



Comparative analysis of S3 abstracts of the strategies of Upper Austria and the South Bohemian Region

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EUROPEAN UNION



Content

- About S3 Couple Net..... 1
- Introduction 3
- Chapter 1: Comparison of strategy development process 4
- Chapter 2: Comparison of structures and role of key actors 6
- Chapter 3: Comparison of content and S3 strategy focus 9
- Chapter 4: Comparison of the process of implementation and monitoring 15
- Chapter 5: Starting points, potential and synergies for cooperation 20
- Chapter 6: Conclusions 24

About S3 Couple Net

Project summary

Project identification

Programme priority	Sustainable networks and institutional cooperation
Programme priority specific objective	4a
DTP Project Code and Acronym	S3 Couple Net
Project title	Cross-border network for activating the S3 strategy of the South Bohemian Region and Upper Austria
eMS Project Number	ATCZ262
Name of the lead partner organisation	Jihočeský vědeckotechnický park, a.s.
Project duration	16 months
Start date	1. 9. 2021
End date	31. 12. 2022

Description of the project

The South Bohemian Region and Upper Austria have long supported the development of innovative entrepreneurship - whether through various support schemes, the development of a regional innovation ecosystem, cooperation with other institutions in the region or the implementation of measures in accordance with its S3 regional strategy. In both regions, these development documents for the coming period have recently been revised and updated (RIS3 Stragie of the South Bohemian Region 2021-2027 / # upperVISION2030).

It is a strategic approach to the economic development of the region in the field of research and innovation, which is a process of identifying opportunities and positive aspects of the region, which can benefit from specialization in a particular field of science or technology. The concept of smart specialization recommends regions or states to create the content and design of their innovation strategy so as to maximize the impact of regional policy together with other EU policies. It is based on the Commission Communication entitled The contribution of regional policy to smart growth in the context of the Europe 2020 strategy of October 2010, which refers

to these strategies as Smart Specialization Strategies. In principle, therefore, these strategies address the needs and innovation potential of both regions concerned (South Bohemian Region and Upper Austria). Attention is paid to the existing infrastructure (R & D & I, production and tertiary spheres), specific trends derived from the economic profile of the region and new technological directions (so-called megatrends), which are again based on innovation profiles of the area, but also on current economic challenges.

Thanks to the harmonized RIS3 methodology, it is possible to effectively analyze both documents, create a cross-border network of key actors and find common needs, complementary capacities, specific measures and activities. A unique opportunity is also the upcoming new programming period, which will be prepared by the preparation of potential projects and cooperation potentials of the network members.

On both sides of the border, this project is approached by partners who are directly responsible for the successful implementation of these regional strategies and at the same time represent entities with a region-wide scope. The main goal of the project is to activate an effective cross-border network of actors based on a detailed comparative analysis of S3 strategies in the South Bohemian Region and Upper Austria, which will prepare a set of measures for the development of cooperation in key areas for the regions.

Partners

<i>Name</i>	<i>Type</i>	<i>Country</i>
Jihočeský vědeckotechnický park, a.s.	Lead partner	Czech Republic, South Bohemia
Business Upper Austria - OÖ Wirtschaftsagentur GmbH	Project partner	Austria, Upper Austria

Introduction

The content of the presented document is a **comparative analysis of S3 abstracts of the strategies of Upper Austria and the South Bohemian Region**. Let us start by saying that comparative analysis is one of the scientific research methods, which is based on the sufficiently informative capabilities of the input data, in simple terms, on the volume and quality of data that can be compared in the same way. If it turns out during the comparison of abstracts that the data are not sufficient for comparison, the author will also use the information provided in the Regional Innovation Strategies of both monitored regions. The Regional Innovation Strategies are also used for information that is essential for drawing the conclusions of the comparison.

For the purpose of the greatest possible telling value of the comparison is also used information from thematically identical sources at the national and international level. For the sake of completeness, let us add that the the following strategies served as the basis for the mentioned abstracts of the S3 strategies, hence the comparative analysis. On the Czech side, it is the RIS3 strategy of the South Bohemian Region 2021-2027 compiled as part of the Smart Accelerator project in the South Bohemian Region and approved by the South Bohemian Regional Council in June 2020. On the Austrian side, it is called "The Strategic Economic and Research Programme for Upper Austria #upperVISION2030" compiled in 2018 to 2019 and valid from 2020 to 2030. #upperVISION2030 has a stable strategic framework for activities with a clear focus. The activities and measures are updated annually in the programme book.

Chapter 1: Comparison of strategy development process

The current process of creating Regional Innovation Strategies is a clear combination of scientific knowledge and theoretical approaches to the support of science, research and innovation and a combination of the European Commission's efforts to effectively use public funds for the support of the above. Scientific knowledge is often based on the principles set out in the 2012 **Guide to Research and Innovation Strategies for Smart Specializations (RIS 3)**. The European Commission's efforts are then summarized in the **Regulation of the European Parliament and the Council (referred to as COM (2018) 375)** on common provisions of the European Regional Development Fund, the European Social Fund Plus, the Cohesion Fund and the European Maritime and Fisheries Fund and on the financial rules for those Funds and for the Asylum and Migration Fund, the Internal Security Fund and the Border and Visa Management Facility.

