



MINISTRY OF INDUSTRY AND TRADE
OF THE CZECH REPUBLIC



Czech
Republic
**The Country
For The Future**

National Research and Innovation Strategy for Smart Specialisation of the Czech Republic 2021–2027

Annex 2 Cards of Regional RIS3 Strategies

Version 4
(December 2022)

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1. Introduction

This Annex 2 to the National RIS3 Strategy 2021–2027 builds on Chapter 5.1.2 Regional level of the RIS3 strategy. The annex contains a card for each regional RIS3 strategy, containing an extract of key parameters from the currently approved versions of the regional RIS3 strategies.

During the programming period, the data in the different cards are regularly updated based on updates made to the regional RIS3 strategies and the ongoing EDP process. An update to this Annex (Version 4) was discussed and approved by the RIS3 Management Committee on 14 December 2022 and approved through a Regulation of the Minister of Industry and Trade on 23 December 2022.

2. The South Bohemian Region

The Regional RIS3 strategy

Title and approval: The RIS3 Strategy of the South Bohemian Region 2021–2027 (approved in June 2020)

Web link: <http://www.risjk.cz>

Other related regional strategic documents:

The South Bohemian Region Development Programme 2021–2027 (www.kraj-jihocesky.cz)

The Strategic Development Plan of the Smart South Bohemia Region 2019–2023 (<https://www.kraj-jihocesky.cz>)

The South Bohemian Employment Pact (<https://www.jcpakt.cz/>)

The Action Plan of the RIS3 Strategy of the South Bohemian Region (<http://www.risjk.cz>)

The Regional Action Plan for the Development of Education in the South Bohemian Region III (<https://kap.kraj-jihocesky.cz/>)

SMART - Make South Bohemia Smart (Concept of Tourism Development of the South Bohemian Region 2021–2030) (<https://www.kraj-jihocesky.cz>)

Key conclusions of the problem analysis of the regional RIS3 strategy

Key conclusions of the RIS3 Strategy of the South Bohemian Region in terms of the problem analysis of R&D&I:

The RIS3 Strategy of the South Bohemian Region defines the following 4 main problem areas, which are further detailed at the horizontal level (key areas of change):

- Quality and availability of human resources, their structure and quantity in relation to the requirements of the regional labour market;
- Cooperation and technology/knowledge transfer and their further development, strengthening internationalisation;
- Creating conditions for and eliminating barriers to the development of innovative entrepreneurship;
- The region's inadequate response to global megatrends, especially the development and integration of elements of digitalisation, smart solutions and Industry 4.0.

Strategic orientation of the regional RIS3 strategy

Horizontal key areas of change (KACs) and strategic objectives:

KAC A: High-quality human resources

- 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 labour market
- A.1.3. Attracting new and retaining existing top researchers
- A.1.4. Developing entrepreneurship in the secondary and tertiary education and lifelong learning systems
- A.1.5. Developing research and education infrastructure

KOZ B: Cooperation and technology and knowledge transfer

- B1.1. Strengthening cooperation between companies, R&D institutions and municipalities
- B1.2. Strengthening transnational cooperation and increasing researcher mobility

KAC C: Developing business and innovation

- C.1.1. Improving the quality of services for start-ups
- C 1.2. Developing innovation potential in companies, including intellectual property protection
- C1.3. Increasing the internationalisation of companies

KAC D: Developing and integrating digitalisation, smart solutions and Industry 4.0

- D.1.1. Developing and integrating digitalisation, smart solutions and Industry 4.0 in the business sector
- D1.2. Developing and integrating digitalisation, smart solutions and Industry 4.0 in public administration

Measures for industrial transition:

- Developing the offering and services of the South Bohemian Digi Hub (SBDH) – focus is mainly on the areas of Robotic process automation, Artificial intelligence, Virtual and augmented reality and Internet of Things;
- Implementing the objectives of the “Strategic Plan to Develop the South Bohemian Region as a Smart Region” (core topics: mobility, eGovernment & digitalisation, the energy sector, the environment, social and health services and effective territorial governance & innovation);
- Subsidy programmes of the South Bohemian Region (supporting technical education, supporting new fields of study at HEIs in the South Bohemian Region, etc.);
- Support tools and programmes implemented through JVTP, a.s. – Jihoczech Business Ideas Competition, South Bohemia Acceleration Programme, cross-border competition for start-ups, etc.

