



Interreg



EUROPEAN UNION

Danube Transnational Programme

EDU-LAB

EDU-LAB wp3:

**e-learning course 4: Strengthening
the regional economic development**

**Theme 4: RIS3/Smart
specialization**

Session 4: Best practices

Example of best practices

Institutional setting-up: S3-Smart Specialisation Strategy of the region/country - HE related programmes initiated for specific regional economic development goals/needs (educational programs, measures resulted with visible-measurable economic effects)

Transnational cooperation supported by the concept of the Smart Specialization contributes to improvements of global competitiveness and creation of economy based on knowledge. Smart Specialization assumes developing a vision and strategy including competitive advantages to help boost development of excellence and region's potentials based on knowledge and create conditions to use regional diversity as advantage. S3 means identifying region's potentials and strengths as basis for competitive advantage (smart), further develop the strengths and potentials through research and innovation (specialization) and prioritise investments in research and innovations (strategic). Bosnia and Herzegovina as non-EU countries still did not developed S3 strategy on a national level, while other selected countries have national S3 strategies and the level of including of HE in this is different.

Example of best practices: Bulgaria

Several European programmes are devoted to developing ties between educational institutions, business, and the local governments. They include sector programmes like Komenski, Leonardo da Vinci, Erasmus, Grundwig, and Study Visits (which built the Lifelong Learning programme), as well as programmes focused on horizontal strategic goals, such as the EU Programme for Education, Training, Youth and Sports Erasmus+, information and communication technology in education (eTwinning), recognition and validation of skills (Europass and ECVET), academic recognition and quality in the sphere of higher education (the Bologna process), development of national systems of career guidance (Euroguidance), analyses of education and training systems (Eurydice and ReferNet), studying foreign languages (the European Language Certificate). A centre of human resources development in Bulgaria is the National Agency for administration of the Erasmus+ Programme for the period 2014-2020.

Example of best practices: Bulgaria

These programmes envisage financial support for the building of Strategic Partnerships. They support a wide and flexible set of activities for applying innovative practices, promoting the development and modernisation of organisations, and supporting the development of policies at European, national and regional level.

Depending on the project goals, the extent of engagement of participant organisations, the expected impact, and other elements, the Strategic Partnerships may differ in range and may respectively adapt their activities. In other words, the partnership enables the participant organisations to acquire experience from international cooperation and to increase their capacity, as well as to create innovative products of high quality.

Example of best practices: Bulgaria

The activities carried out in the framework of Strategic Partnership projects may include:

- Activities related to teaching, training and learning
- Intensive study programmes (from 5 days to 2 months)
- Mixed mobility for students, interns, adult learners, young people (from 5 days to 2 months of physical mobility)
- Joint project work of school groups of students (from 5 days to 2 months)
Long-term study mobility for high school students (from 2 to 12 months)
- Joint events for staff training (from 5 days to 2 months)
- Mobility for the purpose of teaching or learning (from 2 to 12 months)
- Mobility for people working in the sphere of youth (from 2 to 12 months)
- International youth initiatives.

Example of best practices: Bosnia and Herzegovina

Transnational cooperation supported by the concept of the Smart Specialization contributes to improvements of global competitiveness and creation of economy based on knowledge. It contributes to integrated approach of regional strategy such as EUSDR – EU Strategy for Danube Region. Smart Specialization includes support to research and innovation and will be part of future Cohesion Policy. Smart Specialization assumes developing a vision and strategy including competitive advantages to help boost development of excellence and region's potentials based on knowledge and create conditions to use regional diversity as advantage. S3 means identifying region's potentials and strengths as basis for competitive advantage (smart), further develop the strengths and potentials through research and innovation (specialization) and prioritise investments in research and innovations (strategic). European Commission developed tool to help countries to develop and implement Research and Innovation Strategies for Smart Specialisation (RIS3). Also, European Commission created Smart Specialization Platform to help developing, implementing and reviewing their RIS3.