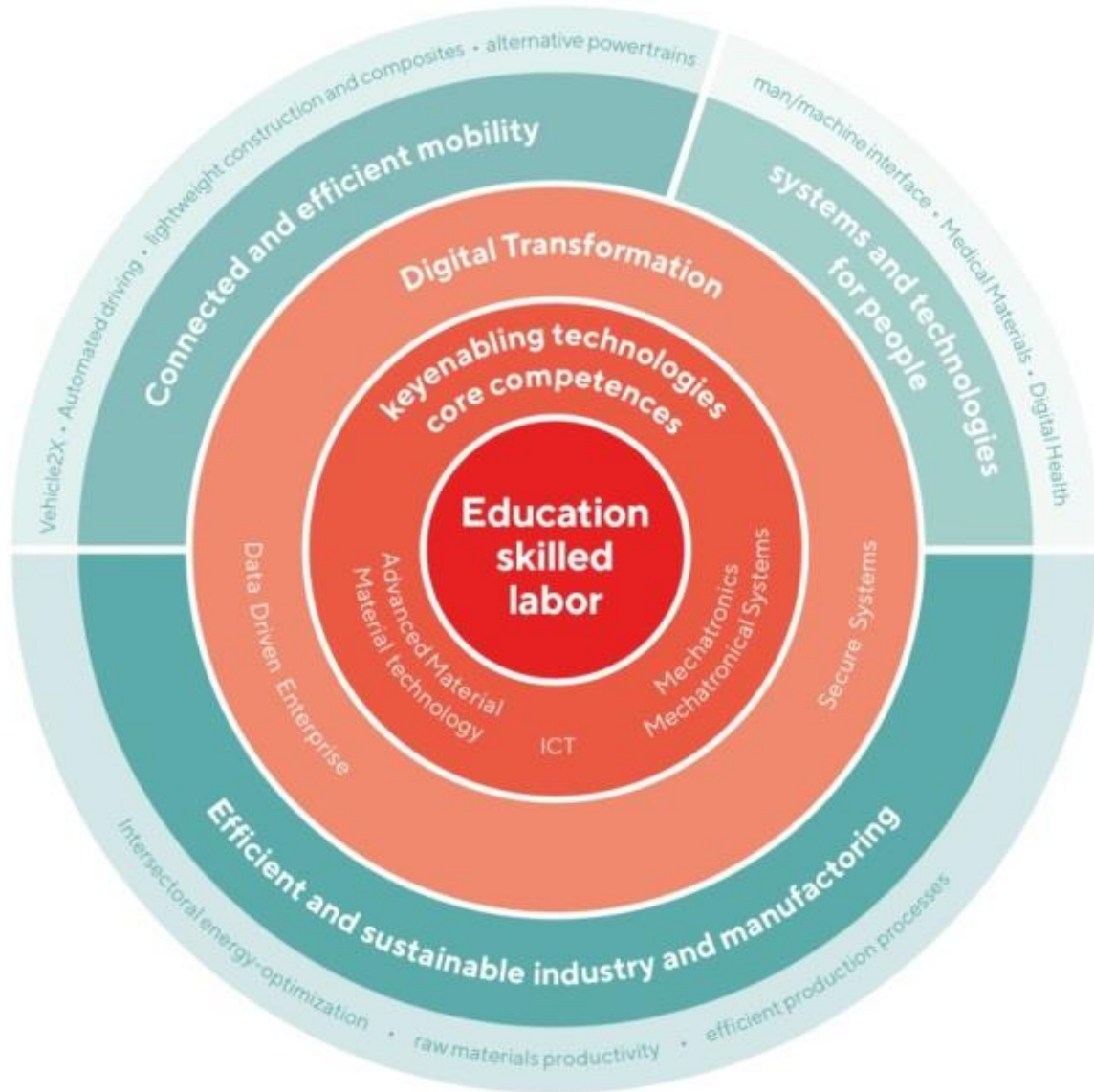
Both of these approaches determine the optimal process of creating Regional Innovation Strategies, while **both monitored regions have sufficiently mastered and applied approaches**. This is due to the fact that the process of creating strategies is not a new issue for both monitored regions.

As already mentioned, the current version of Upper Austrian RIS 3 called # upperVISION2030 is a framework valid from 2020 to 2030 and is essentially **the fifth version of a regional innovation strategy**. In the case of the South Bohemian Region, this is **the third regional innovation strategy** with the official name of RIS3 South Bohemian Region Strategy 2021-2027.

The above shows that both regions have **a sufficiently developed process of creating these particular strategies**, both in terms of methodological and generally accepted creation process as well as in terms of the necessary connotation to the conditions of the European Commission, on the basis of which the specific projects supporting R&D&I in the regions are funded.

One significant difference is noteworthy, and it is, **in the case of the Upper Austrian RIS3 strategy, the issue of education as a key focal point and a basic pillar** for any activity and discussion on promoting innovations at the regional level. This does not mean that the South Bohemian RIS3 does not emphasize education, but in direct comparison it does so less than the Upper Austrian one. **The Austrian concept is clearer and more prominent**. The importance of education as a focal point of the Research, Development and Information is illustrated by the commentary on the diagram below, on page 5, The Action Framework at a Glance: "The emphasis is on well-trained people as a central factor in Upper Austria." Other differences are completely marginal for the importance of RIS3 strategies.

Image 1 Strategic framework of Upper Austrian RIS3



Source: #upperVISION2030 Wirtschafts- & Forschungsstrategie OÖ. Programmbuch 2020 Wirtschafts- und Forschungsstrategie

Chapter 2: Comparison of structures and role of key actors

The analyzed approaches to the creation of a regional innovation strategy in both regions show that the **regions proceed in accordance with the recommended methodologies, i.e., the inclusion of the so-called triplehelix model** in all phases of the life of the regional innovation strategy. That is, the Regional Innovation Strategy is influenced by institutions that fulfill the triplehelix model. To make it clear, we attach a table that illustrates the selection of a sufficient institutional basis for RIS creation in both regions. The structure, i.e., the overview of the individual actors, mostly also shows their role, so it is not further itemized. What also applies is that the business community, as part of the triple helix model, is involved in the process through chambers, associations or in the form of working groups. The university sphere, for instance, is also involved in the process.

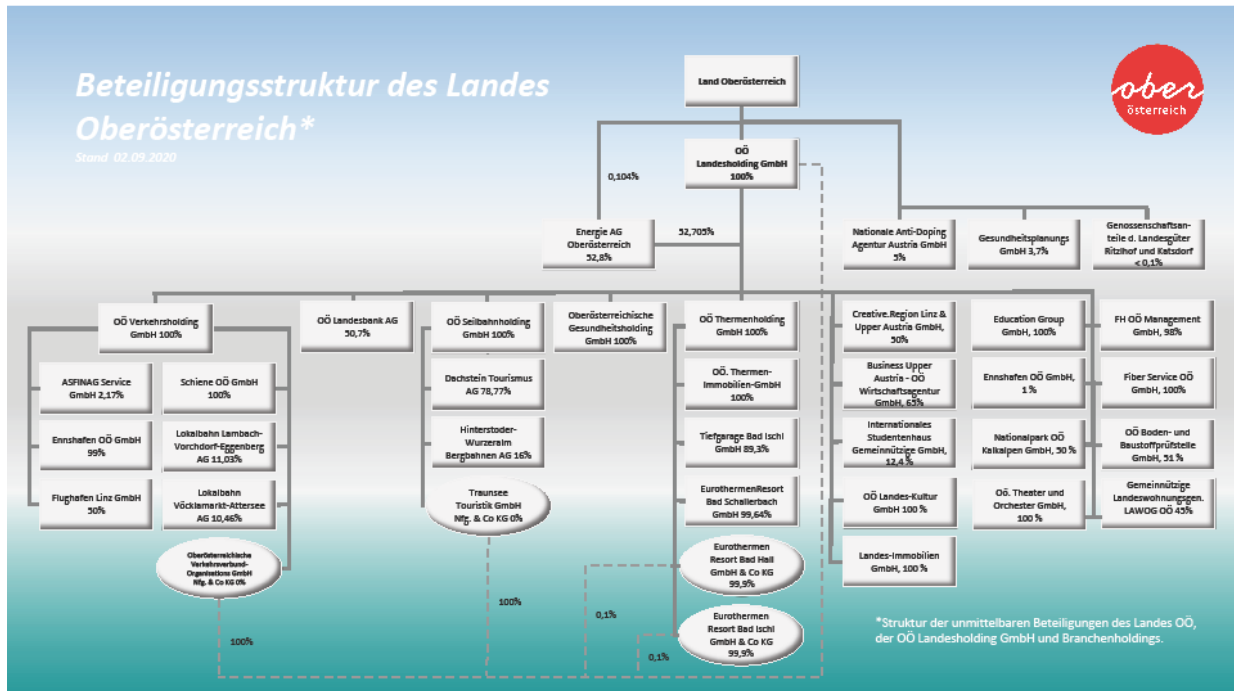
Illustrative structure of the participants of the Regional Innovation Strategy	
Upper Austria	South Bohemian Region
<ul style="list-style-type: none"> • Regional Government of Upper Austria • Business Upper Austria • Trigon • Johannes Kepler University – JKU • University of Applied Sciences – FH OÖ • Upper Austrian Research – UAR • The Federation of Upper Austrian Industries (IV – Industriellenvereinigung OÖ) • Upper Austrian Chamber of Commerce (WKOÖ – Wirtschaftskammer OÖ) • Upper Austrian Chamber of Labor (AKOÖ - Arbeiterkammer OÖ) • The Upper Austrian Future Academy • The Federation of Upper Austrian Industries • Council for Research and Technology Upper Austria • National Platform Industry 4.0 Austria 	<ul style="list-style-type: none"> • South Bohemian Region • South Bohemian Science and Technology Park • Commission for Innovation of the South Bohemian Region; • - KIP for Quality Human Resources - South Bohemian Employment Pact; • - KIP for Cooperation and Technology Transfer - Smart Region South Bohemia Commission; • - KIP for Business Development - JAIP Board of Consultants - South Bohemian Agency for Innovation Support, o.p.s. ; • - KIP for digital transformation – South Bohemian Digi Hub (in design); • - KIP for Bioeconomics and the Circular Economy • South Bohemian Chamber of Commerce • University of South Bohemia in České Budějovice • Regional Agrarian Chamber of the South Bohemian Region (RAK JK) • RERA a.s.