International activities in the priority areas of the regional RIS3:

The RIS3 Strategy of the South Bohemian Region contains a number of measures that directly or indirectly support the development of international activities. The topic of internationalisation is included e.g. in the following areas:

- B1.1. Strengthening cooperation between companies, R&D institutions and municipalities – e.g.:
 - increasing the intensity of interregional, cross-border and international cooperation between companies, R&D institutions and municipalities;
- B1.2. Strengthening transnational cooperation and increasing researcher mobility – e.g.:
 - supporting greater involvement of R&D&I staff in international cooperation;
 - increasing the region’s absorption capacity in European science and research programmes, teaming, twinning (including twinning activities within the Smart Accelerator interventions);
 - supporting large research infrastructures;
 - implementing the objectives of the “ERDV – Space for Society 4.0” strategy with the subtopics: Industry 4.0, Healthcare and Tourism;
- C1.3. Increasing the internationalisation of companies – e.g.:
 - strengthening regional, national and international networks and projects;
 - involving the region in thematic S3 platforms, developing cluster initiatives.

Thematic priorities:

Specialisation domains of the South Bohemian Region

Mechanical engineering and mechatronics

- Manufacture of machinery and equipment
- Manufacture of metal structures and metal products

Links to CZ-NACE: main links: 28, 25, linked: 29, 26, 27, 72, 24, 32, 33, 62, 18, 43, 81, 33, 13

Electronics, electrical engineering and IT

- Manufacture of electrical equipment
- Manufacture of computers, electronic and optical instruments and equipment
- Information technology and computer service activities

Links to CZ-NACE: main links: 27, 26, 62, linked: 72, 29, 28, 86, 88, 80, 95, 18, 70

Biotechnologies for the sustainable development of society

- Health care
- Manufacture of rubber and plastic products
- Crop and animal production, hunting and related service activities
- Manufacture of food products
- Architectural and engineering activities; technical testing and analysis
- Manufacture of basic pharmaceutical products and pharmaceutical preparations
- Manufacture of chemicals and chemical products
- A circular economy
- Sustainable food production

Links to CZ-NACE: main links: 86, 22, 01, 10, 71, 21, 72, 20, linked: 11, 03, 74, 26, 45, 38, 39, 24, 17, 46, 47, 27

The automotive industry

- Manufacture of motor vehicles (except motorcycles), trailers and semi-trailers
- Manufacture of other transport equipment
- Architectural and engineering activities; technical testing and analysis

Links to CZ-NACE: main links: 29,30, 71, linked: 72, 28, 25, 27, 26, 13, 23, 45, 22, 49, 20

The textile and clothing industry

- The manufacture of textiles
- The manufacture of clothing
- The manufacture of leather and related products

Links to CZ-NACE: main links: 13, 14, 15, linked: 20, 96, 71, 72, 85, 96, 28, 29

Emerging areas and trends of specific importance to the region or the societal challenges addressed within the regional RIS3 strategy

- other specific topics in the field of digitalisation and Industry 4.0 that are being pursued via BDH (artificial intelligence, virtual and augmented reality, robotic process automation, Internet of Things, open data);
- smart solutions in the energy sector, tourism and other areas according to the above strategic documents;
- the area of social entrepreneurship (social incubator);
- cultural and creative industries;

- technology transfer in mechanical engineering, transport and logistics, construction and business process management, social entrepreneurship/innovation, etc.

Implementation of the regional RIS3 strategy

The institution with the main executive responsibility for managing the implementation of the regional RIS3 strategy, website

The South Bohemian Region (www.kraj-jihocesky.cz) – position of RIS3 coordinator.

Jihočeský vědeckotechnický park, a.s. (www.jvtp.cz) – RIS3 manager position.

Implementation of the regional EDP process

The strategic function within the implementation structure is performed by The Commission for Innovation of the South Bohemian Region (a commission of the South Bohemian Regional Council). Regional specialisation domains and key areas of change of the RIS3 Strategy of the South Bohemian Region are also covered by the activities of the following specified Regional Innovation Platforms (RIP):

- RIP for Quality Human resources – South Bohemian Employment Pact;
- RIP for Cooperation and technology transfer – Smart Region South Bohemia Commission;
- RIP for Developing business – Council of consultants from JAIP – Jihočeská agentura pro podporu inovací, o.p.s. (South Bohemian Innovation Agency);
- RIP for digital transition – South Bohemian Digi Hub;
- RIP for the Bioeconomy and Circular Economy.

The horizontal topic of the regional innovation brand is guaranteed by the Innovation Commission of the South Bohemian Region; the implementation of the campaign entitled “South Bohemian Region – A place where you do not have to compromise” is being coordinated by the Marketing Manager together with the Promotion Working Group. The Marketing Strategy and Communication Plan are continuously updated based on the current needs of the region in the field of R&D&I.