Example of best practices: Bosnia and Herzegovina

All EU member countries of Danube region: Austria, Bulgaria, Croatia, Czech Republic, Germany (Baden-Wurttemberg and Bayern regions) joined S3 Platform and developed S3. From non-EU member countries (accession countries) Bosnia and Herzegovina, Serbia and Montenegro, and from neighbouring states Moldova and regions of Ukraine, only Serbia and Moldova are registered for S3 platform, but both accession countries and neighbouring countries as non-EU countries haven't developed S3 so far¹¹. The aim is to develop RIS3 in all Danube region countries (or their regions) by 2020. In general, over 150 EU regions and 15 EU-member states have already joined the Platform. In recent years across the EU mostly on regional level more than 100 Research and Innovation Strategies for Smart Specialization (RIS3) were developed.

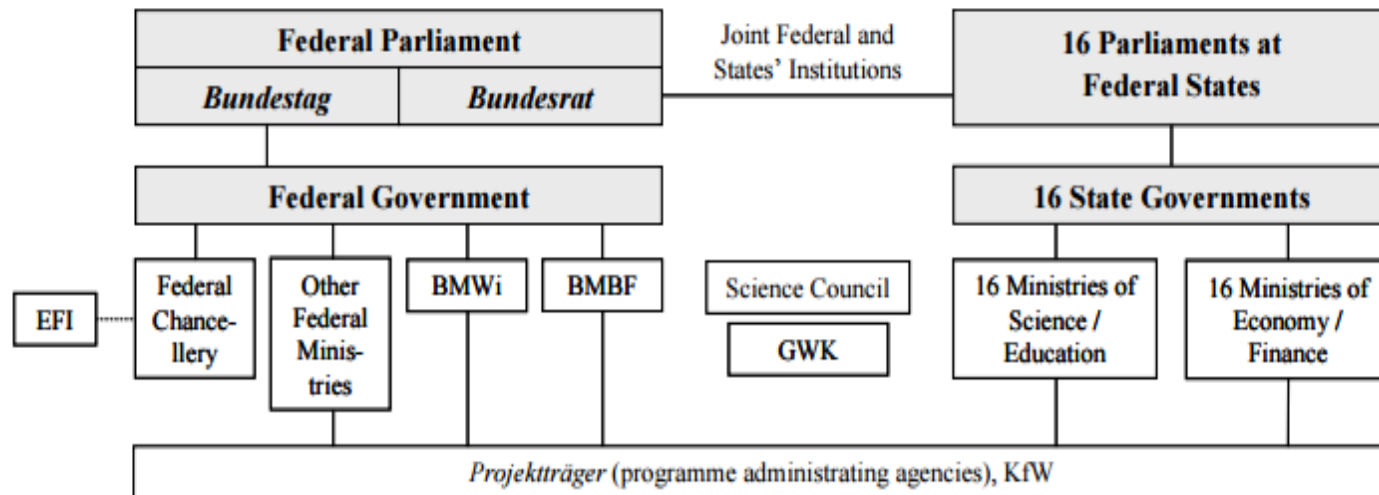
Bosnia and Herzegovina hasn't yet joined S3 platform nor developed Strategy for Smart Specialization¹². S3 platform web site <http://s3platform.jrc.ec.europa.eu/regions/ba/tags/ba>, provides S3 priorities as Encoded in the eye@RIS3 tool for Bosnia and Herzegovina.

Example of best practices: GERMANY

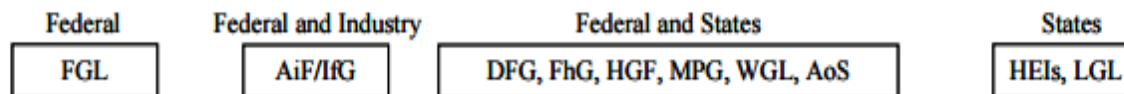
Germany has the largest Research and Innovation (R&I) system in Europe. Gross R&D expenditures (GERD) have reached €79.1b in 2012 which implies that Germany accounts for 29.3% of all R&D expenditures in EU-28. The German R&I system showed a strong performance in 2014. The EU Innovation Union Scoreboard 2014 classifies Germany as an, innovation leader member state together with Sweden, Denmark and Finland. Research and innovation are among the top priorities at all levels of decision making, for the federal government, state governments (so called 'Laender') and the business sector. All of these actors have increased their investments in R&I significantly over the last years. Accordingly, R&D investments in Germany have reached 2.85% of GDP in 2013 which puts Germany within reach of its 3% goal. Two thirds of these investments are made by the business sector.

