantages.
- Through its partnership and bottom-up approach, smart specialisation brings together local authorities, academia, business spheres and the civil society, working for the implementation of long-term growth strategies supported by EU funds.

- SMART Identify the region's own strengths and comparative assets
- SPECIALISED Prioritise research and innovation investment in competitive area
- STRATEGIC Define a shared vision for regional innovation

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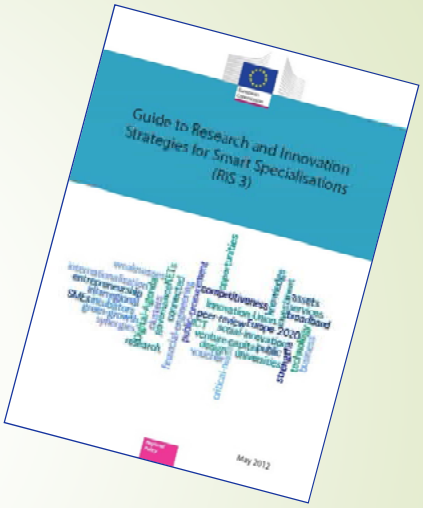
Design principles for RIS3

1. ANALYSIS: discovery of the socio-economic and innovation engines of regional growth, competitive advantages & weaknesses
2. MAKE CHOICES: identify a limited set of priorities for development where to concentrate investment
3. STAKEHOLDER INVOLVEMENT: setting priorities should be an inclusive and interactive process centred on *entrepreneurial discovery*
4. BROAD VIEW OF INNOVATION: support technological as well as practice-based and social innovation
5. MONITORING AND EVALUATION: feeding back information into the policy cycle and allowing strategy revision



RIS3 Guide of the European Commission

With contributions of D. Foray, P. McCann,
J. Goddard, K. Morgan, C. Nauwelaers

Available on the S3 Platform webpage
http://s3platform.jrc.ec.europa.eu

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S3 - Where we are at this very moment

- Final report Mapping of economic, innovative and scientific potential in Serbia was presented by the end of 2017;
- Analysis for ICT Sector (Software Engineering) has been done;
- Innovation Camp – beginning of EDP process - Science Technological Park Belgrade, has been organized;
- EDP – next stages

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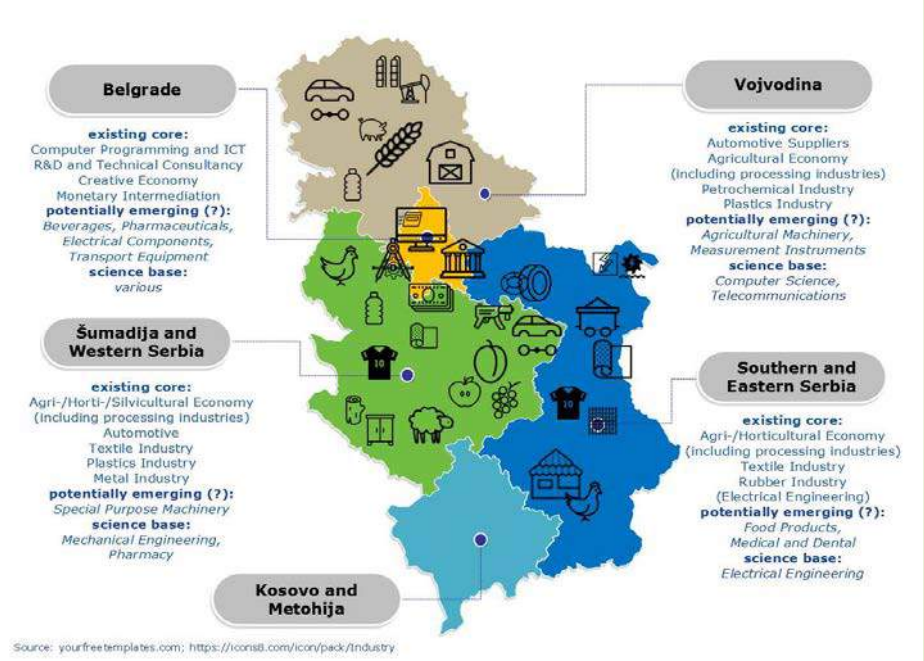
Illustrative Overview of Potential Priority Domains in Serbia



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Policy Support Facility

The Horizon 2020 Policy Support Facility is a new instrument that gives Member States and countries associated to Horizon 2020 practical support to design, implement and evaluate reforms that enhance the quality of their research and innovation investments, policies and systems.

The Policy Support Facility provides best practice, independent high-level expertise and guidance at the request of Member States and Associated Countries through a number of services:

- Peer Reviews,
- Mutual Learning Exercises, and
- Specific Support to Countries

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Policy Support Facility

- **Peer Reviews**

Peer Reviews of national R&I systems are in-depth assessments of a country's R&I system carried out by a panel of experts and policy peers, leading to operational recommendations to the national authorities on the reforms necessary to strengthen their R&I systems.

- **Mutual learning exercises focus on specific R&I challenge of interest to several Member States and Associated Countries and draw on a hands-on project-based exchange of good practice.**

Its aim is to identify good practices, lessons learned and success factors based on robust evidence. Mutual learning exercises have addressed topics such as the Administration and monitoring of R&D tax incentives, Evaluation of business R&D grant schemes and the Evaluation of complex public private partnerships, among others.

- **Specific Support**

Specific support to countries provide tailored advice, expertise, and good practice to help Member States and Associated Countries in the design or implementation of a specific reform concerning R&I strategies, programmes or institutions.

This tailored support provides concrete recommendations on how to tackle a specific R&I policy challenge and how to implement the accompanying reforms.

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- Thank you and stay in touch!

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