The South Bohemian Employment Pact was established under a memorandum of cooperation by and between the South Bohemian Region, the Labour Office of the Czech Republic, the South Bohemian Chamber of Commerce, the Czech-Moravian Confederation of Trade Unions, the University of South Bohemia, and the University of Technology and Economics České Budějovice. The aim of the South Bohemian Employment Pact is to address the issues of the regional labour market in a coordinated manner, including labour market observatories. The South Bohemia Employment Pact has 4 main strategic priorities: A Flexible Labour Market, Creating Qualifications for Higher Employment, Promoting Entrepreneurship, Promoting Social Innovation and Equal Opportunities. The management and activities of the platform are provided by Jihočeská společnost pro rozvoj lidských zdrojů, o.p.s. (The South Bohemian Company for Development of Human Resources).

The Regional Innovation Platform Smart Region South Bohemia brings together municipalities and towns of the South Bohemia Region with the aim of creating equal conditions for cooperation and development of the Smart City concept in the South Bohemia Region. The purpose is to support the implementation of smart and innovative solutions in various areas in line with the content of the document entitled “Strategic Development Plan of the Smart South Bohemia Region for 2019-2023”. It also involves sharing good practice and transferring know-how in the development and implementation of smart solutions in the municipal sphere. Management and activities are provided by JVTP, a.s.

The activities of the regional innovation platform for Business Development are aimed at supporting innovative entrepreneurship, promoting cooperation between the corporate, public and scientific research spheres and the

labour market. The management and activities of the platform are provided by JAIP - Jihočeská agentura pro podporu inovací, o.p.s., namely the JAIP Council of Consultants.

The activities of the South Bohemian Digi Hub focus on supporting processes and education related to the necessary gradual digital transformation of regional companies. The platform also supports the development of digital competences in schools at all levels of the education system, including support for continuing and lifelong learning with regard to the development of digital skills. Management and activities are provided by JVTP, a.s.

The South Bohemian Association for Bio-Economy (Jihočeský spolek pro bioekonomiku, z.s.) was founded with the mission of becoming a regional platform for a bio-economy and a circular economy, to identify and defend interests in this area, to promote them at the national and European levels and to implement scientific research and technological innovation activities. Another aim is to support research, development, innovation and the introduction of new technologies related to the bio-economy into practice. Furthermore, the objectives of the platform are aimed at exchanging experiences between members and other experts, and promoting relationships among science, research, education, industry, and agriculture. The management and activities of the platform are provided by the South Bohemian Association for Bio-Economy.

At the working level, the EDP process is being managed by the team of the Smart Accelerator of the South Bohemian Region project. The results of key surveys, namely the INKA Innovation capacity mapping in cooperation with TA CR and the mapping of research organisations in the South Bohemian Region, which were carried out in the form of interviews and surveys, can also be considered a contribution to the EDP.

Monitoring and evaluating the implementation of the strategy objectives

The RIS3 Strategy of the South Bohemian Region has a set of indicators in place, which is regularly monitored on an annual basis under the responsibility of the team of the Smart Accelerator of the South Bohemian Region project. The implementation of the action plan of the regional RIS3 strategy is evaluated on an annual basis. The results are submitted to the Commission for Innovation of the South Bohemian Region. The evaluation of the implementation of the objectives of the RIS3 Strategy of the South Bohemian Region is planned for mid-term (2023-2024) and the end of the 2021–2027 programming period.

3. The South-Moravian Region

The Regional RIS3 strategy

Title and approval: **The Regional Innovation Strategy of the South Moravian Region 2021–2027** (approved in September 2020)

Web link to the document: <http://www.risjmk.cz/cz/ris-jmk-2021-3/>

Other related regional strategic documents:

The Development Strategy of the South Moravian Region 2021+ <https://lepsikraj.cz/>

Brno 2050 Strategy <https://brno2050.cz/>

Key conclusions of the problem analysis of the regional RIS3 strategy

The problem areas identified, including the main barriers to innovation diffusion and digitalisation:

The draft global SWOT was prepared by the team of authors, and it was supplemented and prioritised in discussions with key persons from the South Moravian Region and the Czech Republic. The SWOT was not structured by topic in order to avoid predetermining the identification of key areas of change. The numbers in brackets indicate priority according to the scoring by the workshop participants, i.e. the perceived importance and influenceability of the described context from the position of the region (in the case of added or subsequently merged statements, they are marked with a + sign).