Example of best practices: GERMANY

Germany's RDI governance system



Research Organisations by Institutional Funding:



BMW: Federal Ministry of Economics and Technology	DFG: German Research Foundation
BMBF: Federal Ministry of Education and Research	AiF: Association of Industrial Research Institutes
FhG: Fraunhofer Society	IFG: Institutes of Co-operative Industrial Research
MPG: Max Planck Society	KfW: KfW Banking Group - State-owned bank (80 % Federal Government, 20 % States)
WGL: Leibniz Association	GWK: Joint Science Conference of the Federal Government and the Federal States
AoS: Academies of Sciences	LGL: Länder Government Research Organisations (State Agencies, other research institutions funded through) State governments)
HEIs: Higher Education Institutions	EFI: Expert Commission on Research and Innovation
FGL: Federal Government Research Organisations (Federal Agencies)	

Example of best practices: GERMANY

Policy makers are responsive to current challenges which roots are complex and often times interrelated. For example the renewed High Tech Strategy, Digital Agenda 2014-2017 or a newly introduced instrument for incentivising venture capital investment ('INVEST – Zuschuss Wagniskapital') demonstrate that policies are being developed and refined to turn the challenges into opportunities.

Detailed country report:

https://rio.jrc.ec.europa.eu/sites/default/files/riowatch_country_report/RIO%20Country%20Report%202014_Germany_0.pdf

S3 related National Websites:

http://ec.europa.eu/regional_policy/index.cfm/en/atlas/germany

<https://rio.jrc.ec.europa.eu/en/country-analysis/Germany>

Example of best practices: GERMANY

Policy changes:

Challenge	Policy measures / actions addressing the challenge	Assessment in terms of appropriateness, efficiency and effectiveness
Coordination of federal and Laender governments in the funding of universities and non-university research organizations	Change in constitution for allowing permanent role of federal government in university funding Extension of pacts	Strong political momentum with many new opportunities for the collaboration between federal and Laender governments. Requires planning and management expertise to achieve excellence for the system as a whole.
Effective evaluation and improvement of innovation policies	Establishment of promising pilot projects: BMWi ('Aufbaukreis Foerdercontrolling/Evaluation') Establishment of effective data infrastructure to evaluate university research and teaching through combined institutes	Positive developments with potential for further improvement and broader application.
Mix of academic and professional skills for R&I	Removal of barriers for skilled workers to enter universities	Difficult challenge which will require more government attention.
Business opportunities from the knowledge society	Digital Agenda 2014-2017 Industry 4.0 ZIM, EXIST, etc.	Strong political support for appropriate measures.
Internationalization of R&I	ERA strategy of federal government Action plan international collaboration Internationalization of leading edge clusters DAAD, Humboldt society, etc.	Active political strategy. Success remains to be seen in highly competitive, international environment.

Example of best practices: GERMANY

A major legislative achievement of the new federal government is the change of the constitution in December 2014. Article 91b of the German constitution had previously put important limitations on the role of the federal government for funding education and research in universities. The latter was so far the prerogative of the Laender. With the change in the constitutional law, the federal government will have a permanent and strategic role in financing universities.

Experts had called for this change for several years but the necessary majorities in both chambers of parliament (with the 'Bundesrat' representing the Laender) appeared difficult to mobilize. In this regard, the current federal government has the advantage that it is formed by parties of which at least one is also part of every Laender government.