Source: Abstracts of S3 strategies of Upper Austria and the South Bohemian Region

However, when examining in more detail the comparison of the approach to the implementation of the Regional Innovation Strategy, it is impossible not to notice a **certain**

different systemic approach to the creation and implementation of RIS from the point of view of the responsible institution. In the case of Upper Austria, the #upperVISION2030 Strategic Economic and Research Programme is implemented by **Business Upper Austria**, a company based on the partnership principle of several Upper Austrian regional institutions, including the Upper Austrian Government.

Image 2 Link of the responsible RIS3 institution in Upper Austria to the Austrian regional government



Source: <https://www.landesholding.com/veroeffentlichungen>

The institution per se, including the name of its director, is listed in the Upper Austria Regional Innovation Strategy as the main and responsible institution.

As for the environment of the South Bohemian Region, it is the so-called **Commission for Innovation of the South Bohemian Region** that is responsible for the implementation of the South Bohemian Regional Innovation Strategy. It is an official advisory body (commission) of the Council of the South Bohemian Region. According to the current wording of the South Bohemian RIS3, it represents the supreme coordinating and advisory body in the area in question. The Innovation Commission of the South Bohemian Region coordinates the preparation, implementation and fulfillment of RIS3 of the South Bohemian Region, proposes and coordinates the preparation, implementation and evaluation of individual system measures of direct and indirect support for innovative business and science, research and development in the South Bohemian Region, monitors and evaluates the achieved outputs and results defined in the RIS3 Action Plan of the South Bohemian Region, considers the implementation of the activities of the RIS3 Action Plan and others.

A significant difference compared to the Austrian model is that the South Bohemian Regional Innovation Commission is established by the South Bohemian Regional Council. It is

therefore not the same model as in Austria, where the executive and implementation team is set up in the Business Upper Austria organisation. On a practical level (especially thanks to the interventions implemented under the Smart Accelerator tool in the South Bohemian Region, which also has adequate staffing), however, this situation does occur.

It is also a question of how effectively the representatives of the largest regional companies contribute to the fulfillment of the Regional Innovation Strategy as members of the Innovation Commission. Nevertheless, this is not the subject of this comparison, and the equally clear description of the advantages or disadvantages of the South Bohemian model in the management of the Regional Innovation Strategy goes beyond the comparison of both RIS.

Chapter 3: Comparison of content and S3 strategy focus

It can be said that thanks to the use of the same methodology for the creation of Regional Innovation Strategies, the structure of content and design of the focus is very similar. **The principle of the concept is based on the Matrix composed of horizontal and vertical topics**, which are defined on the basis of the initial analysis of the region and which, according to the evaluation, play a key role for economic, research and innovation growth. The correlation of the principle is comparable with the National Innovation Strategies, in the case of the Czech side with the **National Research and Innovation Strategy for Smart Specialization of the Czech Republic 2021 - 2027** of the Ministry of Industry and Trade and in the case of the Austrian side with the **Open Innovation Strategy for Austria 2016 – 2025**, which is under the control of Federal Ministry for Science, Research and Economy a Federal Ministry for Transport, Innovation and Technology.

For the comparative analysis, the vertical and horizontal themes were considered. The vertical themes can also be understood as fields of action. These are those topics that on the one hand represent the areas of strength, but also hold great challenges for both regions. The fields of action are regularly monitored and activities are developed to address the major challenges.

The vertical topics are those topics that play into the fields of action and are considered in relation to the respective field of action. For example, the topic of skilled workers and education is not only treated as a separate topic, but also as a cross-cutting topic for the automotive field of action.

For the comparative analysis, the vertical topics of the two regions are compared:

<p>Digital Transformation</p> <ul style="list-style-type: none"> - Use data to generate knowledge and create value by raising the innovation potential of new technologies, such as Big Data, Artificial Intelligence etc. In priority areas of action and transferring new technologies into applications. - Achieve a pioneering position in the field of human-centered AI and set quality standards in the classification of AI systems in terms of security and reliability in the way they are used. 	<p>Mechanical engineering and mechatronics</p> <ul style="list-style-type: none"> - Manufacture of machinery and equipment - Production of metal constructions and metal products
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<p>Efficient and Sustainable Industry and Manufacturing</p> <ul style="list-style-type: none"> - Maintain and expand the technological lead of companies in the region in order to continue successfully placing innovative products and services on national and international markets - Increase the efficiency of Upper Austrian industry and position Upper Austria as a region for "Responsible Technologies & Management" 	<p>Electronics, electrical engineering and IT</p> <ul style="list-style-type: none"> - Manufacture of electrical equipment - Manufacture of computer, electronic and optical products - Information technology service activities
<p>Systems and Technologies for People</p> <ul style="list-style-type: none"> - International positioning of Upper Austria as a competence region for applications at the human/machine interface, especially in the fields of areas of automation and robotics. - Transfer of Upper Austrian key technologies and core competences from the production to medical technology, in particular in the areas of Digital Health and Medical Materials. 	<p>Biotechnology for the sustainable development of society</p> <ul style="list-style-type: none"> - Health care - Production of rubber and plastic products - Plant and animal production, hunting and related activities - Manufacture of food products - Architectural and engineering activities; technical, physical and chemical testing - Manufacture of basic pharmaceutical products and pharmaceutical preparations - Manufacture of chemicals and chemical products - Circular economy - Sustainable food production
<p>Connected and Efficient Mobility</p> <ul style="list-style-type: none"> - Taking advantage of the structural change in the Upper Austrian supplier industry and maintain position in existing and new business fields - Positioning Upper Austria as an attractive region for mobility and logistics solutions through the use of the latest technologies and system innovations from business and research. 	<p>Manufacture of motor vehicles, trailers and semi-trailers</p> <ul style="list-style-type: none"> - Manufacture of other transport equipment - Architectural and engineering activities; technical, physical and chemical testing