- A low level of entrepreneurship in society (including pupils and students), a **stifled initiative**. As a result, the potential of local people is not being fully exploited. **An inherent fear of making a mistake**. Low tolerance for failure. Insufficient support for personal growth. (7+5+4+2)
- Weak presence of companies with **full autonomy** to make strategic decisions (both formally and due to dependence on a dominant buyer). The pressure to achieve savings limits the ability to proactively diversify the portfolio in favour of higher-margin products. (11)
- A limited ability to **accumulate capital and know-how** in the region. An increasing share of foreign companies (50% of employment, 70% of revenues and 75% of R&D expenditure), outflow of intellectual property and dividends abroad. (11)
- In an international comparison, only **average performance of the education system** (primary and secondary school level), e.g. in the areas of digital literacy, language skills, soft-skills (a declining trend according to PISA, PIAAC results). (11)
- Limited readiness of the environment to welcome, integrate and make full use of **foreign talent**, a lack of systematic care for their family members, unclear responsibilities and a lack of strategic governance across the phases of the process. (9)
- Limited **international visibility**. The absence of elements to visibly distinguish the region. The image of the Czech Republic/South Moravian Region/Brno in the developed world relies on cheap labour, rather than being the birthplace of sophisticated activities. (8)
- Poor support for **events to raise the profile** of the city and the region (e.g. conferences); inconsistent marketing of the region and the city towards foreign countries (including cooperation with the national level). (+6+2).
- Low prestige of local HEIs compared to countries that are innovation leaders. **The absence of top-class HEIs** ranked in the top 200 in world rankings. Low attractiveness for engaging prominent international scientists and researchers and, by extension, for educating visionaries with a global mindset. (7)

- Systematically dysfunctional **relationship between HEIs and companies**. A lack of readiness for mutual cooperation on both sides (in terms of processes and personnel, with few exceptions), persistent mistrust. A lack of institutions to stimulate R&D at the regional level. (6+1)
- Within a part of the regional specialisation, there is **misalignment of disciplines** between the corporate and the academic environment, which reduces the actual interconnection and the potential for generating and applying disruptive technologies with final production in the Czech Republic. A persistent disconnect between research and education and practice. (6)
- Poorly developed **market competencies** of most companies, a lack of strategic information from customers and a limited ability to proactively work with the needs of customers and end markets. Upgrading possibilities are limited. (5)
- A growing **disproportion between demand in the labour market** (good-quality technically educated people, business people) and weak supply (determined by demographic factors, the structure of graduates and low attention to the acquisition of new work skills and habits). (5)
- Low ability of research organisations to fill senior positions through an **open competition**. Low readiness to recruit top people from abroad. (+4+1)
- A limited number of truly **ambitious start-up projects** with a justified aspiration to become global companies. An expanding base of business projects, but without a corresponding increase in quality. (4)
- Choice of research topics with **insufficiently ambitious objectives and low relevance** to the applicability of results for their use in companies and for addressing societal challenges. A lack of tools for the long-term financing of ambitious problem-oriented research. (4)
- A low level of internationalisation of SMEs that have their own final product. A limited **ability to expand abroad**, especially to distant developed markets, often despite a strong position in the Czech Republic. (3)
- A low number of newly established **spin-off** companies, low importance of commercialisation in the mindset of researchers, a lack of practical motivation to maximise the value of the resulting know-how (ownership interest, intellectual property licensing). (3)