Example of best practices: GERMANY

The change in the constitution shows a broader consensus between federal and Laender governments for continued emphasis on R&I in Germany. Federal and Laender governments had previously collaborated on three central policy packages (often times referred to as “pacts”) which were all due to expire in the current legislation period. Against the backdrop of the change in the constitution, federal and Laender governments have agreed to continue the Pact for Research and Innovation (‘Pakt für Forschung und Innovation,’ directed at research organizations) as well as the Higher Education Pact (‘Hochschulpakt,’ directed at funding education and research at universities) until 2020. Both parties have also signalled their intention to extend the Initiative for Excellence (‘Exzellenzinitiative,’ directed at promoting excellent research in Germany) beyond 2017.

These are important decisions because signals for excellent research in German universities, such as record number of starting grants from the European Research Council (ERC) for researchers in Germany in 2014, begin to emerge.

Example of best practices: GERMANY

Challenges related to EDU-LAB project:

Shift in the career choices of secondary school students. Germany has traditionally benefited from a mix of academically educated students and individuals with professional qualifications based on apprenticeships and on the job learning ('Facharbeiter'). The latter career path becomes increasingly less attractive to secondary school students. Academic training will hardly be able to replace the professional and often times tacit experience acquired in day to day interaction with processes, procedures and clients.

Smart Specialisation (S3) Strategy for the Danube Region:

<http://s3platform.jrc.ec.europa.eu/danube-macroregion-activities>

<https://ec.europa.eu/jrc/sites/jrcsh/files/jrc-smart-specialisation-danbe-region.pdf>

Example of best practices: HUNGARY

There are several programmes under construction to improve and strengthen the regional economic development. “Modern Városok Program” (Modern Cities Program), TOP, GINOP etc. are the main programs dealing with regional development. Some of the programs are large (MVP) taking several years or even decades. Others (i.e GINOP) aim companies and focus on improving productivity, quality etc. Most of these programs prefer the cooperation between the partners especially if one of them is university.

Example of best practices: ROMANIA

Education programs based on identifiable needs in a region are crucial for the future development of an area. In some regions, more than in others, it is vital that the education system provides the proper specialized programs in order for a certain industry to continue to grow. Such programs should target desired skills, in accordance with the resources that a certain area provides.

In Romania there are several cases where it has been important that the education system, especially the higher one, adjusted to the needs of the main industry in the region as it can be observed in the table from the next section.

Example of best practices: SERBIA

Smart specialisation is an economic transformation agenda based on research and innovation (R&I). An ongoing pilot project together with the Joint Research Centre of the European Commission supports the design of innovation strategies for smart specialisation (RIS3) in Serbia. Together with international experts, an analytical mapping and stakeholder dialogue will help to determine the most important domains and clusters in country. Helping stakeholders to organise within these clusters and connecting them to macro-regional and European value chains can make an important contribution to economic growth. Building local competences and capacities for developing clusters through continuous stakeholder involvement and peer learning between Serbia and countries in the Danube Region is expected to be a central result of the project. The EUSDR Priority Area 7 (Knowledge Society) agreed to promote the development of RIS3 in all Danube countries by 2020.

Example of best practices: SERBIA

Public authorities in Serbia consider smart specialisation as a useful framework to address their development needs. In Serbia, the government created a dedicated inter-ministerial working group with the goal to develop a RIS3 strategy in the next two years. This plan is a formal part of the already adopted Governmental Action Plan. Serbia is developing a national innovation strategy for prioritisation. Quantitative as well qualitative analysis, mapping and stakeholder dialogue will be organised at the subnational level (NUTS2). In Serbia, the process of RIS3 development is considered to be a major driver of the restructuring of the R&I system into national innovation system. In particular, the stakeholder dialogue / entrepreneurial discovery process will be established as a primary instrument for better linking the research and innovation system with the broader economy and society. Throughout this project, attention will be paid to designing appropriate and effective mechanisms for monitoring and evaluation of cluster developments in prioritised domains. Existing statistical and other necessary and available information will be analysed. The entrepreneurial discovery process will be introduced as driver for organising cluster development. Special attention will be paid to the studies of the inclusion of the producers from Serbia to the international value chains and possibilities of further development of international co-operation for local companies.