	<p>Textile and clothing industry</p> <ul style="list-style-type: none"> - Textile production - Manufacture of clothing - Manufacture of leather and allied products
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Source: abstracts S3 strategies of Upper Austria and the South Bohemian Region

The following table shows the vertical topics that are understood as cross-cutting issues:

<p>Education, skilled workers, specialists</p> <ul style="list-style-type: none"> - qualified and educated people are an important location factor for Upper Austria - Ensure availability of suitable qualified workforce for business, industry and RDI 	<p>Key area of change A: Quality human resources</p> <ul style="list-style-type: none"> - A.1.1. Increasing interest in education in technical and science-oriented fields at all levels of education - A.1.2. Increasing the relevance of education to the needs of the regional labor market - A.1.3. Attracting new and retaining existing top scientists - A.1.4. Entrepreneurship development in the system of secondary, tertiary and lifelong learning - A.1.5. Development of research and educational infrastructure
<p>Key technologies and core competencies</p> <ul style="list-style-type: none"> - In order to meet future challenges, existing core competencies and key technologies - particularly in the areas of mechatronics, materials, and information and communications technology - are being continuously further developed and expanded 	<p>Key area of change B: Cooperation and technology and knowledge transfer</p> <ul style="list-style-type: none"> - B1.1. Strengthening cooperation between companies, R&D institutions and municipalities - B1.2. Strengthening transnational cooperation and increasing the mobility of researchers
<p>Sustainable solutions</p> <ul style="list-style-type: none"> - Sustainable solutions help to meet current challenges and solve current problems without harming future generations. - Sustainable developments play an important role because they contribute to sustainable solutions and sustainable business models. - Therefore, effective and efficient research and development is a prerequisite for 	<p>Key area of change C: Business development and innovation</p> <ul style="list-style-type: none"> - C 1.1 Improving the quality of services for start-ups - C 1.2. Development of innovation potential in companies, including intellectual property protection - C1.3. Increasing the internationalization of companies

<p>innovations aimed at sustainable solutions</p>	
<p>Digital transformation</p> <ul style="list-style-type: none"> - Digital transformation is also an important factor that affects all areas - Technologies combined with people, processes and activities enable companies to meet new customer needs and drive growth and innovation 	<p>Key Area for Change D: Development and Integration of Digitization, Smart Solutions and Industry 4.0</p> <ul style="list-style-type: none"> - D1.1 Development and integration of digitization, smart solutions and Industry 4.0 in the business sphere - D1.2. Development and integration of digitization, smart solutions and Industry 4.0 in public administration

The second parameter, which could suggest **possible topics of cooperation**, are the so-called vertical priorities of both regions. The citation of the National Research and Innovation Strategy for Smart Specialization of the Czech Republic 2021 - 2027 will best serve to explain the relationship between horizontal and vertical priorities. The main 'motto' is: A resilient economy based on knowledge and innovation. The National RIS3 Strategy defines two basic levels of priorities in its strategic part and focuses on them during implementation. The connection of these two levels of priorities represents the operationalization of the vision, i.e. a description of the way as to how to fulfill the vision. These are, firstly, **horizontal priorities - key areas for change and, secondly, thematic (vertical) priorities**. Thematic priorities are represented primarily by the domains of research and innovation specialization and also by planned missions that are to address societal challenges.

The interconnection of the horizontal and vertical levels can also be explained in the following way, that is that the first area of NIS3 are key areas of change in which the Czech Republic must make significant shifts in order to strengthen the knowledge-based intensity of the economy with the aim to facilitate the development of selected domains of specialization and their gradual shaping. These key areas of change correspond with the horizontal priorities of the National RIS3 Strategy, which are reflected in the horizontal strategic and specific objectives of the National RIS3 Strategy. The horizontal objectives respond to cross-section issues in the RDI area. The key areas of change are followed by the vertical part of the National RIS3 Strategy, which describes the vertical thematic priorities of RIS3, i.e. the domains of the research and innovation specialization of the Czech Republic. (National Research and Innovation Strategy for Intelligent Specialization of the Czech Republic 2021 - 2027, MIT CR, 2020, pp. 2 and 39)

The same philosophy is also followed by the South Bohemian RIS3, which is also aware of the importance and significance of the so-called vertical topics, that is the South Bohemian domains of specialization. These are as follows:

- Engineering and mechatronics
- Electronics, Electrical Engineering and IT

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- Biotechnology for the sustainable development of society
 - Automotive industry
 - Textile and clothing industry
 - Digitization, smart solutions for the region, Industry 4.0 (including creative industries)

As already mentioned in another part of this document, **the vertical concept does not completely stem from the Austrian RIS3, or more precisely does not clearly describe the matter.** Therefore, it was necessary to use another information source with information essential for the vertical concept of the strategy. This can be the Policy Framework for Smart Specialisation in Austria, Vienna, November 2016, which Upper Austria describes as the regions with a strong industrial base. Upper Austria as an industrially dominated Land has worked intensely in the past 25 years on a location policy to build up a specialised regional innovation system, and in this context, it has promoted mainly research and educational capacities. The strategic economic and research programme 'Innovatives OÖ 2020' ('Innovative Upper Austria 2020') consistently follows the innovation chain education-research-business and pursues a productivity-oriented growth strategy. The four core strategies defined (location development, industrial market leadership, internationalisation, future technologies) were defined in an intensive discussion process that followed a top-down and bottom-up logic. Five fields of action were arrived at for the Land: (i) industrial production processes, (ii) energy, (iii) health and aging society, (iv) food and nutrition, and (v) mobility and logistics.