Strategic orientation of the regional RIS3 strategy

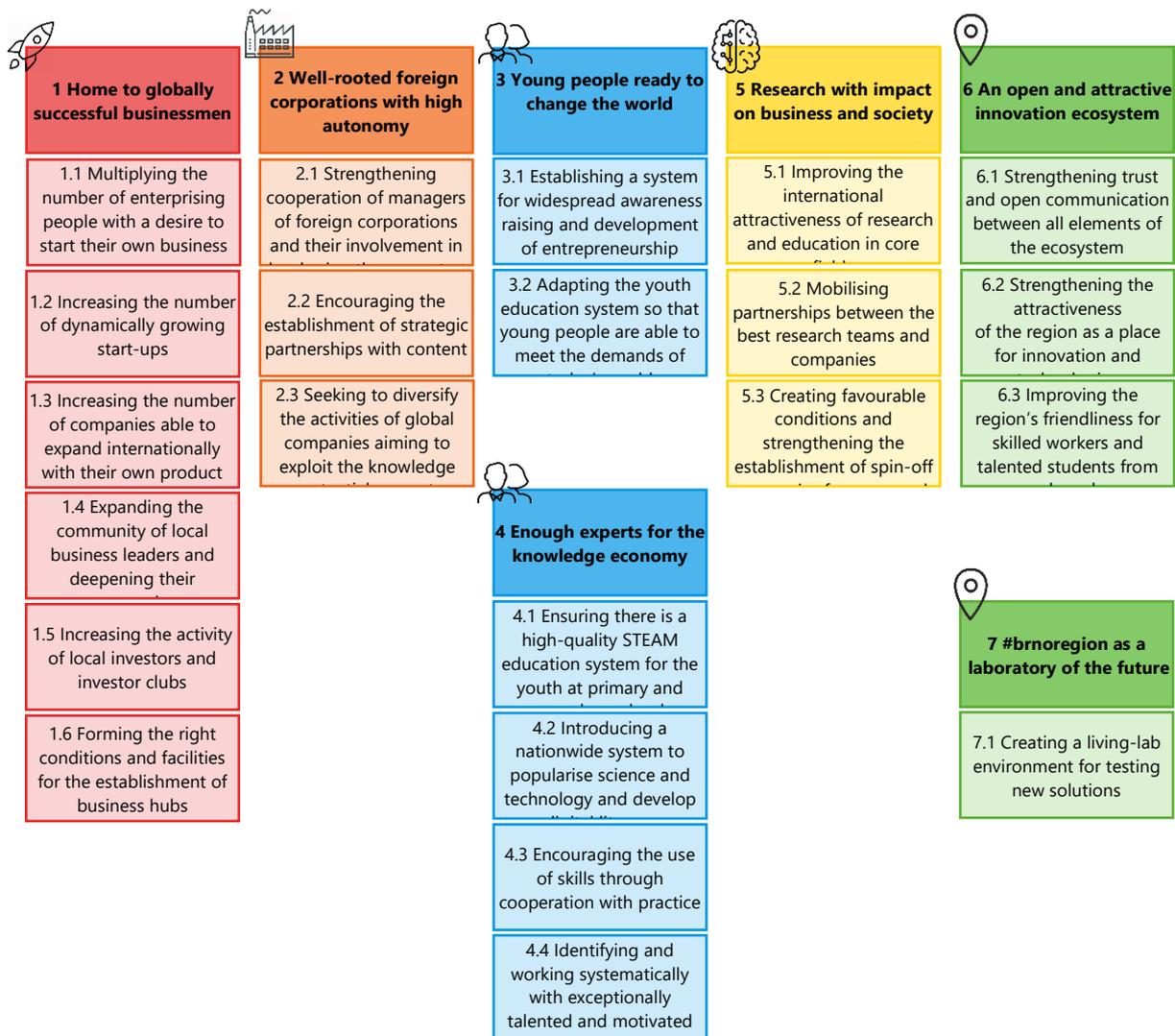
Horizontal key areas of change and strategic objectives:

In the proposal section, the focus is squarely on the set of objectives, while the areas of change played a role in the genesis of the objectives and will be reflected in the management of implementation. The aim was to formulate the strategic objectives in a way that makes it easy for users of the strategy to identify with one of them and to find guidance in the logic of the proposal section. In terms of the RIS, the new strategic objectives have been highlighted in the hierarchy and listed separately to make sure they receive due attention.

- Successful local companies
- Well-rooted global companies
- Education and personal development
- Excellent research and expert know-how
- Attractive and stimulating environment

Strategic objectives (a total of 7 strategic objectives, which are further concretised in 22 specific objectives)

- Home to globally successful businessmen
- Well-rooted foreign corporations with high autonomy
- Young people ready to change the world
- Enough experts for the knowledge economy
- Research with impact on business and society
- An open and attractive innovation ecosystem
- #brnoregion as a laboratory of the future



Measures for an industrial transition:

Industrial transition measures are incorporated into the horizontal objectives (esp. Home to globally successful businesses, Well-rooted foreign corporations with high autonomy, Enough experts for the knowledge economy, Research with impact on business and society).

Moreover, industrial transition is explicitly included in one of the relevant global challenges (Ubiquitous digital technologies and content – among others the advent of artificial intelligence, digitalisation of production and services, open data, cybersecurity, trust in data and digital technologies, dependence on digital technologies, ethics of digitalisation) and in one cross-cutting competence (Competencies for digital transition – the ability to actively respond to emerging technological trends in digitalisation, to understand their potential and to use them in areas where they can improve the efficiency of, automate or even replace human activities, i.e. especially a functional grasp of trends in the development of artificial intelligence, automation, data processing, virtual and augmented reality or the use of blockchain technologies), which describe regional specialisation.