Example of best practices: SERBIA

In addition, Autonomy Province of Vojvodina presented the current work on Research and Innovation Strategy for Smart Specialization in the Peer Review Workshop organized by the S3 Platform and the Information Centre for Business Standardization and Certification in the year 2014. The presentation was followed by peer discussions, which have provided the basis for this report

*http://s3platform.jrc.ec.europa.eu/documents/20182/92282/Feedback_report_APV_June-2014.pdf/58b4079a-dd6a-451a-986b-47ce31badeb9

Example of best practices: SLOVAKIA

The Slovak Republic intensively develops a strategy for smart industry with connection to Smart technology. The strategic objectives can include:

- Support the establishment and development of human resources capacity in education, training and retaining and attracting skilled workers in research and development and in practice.
- Define study programs in lifelong learning; design changes in education, especially at university technical direction, support the creation of new interdisciplinary programs.
- Increase technical and IT "literacy" in view of the structure of the school system and the structure of graduates.
- Create flexibility and security in the labor market, security for workers, who the market will need, opportunities for professional development and the creation of new skills.
- Requirements for employment and ways of dealing with the transformation of the classic profession into new requirements of the labor market.

These goals ensure increased awareness of the population, increase the educational level of the graduates, better and professionally-oriented graduates for the labor market needs and create the potential for economic development of regions.

S3 Priorities for Slovakia: <http://s3platform.jrc.ec.europa.eu/regions/SK/tags/SK>

Example of best practices: SLOVAKIA

Description	Capabilities	Target Markets	EU Priorities
Automotive & mechanical engineering industries	1. Manufacturing & industry 2. Motor vehicles & other transport equipments	1. Manufacturing & industry 2. Motor vehicles & other transport equipments	1. KETs 2. Advanced manufacturing systems
Production and processing of iron and steel.	1. Manufacturing & industry 2. Other manufacturing	1. Construction 2. Specialised construction activities	1. Sustainable innovation 2. Resource efficiency
ICT and Services.	1. Information & communication technologies (ICT) 2. Computer programming, consultancy & related activities	1. Information & communication technologies (ICT) 2. Computer programming, consultancy & related activities	1. Digital Agenda 2. E-Commerce & SMEs online
Consumer electronics and electrical equipment.	1. Manufacturing & industry 2. Computer, electronic & optical products	1. Manufacturing & industry 2. Electrical equipment	1. Digital Agenda 2. Intelligent inter-modal & sustainable urban areas (e.g. smart cities)

Example of best practices: SLOVENIA

The common denominator of the Slovenian S4 Smart specialisation are **sustainable technologies and services** for a healthy life on the basis of which Slovenia will become a green, active, healthy and digital region with top-level conditions to foster creativity and innovation, focused on the development of medium- and high-level technological solutions in the niche areas. The priority areas within the S4 are **Healthy leaving and working environment** (smart cities and communities, smart buildings and homes, including wood chain), **Natural and traditional resources for the future** (networks for the transition to circular economy, sustainable food production, sustainable tourism) and **(S)Industry 4.0** (factories of the future, health – medicine, mobility, development of materials as end products).

Example of best practices: SLOVENIA

In the period 2016-2018, S4 will serve as a basis for investing in development. Support will be given predominantly to RDI in value chains and networks, investments, research infrastructure, research potential of researchers and international mobility, employee knowledge and competences, creativity of young people, and optimization of the supporting environment for entrepreneurship and innovation.

The manner of implementation is by **establishing strategic partnerships**, which will facilitate a joint approach and long-term cooperation of stakeholders within various priority areas, such as the economy, research and education institutions, and other relevant partners in respective priority areas. As mentioned above, University of Maribor, as the largest and leading research-educational institution in the East cohesion region of Slovenia, undertook the leading role in promoting cooperation between stakeholders. It also acts as a partner and link to the state in terms of managing the development policy, devised in a manner that ensures each priority area a chance to voice their needs and opportunities.

Thank you for your attention!