Another source of information for a certain view of the vertical connection of the innovation strategy can be the document of the Innovation-driven Growth in Regions: The Role of Smart Specialisation, OECD, 2013. Areas of thematic specialisation are identified within two categories: First, the existing strengths of the regional economic as well as research sectors (the so-called double strength) like mechatronics and process automation, innovative materials (especially plastics, materials steel, light metals) and information and communications technology; second the target economic sectors for the future (life science, logistics, renewable energies, and the service industries). The regional economy of Upper Austria is characterized by its very strong industrial core. Regional Upper Austrian R&D intensive important industry sectors are 'automotive' (with leading companies BMW Motoren, MIBA, MAN, KTM), 'machinery & engineering' (SIEMENS VAI, Engel Austria, SKF, Ebner, etc.), 'electrics and automation' (Fronius International, KEBA) and the materials sector 'metals' (steel (voestalpine), aluminium (AMAG), 'plastics' (Borealis) and 'wood/paper' (LENZING etc.). Upper Austria is a region not specializing on explicit lead sectors, but on functional priorities and technologies. In this respect Upper Austria learned, that it was able to overcome the effects of the crisis in 2008 more effectively than other regions, which specialized on specific sectors. Therefore, Upper Austria will, in the future, also pursue the target to position itself more broadly and to focus on innovation. Upper Austria is the Austrian leading region in technology exports in Austria.

This clearly shows that there is a **precondition for joint growth in areas such as mechanical engineering, automotive engineering and electrical engineering.** With regard to the concept

of both RIS3 strategies, there is also a prerequisite for joint growth in the field of **Digitization, smart solutions for the region, Industry 4.0 (including the creative industry)**.

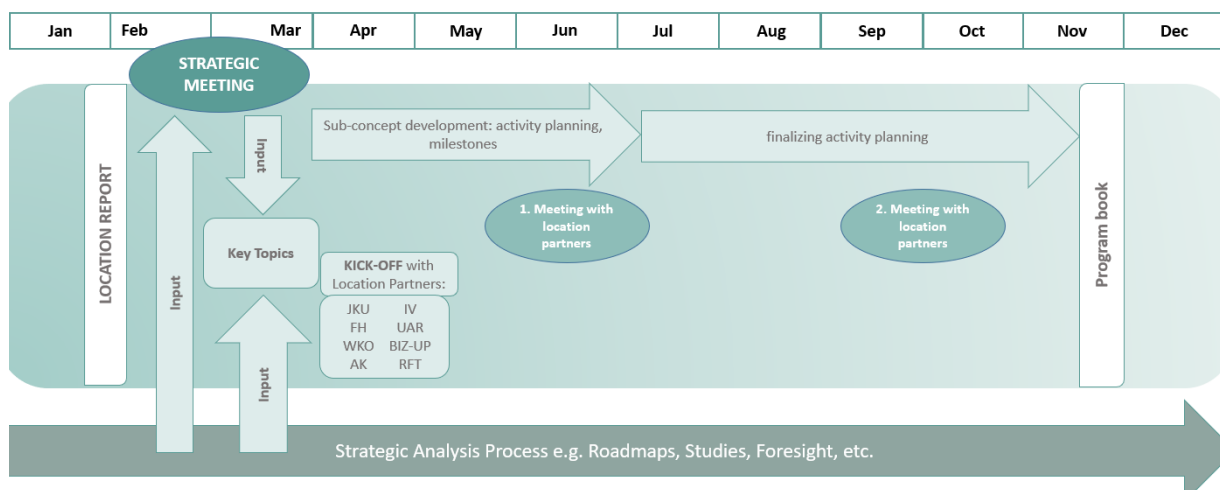
On the other hand, joint growth in areas such as the textile and clothing vertical is not well supported on the Austrian side, or more precisely, the available information does not suggest that this South Bohemian vertical is a priority for the Austrian side.

Chapter 4: Comparison of the process of implementation and monitoring

Both regions approach the issue of implementation and monitoring relatively experiencedly. The experience stems mainly from the fact that several Regional Innovation Strategies have already been implemented in both Upper Austria and the South Bohemian Region. The available abstracts show that **both regions use a continuous implementation system with an annual monitoring cycle**. This is, after all, a common practice elsewhere.

The diagram below is relevant for the Austrian implementation model.

Image 3. Diagram of Upper Austrian production of the Programme Book / Action Plan



Source: #upperVISION2030

An important moment for the start of implementation on the Austrian side is represented by **regular meetings and discussions, which aim to bring together projects for the development of key strategy topics**. In the next step, the set of key ideas is discussed within the framework of the coordination group project.

The topics are subsequently discussed again at the level of the so-called **Level of Strategy Group** and then at the level of the so-called **Level of Operational Group**. After this phase, the individual concepts are developed. In practice this means that the entity will start their own individual processes in their organisation with the project to create the first plan of activities. At the next meeting held within the so-called Level of Operational Group, all planned activities are presented to all participants and the others can join the activities. The activity monitoring begins, during this process, at **Joanneum Research, an external consultant** who is responsible for monitoring # upperVISION2030. This is an important parameter of the Austrian implementation and the difference compared to the South Bohemian implementation. That means that the monitoring on the Austrian is provided not internally, but by an external, more impartial institution.

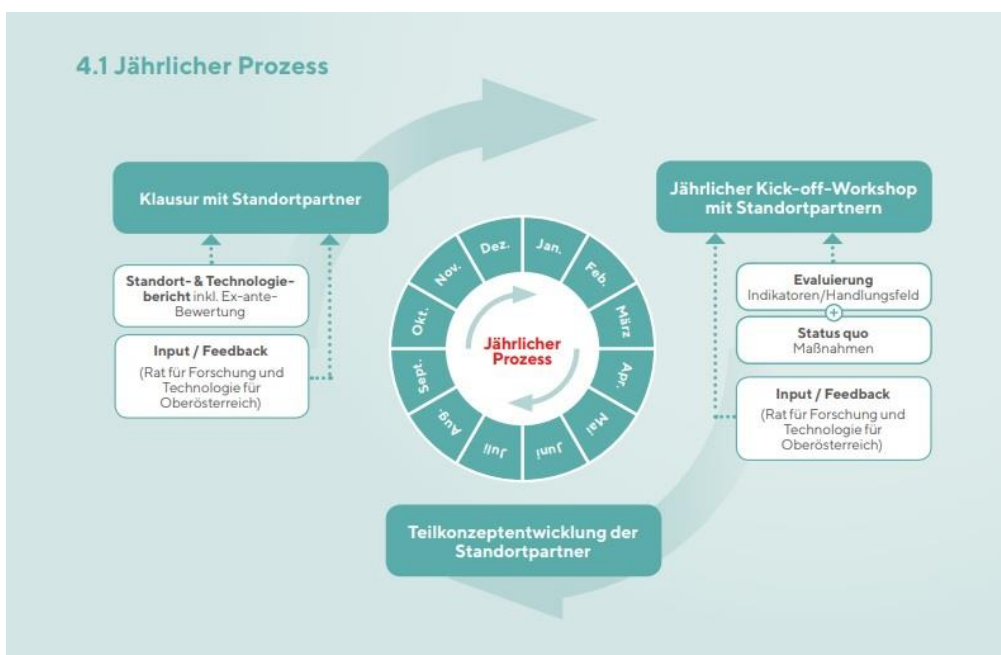
Once the plan or project are introduced at the level of the Level of Operational Group, the elaboration of projects and finalization of the plans continues. The final projects are entered in the so-called **Programme book**, which, from our point of view, is an annual Action Plan. The preparation of the programme book for the next year is usually finalized at the end of the previous year. At this point, the Austrian implementation methodology remarks that the activities that are being developed within the framework of #upperVISION2030 can be found in the annual programme (action plan) of each relevant partner. For instance, the activities of Johannes Kepler University, which are formulated and developed within the framework of #UV2030, can also be found in the university’s action plan itself.