The collection of specific projects for the preparation of the Action Plan will not take place until after the approval of the strategy. It can be assumed that the activities that have been started (e.g. DIH DIGIMAT) will continue.

International activities in the priority areas of the regional RIS3 (key areas of change and thematic priorities):

Many specific objectives are oriented towards strengthening international activities (especially Increasing the number of companies able to expand internationally with their own product, Adapting the youth education system

so that young people are able to meet the demands of today's world, Improving the international attractiveness of research and education in core fields and address the challenges of today's world, Strengthening the attractiveness of the region as a place for innovation and technologies, Improving the region's friendliness for skilled workers and talented students from abroad).

The collection of specific projects for the preparation of the Action Plan will not take place until after the approval of the strategy. The already ongoing activities include e.g. twinning partnerships¹ within the Smart Accelerator in the South Moravian Region II project, international activities related to membership in the S3 platform entitled Water Smart Territories² or the inclusion of numerous large research infrastructures in the ESFRI Roadmap. JIC itself is a member of several international networks (EBN, EEN) and platforms (EIT Digital).

Thematic priorities:

Specialisation domains of the self-governing region

It informs decision-makers relying on the RIS for support where the region has a discernible quality (of actors and competencies) and where the greatest room for the emergence of new innovation opportunities can be expected. The definition of specialisation is based on three perspectives: key economic sectors; relevant global challenges; cross-cutting competencies.

Key economic sectors are defined as concentrations of businesses in sectors or product groups with high knowledge intensity and, at the same time, high levels of wages and value added. In retrospect, they describe the main area of the knowledge economy in the business sector based on data.

- Software and IT services (main area in CZ-NACE 62, 63 and a part of 58)
- Electronic measuring and sensing equipment (main area in CZ-NACE 26)
- Advanced machinery and engineering equipment (main area in CZ-NACE 28 and 33)
- Power engineering and electrical components (main area in CZ-NACE 27)
- Medical and pharmaceutical products, diagnostics (main area in CZ-NACE 21)
- Aerospace (main area in CZ-NACE 30)

¹ Thanks to the twinning, three new tools will be developed: innovative approaches in the area of awarding public contracts using the Best Value method; the use of foreign workers' economic potential in the South Moravian Region on the example of the Skilllab application; the use of microgrants to stimulate student entrepreneurship.

² At the same time, the CREA cluster is also involved in international projects: NATUREEF; iWATERMAP and other.



Emerging areas and trends of specific importance to the region or the societal challenges addressed within the regional RIS3 strategy

Relevant global challenges are defined based on research on trends and risks according to world's leading organisations. They direct attention to changes in society. These are perceived as opportunities for applying new solutions. The challenges have a high relevance to all types of regional actors across sectors and industries. In implementing the RIS, they may be thematically oriented towards activities aiming to fulfil the horizontal objectives.

- Climate change and environmental sustainability
- Ubiquitous digital technologies and content
- Demographic ageing and a healthy society

Cross-cutting competencies are generic in nature and constitute an important input for increasing the value added of existing sectors. If approached appropriately, they improve the ability to adapt to changes associated with global challenges.

- Creative competencies
- Competencies for digital transition
- Competencies for sustainable growth

Implementation of the regional RIS3 strategy

The institution with the main executive responsibility for managing the implementation of the regional RIS3 strategy

The RIS of the SMR is the basic strategy of the South Moravian Region (SMR) and the Statutory City of Brno (Brno) for developing economic competitiveness and generating value through the introduction of innovation. It is intended for all actors in the innovation ecosystem who wish to contribute in a structured way to growth in the standard of living in the region through their individual activities – to share and make coordinated decisions. A partnership-based approach is absolutely crucial to the RIS – to accomplishing its objectives and overseeing its proper implementation.

At the highest level, the implementation of the RIS is the responsibility of self-government of the SMR and Brno, which decide to acquire it and participate in its financing. The coordination role in implementing the RIS is delegated to JIC, z.s.p.o., which also performs the position of the RIS Manager.

- www.jmk.cz
- www.brno.cz
- www.jic.cz

Implementation of the regional EDP process

The implementation of the RIS seeks to coordinate actors in the innovation ecosystem and is based on four pillars: implementation structure; project culture; strengthening partnerships and the information role; monitoring and evaluation (described separately below). The processes and structures for implementing the RIS are designed to be able to respond effectively to significant changes in external conditions and the innovation environment of the region.