To monitor the implementation of the action plan, there is also an **internal monitoring report of the strategy administrator**, which monitors the implementation of the plan in an operational manner. It also contains continuously updated indicators from economics and research. The internal monitoring report and the so-called **localization report**, which includes monitoring of #upperVISION2030, are usually completed by the end of February.

The implementation process is a continuous process during which are held project meetings, where all previous outputs, such as a programme book or an internal monitoring report, are presented.

Strategic control of the implementation of the Regional Innovation Strategy is carried out during the so-called **annual review**. The impact of the measures is monitored based on each objective in each area of activity using defined indicators. As already mentioned, the monitoring is participated on by the external company Joanneum Research Forschungsgesellschaft Ltd., Graz / AT.

Image 4 Diagram of UA monitoring of the implementation of the Programme Book / Action Plan



Source: #upperVISION2030 – Wirtschafts- & Forschungsstrategie OÖ – Programmbuch 2020

The following process is characteristic of the Czech implementation model (taken from the authors of the abstract):

The RIS3 implementation structure in the South Bohemian Region follows the implementation structure set at the national level (**this includes the RIS3 Steering Committee, the national RIS3 manager, support analytical teams and the National Innovation Platforms, or other articles**).

The structure for the implementation of the content of the regional RIS3 strategy in the environment of the South Bohemian Region was established in connection with the transformation of the original Regional Innovation Strategy into the RIS3 strategy and the establishment of the **South Bohemian Regional Innovation Committee**. The team of the project "**Smart Accelerator in the South Bohemian Region**" (SA) took over the facilitation and organizational role, stating that its key activities consisted in the following areas:

- Implementation of the Regional Annex to the National RIS3 Strategy;
- Creation of an expert team mapping activities in the field of innovative entrepreneurship and support for the creation of new innovative tools;
- Update of the RIS3 Action Plan.

The task of the SA team is to provide comprehensive **support for the development of the innovation environment in the region using the RIS3 strategy**, through the following activities:

- Support for communication between key stakeholders in the region,
- Networking of actors in the innovation environment and support for the creation of new contacts and cooperation projects,
- Update and discussion of the regional RIS3 strategy and the Action Plan of the regional RIS3 strategy,
- Ensuring the functioning of regional innovation platforms and the Innovation Committee of the South Bohemian Region,
- Preparation of strategic projects / interventions and search for resources for their implementation,
- Communication and information service of the regional RIS3 strategy towards the national manager of the National RIS3 strategy.

Reports submitted to the national level (six-month frequency) are prepared on the development of the content of the RIS3 strategy of the South Bohemian Region. At the level of the **action plan, a list of projects / project intentions** is maintained that fulfill or may fulfill individual parts of the regional annex.

The Regional RIS3 Coordinator and the Regional RIS3 Manager ensure in this form the transfer of information and possible recommendations between the regional and national level. Information from the regional level of the National RIS3 Strategy includes in particular:

- information on relevant projects and interventions, broken down by strategic and specific objectives and sources of funding,

-
- information on the implementation of the regional RIS3 strategy towards the structure of the regional office, regional innovation councils, regional innovation platforms, etc.,
 - information on activities aimed at developing the innovation environment in the region,
 - other related strategic activities and plans.

The fulfillment of strategic goals and activities, which have been identified in the Regional Innovation Strategy as key, takes place, among other things, through the implementation of strategic tools / projects. The supported projects are listed in the RIS3 Action Plan, for which an **update is approved once a year by the Commission for Innovation of the South Bohemian Region**.

To include the project in the Action Plan, it is necessary to meet the following **strategic criteria**:

- The strategic project demonstrably and significantly contributes to the achievement of the specific objective of the regional RIS3 or the strategic objective of the national RIS3.
- The strategic project strengthens cooperation between the subjects of the innovation system in the region or outside the region.
- The strategic project shows demonstrable benefits / impacts for the private sector in the region / in the Czech Republic or serves to strengthen the intelligent specialization of selected regional domains of specialization or the Czech Republic.

A specific tool for fulfilling the goals of the regional RIS3 strategy is the implementation of the **Smart Accelerator 2 project**. Through it, RIS3 is updated and subsequently implemented and the regional innovation ecosystem is created and stimulated. The aim of the project is to strengthen existing links and use the outputs in individual projects for further development in the identified **strategic interventions**:

- Digital region
- Smart solutions for the region
- Promoting higher innovation performance in the region

The institutions with the main executive responsibility for managing the implementation of the regional RIS3 strategy are:

- South Bohemian Region (www.kraj-jihocesky.cz) - position of RIS3 coordinator.
- South Bohemian Science and Technology Park (www.jvtp.cz) - position of RIS3 manager.

The South Bohemian Regional Innovation Committee (South Bohemian Regional Authority) holds a strategic role within the implementation structure. Regional domains of specialization and key areas of changes in the RIS3 strategy of the South Bohemian Region are further covered by the activities of the following established **Regional Innovation Platforms (RIP)**:

- RIP for Quality Human Resources - South Bohemian Employment Pact;

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- RIP for Cooperation and Technology Transfer - Smart Region South Bohemia Committee;
 - RIP for Business Development - Board of Consultants at South Bohemian Agency for Innovation Support
 - RIP for digital transformation - South Bohemian Digi Hub
 - RIP for Bioeconomics and the Circulating Economy.

An important part of the implementation of the South Bohemian RIS3 strategy is the already mentioned **Smart Accelerator project**, which is crucial for the process of implementing the RIS3 strategy in the South Bohemian Region. The Smart Accelerator is a non-investment tool that creates conditions for the emergence of projects with the aim of **developing an environment for science, research and innovation in the regions**. The aim is also to interconnect entities involved in the creation of a regional environment in this area (projects do not include financing of infrastructure, equipment, or other capital expenditures, they are focused on the creation and development of the environment for RDI in the region). The Smart Accelerator is co-financed from European resources (in the period 2014-2020 it is the Operational Programme Research, Development and Education). The Smart Accelerator also contributes to the fulfillment of the goals of the National and Regional Innovation Strategy. Smart accelerator projects are implemented in this way in almost all regions of the Czech Republic. In the South Bohemian Region, there are **3 main topics** defined, and are developed through SA activities: support of the business environment / increasing innovation performance, digitization, and smart solutions for the region.

The comparison of both implementation and monitoring schemes shows that, after the experience from previous RIS implementations, more emphasis is placed on **ongoing monitoring and a certain ongoing background for RIS implementation in the form of personnel capacities**. This is where the South Bohemian implementation has shifted significantly compared to the implementation of the first RIS, and the current model is clearly contributed to by public funds from national resources that support implementation at the regional level.

Chapter 5: Starting points, potential and synergies for cooperation

The starting points for cooperation are as follows:

- The real potential is based on the **horizontal or possibly vertical themes of both strategies**. (The Austrian side does not pay much attention to the vertical issues, which may be since the national RIS of Austria - Open Innovation Strategy for Austria - does not deal with the philosophy of vertical issues either. It is logical that it will be **most advantageous to cooperate on those topics that are emphasized in both regions and on which the activities of all stakeholders** involved in the implementation are targeted. It will also be logically easier to secure financial support from transnational programmes for the same topics developed in both strategies.
- **Principally identical** methodology of RIS creation
- **Experienced institutions** regarding RIS implementation
- **Geographical proximity** is an obvious benefit for potential cooperation
- Current cooperation on **joint projects**
- **Declared support** for cooperation confirmed by both governors by signing a memorandum

The potential for cooperation is based on the table of priorities of both S3 below. It quite clearly and objectively shows that the **priority topics do not completely overlap**, or rather that the priority areas on the Austrian side are differently conceived. For instance, the issue of education is not seen as a priority, the issue of education is seen as an elementary assumption having a central point in the considerations on innovation competitiveness of Upper Austria as seen in the already mentioned diagram in Figure 1. After examining the Austrian action plan (Programmbuch 2022), it is evident that the education is subsequently intertwined, as concrete projects, in all priority areas of Upper Austrian S3.

An essential starting point for further cooperation between the two regions is the existence of the **2030 Cooperation Strategy between the Federal State of Upper Austria and the South Bohemian Region** from 2018. Among other things, the strategy defines digitization and cooperation in the area of research and development as a priority for cooperation between the two regions. The Strategy clearly emphasizes the use of **joint cluster initiatives and technology centers** and also mentions certain business impulses, for which one can consider modern ways of supporting RDI, such as start-ups and others.

This Strategy is followed by the **Work Programme 2021 - 2025** from 2021, which also emphasizes the idea of cooperation in the field of RDI and slightly indicates the opportunity for cooperation in the field of start-ups and incubators, cooperation between universities and research institutions.

Third, future cooperation is also supported by the activities of the **Danube Vltava European Region**, where the issue of cross-border networking of start-ups is also addressed within the thematic cooperation Industry 4.0.

The potential for joint Czech-Austrian activities is the **existence of the Czech-Austrian cross-border program, which offers, for the period 2021 – 2027**, financial support on topics related to S3 in the following scope:

Priority Axis 1, Specific Objective: Research and Innovation.

Type of action 1.1 Cross-border research and exchange of know-how

Examples of possible activity:

- cooperation in research and innovation in areas of common interest
- research and innovation based on the demand of local businesses, focusing on relevant sectors in the border area.

Type of action 1.2 Joint pilot actions and joint solutions in shared research facilities and research applications

- investments in newly used / shared facilities
- better connection between research institutions and SMEs
- expanding the range of common services

Type of action 1.3 Communication and mobility of researchers

- support for cross-border mobility of researchers
- scientific communication (information, education)

The overview of already implemented projects, which were supported in the field of RDI from the current cooperation programme Interreg Austria - Czech Republic 2014 - 2020, proves that further future cooperation between regions within RIS3 activities has something to follow. It was possible to implement the projects within the framework of the Priority Axis 1 - Strengthening research, technological development and innovation. The overview, or more precisely the closer examination shows that the subject of the projects mostly referred to cooperation between research institutions and rather within the exchange of experience and results within basic research.

Project acronym	Brief description
VALID	This project pursues three objectives, namely 1) building and expanding methodological skills, 2) creating a materials database and developing processes for biogenic waste, and 3) setting up a VALID CENTRE, a center of expertise for better use of biogenic waste.
SAFEBRIDGE	Design of advanced procedures for numerical evaluation of the condition of bridge systems based on reliability methods
AMOR	The AMOR project mainly supports start-ups, small and medium-sized enterprises to develop products using wireless radio connections.

Com3d-XCT	The project seeks to strengthen regional research and development capacities and establish a cross-border region as a leading European instance for non-destructive testing of computer-based microtomography parts.
CAC-SuMeR	The aim of the project is to build a laboratory of medical technology enabling a new way of targeted research, the intention of which is the production of supporting structures similar to human organs in the field of biotechnology
ROTCUT	The project provides the basis for the transfer of linear cutting results (scientific approach) to rotary cutting processes, which is the most common method of machining in the woodworking industry.
Metabo-BL	The project focuses on the creation of a laboratory infrastructure that will enable the further development of research in the field of metabolomics at the top international level.
INPOMED (Innovations in Poultry Medicine)	Closer professional and intercultural cooperation between the two partner institutions and strategic partners for active cooperation in the field of science and the poultry industry and for improving the knowledge base in this sector and in the region.
InterOP	The aim of the project is to strengthen the industry in the field of wireless technologies, communications and their applications in the partner regions of Upper and Lower Austria, Vienna, Vysočina (Czech and Moravian Highlands) and South Moravia.
Kompetenzzentrum MechanoBiologie	The aim of the project is to establish a competence centre for mechanobiology, which will increase efficiency, effectiveness, and awareness through international academic cooperation.
HARDIS	The project will provide fundamental knowledge that is necessary to solve problems in the machining of deciduous trees.
PredMAIn	The aim of the project is to create and transfer general and transferable knowledge for manufacturing small and medium-sized enterprises on predictive maintenance based on artificial intelligence applicable in a wide range of manufacturing and processing industries.
SIP - SME	As part of the project, the project partners will develop a tool based on previous analyzes and interviews with experts, which will help to make full use of the available innovation impulses based on cross-border cooperation. This will exploit the long-term innovation potential, especially in the field of small and medium-sized enterprises.
ImageHeadstart	The aim of the project is to create a consortium from which companies from the region will draw on the knowledge of regional research organizations and

	thus achieve competitiveness and, in specific areas, a head start in global competition.
REGGEN	The main goal of the proposed project is to establish a Regional Genetic Centre (REGGEN) using the synergies of the two project partners' experienced laboratories REGGEN will focus primarily on research into rare genetic diseases.
Algenetics	The main task of the Algenetics project is to improve and strengthen capacities in the field of research, technological cooperation and innovation for the establishment of a joint Czech-Austrian algal biotechnology centre.
RIAT-CZ	The project focuses on exploiting the potential of synergistic cooperation of cross-border research infrastructures in the field of life sciences at the technological and management level and on the creation and validation of a sustainable model of cross-border cooperation of research infrastructures.
REEgain	Development of usable recycling technology for recovery of rare earth elements from electronic waste and wastewater
ReMaP	The goal of the ReMaP project is to demonstrate the potential for processing high-performance magnesium alloys through new 3D printing production technologies. Several alloys will be developed and processed using two dominant 3D metal printing technologies: wire and powder based additive production. The potential of future parts will be demonstrated at the level of basic research in two main application areas of Mg alloys: biomedical implants and lightweight components for transport applications.

Chapter 6: Conclusions

The presented comparison of the abstracts of the S3 strategies of Upper Austria and Southern Bohemia shows that there is a prerequisite for effective cooperation and fulfilling the objectives of the S3 strategies in some areas together, i.e. across borders. There is room for cooperation both at the strategic/planning level (cooperation on the development, updating and monitoring of the progress of the S3 strategies) and in the area of implementation of the content of the strategies (concrete activities and projects of the actors in the territory).

For example, cross-border or international support programmes can be used to support a number of proposed measures and specific activities. Directly from the perspective of Czech-Austrian cooperation, it can be noted that the implementation of projects supported by the Czech-Austrian programme for the 2014-2020 programming period is coming to an end and the final phase of preparation of the Czech-Austrian programme for the 2021-2027 programming period is currently underway.

In this context, the following final recommendations can be made regarding the possibilities for cooperation in the scope of the S3 strategies of the South Bohemia Region and Upper Austria.

Recommendations for cooperation:

- I. **Continue the cooperation** whose basic parameters are set by the S3 Couple Net project. This recommendation includes in particular cooperation at the strategic level, i.e. cross-border cooperation at the level of preparation, implementation and evaluation of the S3 strategies of both regions. This cooperation includes the continuation of meetings, exchange of information, management of online catalogues of research organisations, sharing of best practices and other forms of cooperation of actors involved in the development and implementation of S3 strategies on both sides of the border.
- II. **To link more intensively the sub-implementation structures of the S3 strategies** of both regions. A significant shift in defining specific parameters of cooperation, both at the strategic and operational level, could be e.g. reciprocal participation of representatives of both sides in relevant meetings within the implementation of S3 strategies - e.g. participation of a representative of Upper Austrian structures in the meeting of the Innovation Commission of the South Bohemian Region or a representative of South Bohemian institutions in selected meetings within the Strategy Group or Operational Group in Upper Austria. Of course, it is desirable that partial networking and reciprocal exchange of information also takes place at lower levels of the implementing structures (including cooperation with the structures existing within the ERDV - linking to the cooperation theme "Industry 4.0 - qualifications in secondary, vocational and higher education, cross-border

networking of start-ups and strengthening the competence of enterprises in P 4.0 issues).

- III. **Further develop existing or emerging cooperation networks and projects.** In the outgoing 2014-2020 programming period, a number of cooperation networks were launched through the Interreg V-A Austria-Czech Republic Cross-border Cooperation Programme, responding to the need for increased exploitation of the possibilities of modern technologies and trends. These include e.g. cooperation networks focused on the development of virtual reality - VR, artificial intelligence - AI, etc. The projects implemented in these areas involve important organisations involved in the implementation of S3 strategies on both sides of the border, which at the same time have the interest and capacity to continue the development of the topics beyond the scope of the supported projects. It is therefore in the interest of the common cross-border region to continue the development of these networks, which are fully linked to the objectives and actions of both S3 strategies. In the environment of these networks, the genesis of new business ideas, project ideas or research ideas will be supported through joint communication.
- IV. **Promote entrepreneurship, innovation and healthy competition in a cross-border dimension.** An opportunity for cooperation would also be to more concretely address topics that are currently resonating in the field of R&D&I support in society, e.g. support for the creation and further development of start-up or spin-off companies. This could be supported, for example, by direct financial support from the regions concerned (or through venture capital) for the organisation and organisation of cross-border competitions focused on innovative business ideas (see e.g. the ongoing Czech-Austrian "Cross-Border Idea & Start-up Contest") and similar events. Different activities (e.g. cross-border hackathons, start-up camps, organised presentations of innovative business ideas and their crossborder sharing) not only contribute to strengthening the region's inventiveness and the development of competitive business ideas, but also to a certain extent dispel the popular perception that innovation is only created by the largest companies in the regions.
- V. **Contribute through activities linked to S3 to address societal challenges and global megatrends.** A new but at the same time supporting element in the implementation of the S3 strategies of both regions (this applies to the whole EU) will be the so-called missions. These will be used to respond to societal challenges and global megatrends and thus contribute to the Sustainable Development Goals (SDGs) to which the regions subscribe as part of the UN member states. Societal challenges and global megatrends include, for example,

digitalisation, automation or artificial intelligence, but also poverty and inequalities, energy resources, climate change, etc. In the areas covered by the societal challenges and global megatrends, there is therefore a great deal of scope for finding innovative and smart solutions and ideas that can contribute to improving existing problems. Solutions can also be approached at a local, cross-border scale, e.g. through joint cross-border projects or joint participation in international consortia (e.g. established under Horizon Europe). It is clear that at the level of implementation of S3 strategies, it is not possible to solve a particular problem posed by societal challenges and global megatrends comprehensively, but to contribute to its solution through RDI activities.

- VI. **Support trilateral cooperation on the regions of South Bohemia, Upper Austria and Bavaria.** In the same way that cooperation on the Czech-Austrian border can be successfully developed, cooperation in the implementation of S3 strategies can also be developed in cooperation with the German region of Bavaria. The S3 strategy of Bavaria includes - in terms of vertical themes of specialisation - the promotion of fields such as ICT, efficient production technologies, mechatronics, automation and robotics, biotechnology and systems biology, new and intelligent materials, nanotechnology and microtechnology, etc. At the same time, in the 2014-2020 programming period, similar cooperation networks are being established to support the implementation of the S3 objectives of the strategies of the border regions - e.g., thematic networks focusing on Open Data or cultural and creative industries are being developed in South Bohemia-Bavaria cooperation. Based on these facts, cooperation with the implementation structures of the S3 strategy of Bavaria in similar areas of cooperation can be initiated.
- VII. **Promote more awareness raising and popularisation of topics related to the S3 strategies and their objectives.** Also, educational and awareness raising activities can significantly contribute to the emergence of interesting business ideas, innovative approaches or interesting results in the field of research and development activities. However, despite the still existing language barriers, activities such as joint workshops, conferences, working groups and other forms of networking in the region can contribute to the emergence of innovative strategic projects that will contribute to the objectives of both S3 strategies.
- VIII. **In addition to cross-border cooperation, encourage greater regional involvement in international activities.** The development of activities to support the implementation of the objectives of the S3 strategies must of course be pursued not only in a cross-border context but also in an international context. In this respect, the common goal of both regions should be to seek to promote the

objectives and measures of the RIS3 strategies in international activities and projects (e.g., participation in S3 platforms at EU level, participation in international projects Interreg, Urbact or Horizon Europe, etc.).