Implementation structure – the following structures have been set up for the purposes of managing the implementation of the RIS SMR:

- Innovation Council – members include leaders of key institutions in the innovation ecosystem – by type and in a balanced way. The Innovation Council discusses and gives its opinion (gives recommendations to authorities of the SMR/Brno). It approves matters relating to the management of the RIS SMR – the framework for the strategy, interim evaluations, the Action Plan. It authorises the RIS Manager to carry out executive tasks in cooperation with the Coordination Group. It meets approximately three times a year.
- RIS Coordination Group – members include representatives of self-government and institutions who are directly responsible for coordinating the RIS of the SMR. The Coordination Group coordinates the implementation of the strategy and implements recommendations from the Innovation Council. It establishes innovation platforms that are defined in terms of time and topic. It meets approximately twelve times a year.
- RIS innovation platforms – members include representatives of stakeholders relevant to the topic for which the innovation platform was established (e.g. IP Corporations, IP Popularisation of Science and Technology, IP Entrepreneurship). Within a specified timeframe, an innovation platform prepares a

proposal for a solution for the area identified, and possibly participates in implementing the proposed measures.

- RIS Manager – the position of the RIS Manager is filled by the JIC, z.s.p.o. agency, which has been entrusted with coordinating the implementation of the RIS of the SMR. The RIS Manager is the Secretary of the IC, a member of the CG and plays an executive role in managing the RIS of the SMR. He/she represents the RIS of the SMR towards partners. He/she is responsible for organising follow-up activities, collecting plans for the Action Plan, monitoring and evaluation.

Project culture – project management lays down the mechanism for creating and discussing plans for activities to implement the RIS of the SMR. Two categories of projects are distinguished in relation to the RIS of the SMR:

- Individual projects that do not require any financial commitment from the SMR/Brno nor do they require any activity from other actors in the ecosystem. These are usually projects that have an impact primarily on the project owner itself.
- Ecosystem projects that are strategic in nature and/or require financial commitments from the SMR/Brno and/or the involvement of other actors within the ecosystem. These are usually projects with a significant impact on the innovation ecosystem as a whole or parts of it and have a significant effect on accomplishing the RIS objectives. The inclusion of projects in the Action Plan is discussed by the Coordination Group, and the update to the Action Plan is approved by the Innovation Council. The RIS Action Plan means a portfolio of ecosystem projects that fulfil the RIS objectives in the medium term.

Strengthening partnerships and the information role affects the basic principles for communication of the RIS of the SMR towards stakeholders. In executing the strategy, responsibility rests primarily with the RIS Manager.

Monitoring and evaluating the implementation of the strategy objectives

The monitoring of implementation will be carried out at two levels: i) project level; ii) strategic level. Responsibility for monitoring rests with the RIS Manager.

- The project level consists in monitoring the implementation of ecosystem projects resulting from the Action Plan. It will be conducted annually in cooperation with the owners and it will be presented to the Innovation Council.
- The strategic level consists in monitoring the achievement of strategic and specific objectives through defined metrics. It will take place once a year, and it will be presented to the Innovation Council together with a summary of the trends and developments in the innovation environment.

The evaluation of the results of the implementation of the RIS of the SMR will take place at logical milestones. The evaluation will be initiated in cooperation between the Coordination Group and the RIS Manager.

4. The Karlovy Vary Region

The Regional RIS3 strategy

Title and approval: The Regional Innovation Strategy of the Karlovy Vary Region (updated in June 2020)

Web link to the document: <http://www.ris3kvk.cz/dokumenty>

Other related regional strategic documents:

Action Plans of the Regional Innovation Strategy of the Karlovy Vary Region

Web link to the document: <http://www.ris3kvk.cz/dokumenty>

The Karlovy Vary Regional Development Programme

Web link to the document: <http://www.kr-karlovarsky.cz/region/Stranky/EU2014-2020/PRKkaSRKK.aspx>

Strategic Framework for Economic Restructuring of the Ústí nad Labem, Moravian-Silesian and Karlovy Vary Regions

Web link to the document: <https://www.restartregionu.cz/strategie-a-cile/>

The Employment Development Strategy of the Karlovy Vary Region

Web link to the document: https://karp-kv.cz/assets/front/documents/SRZKK_final_09_2015.pdf

Key conclusions of the problem analysis of the regional RIS3 strategy

Key problems of the Karlovy Vary Region:

1. Absence of innovation drivers
2. Low attractiveness of the self-governing region to foreign investors and young, talented and capable people
3. Insufficient investment by local companies in knowledge, innovation and high-quality human resources
4. Low position of local companies in global value chains
5. A lack of ambition and motivation for innovation activities on the part of local companies (entrepreneurs) and public administration
6. A lack of HEI-educated professionals with adequate work experience and well-prepared secondary school graduates

Strategic orientation of the regional RIS3 strategy

Horizontal key areas of change and strategic objectives:

A: Private (Private sector)

Strategic objective A.1.: Supporting entrepreneurship, the development of R&D&I activities and the introduction of new productive innovations

Specific objective A.1.1: Supporting the establishment of new companies

Specific objective A.1.2.: Stabilising and developing innovative companies

Specific objective A.1.3.: Supporting the digital transition of SMEs

B: Public (Public sector)

Strategic objective B.1: Supporting the introduction of smart solutions within the region

Specific objective B.1.1: Increasing public interest in smart solutions

Specific objective B.1.2: Introducing smart solutions in cities and municipalities

Specific objective B.1.3: Creating the conditions for smart authorities

C: People (Human resources)

Strategic objective C.1: Providing the necessary personnel and knowledge for the innovation system and investing in human resources

Specific objective C.1.1. Creating and developing high-quality personnel and investing in human resources

Specific objective C.1.2. Motivating students and pupils to study technical and nature science disciplines and to develop creativity

Specific objective C.1.3. Supporting work with talents and gifted children

D: Promotion (Attractive region)

Strategic objective D.1: Creating and building a new image for the region

Specific objective D.1.1: Creating the conditions for implementing communication activities

Specific objective D.1.2: Creating and building the region's brand

Specific objective D.1.3: Building a network of ambassadors

Specific objective D.1.4: Increasing awareness and attractiveness of the region among the target groups

Measures for an industrial transition:

Model activity	Link to RE:START
Consulting services	Establishment of new companies and their higher success rate
	More people are better prepared and more motivated to do business
Innovation vouchers Competence centre and science and technology park	Better innovation performance of the economy, greater number of innovative companies
	More open and relevant R&D
Innovation platforms Supporting R&D&I activities in the modern energy sector Promoting and strengthening the links between companies in different sectors	Transforming the energy sector in structurally affected self-governing regions, seizing new opportunities
Supporting cross-border and international cooperation between local companies	More open and relevant R&D
	Stabilising and developing existing large companies
Developing digital hubs Developing 5G networks Smart Point of the Karlovy Vary Region	Improving the effectiveness of public administration management and services for businesses and citizens using modern technologies
	Better innovation performance of the economy, greater number of innovative companies
	Stabilising and developing large companies

A fund to support intensive education, Outplacement, Creating a regional marketing team and embedding it in the regional structure, A fund to support the implementation of the region's marketing activities, A platform for marketing.

International activities in the priority areas of the regional RIS3 (key areas of change and thematic priorities):

- *A platform for coal regions in transition:* An association of European, national, regional and local stakeholders involved in the transition of coal regions aiming to strengthen partnerships and share experience with each other.
- Supporting the establishment of companies – start-ups: Subcontracts for abroad focusing on the Saxon/Bavarian market – motivation, good practice, presentation of the needs of the German side.
- Supporting cross-border and international cooperation between local companies: Supporting cooperation between local companies and foreign partners and clusters (e.g. promoting local companies in border regions, establishing contacts with relevant entities, joint research, partnerships for technology and know-how transfer, etc.).
- Supporting the implementation of the RIS3: Exchanging best practices, cooperating at the level of the S3 platform, implementing activities specified in cooperation agreements with foreign partners)
- Partnerships for technology transfer: Supporting the use of Saxon/Bavarian research capacities.

Thematic priorities:

Specialisation domains of the self-governing region

Mechanical engineering, electrical engineering and mechatronics

- Development and manufacture of parts and machines at the interface of mechanical and electrical engineering (e.g. development of industrial furnaces, central lubrication systems, plastic processing machines, conveyor systems, traction, auxiliary and integrated converters for trolleybuses and electric buses, small hydroelectric power plants, small wastewater treatment plants)
- Development of new engineering structures and electrical equipment

Links to CZ-NACE: 25, 27 and 28

Automotive and autonomous transport

- Testing of autonomous vehicles on a test polygon
- Development and manufacture of components for the automotive industry (e.g. locking systems, traction, auxiliary and integrated converters for trolleybuses and electric buses, metal fibres and cable assemblies, rubber compounds, etc.)

Links to CZ-NACE: 13, 22, 23, 24, 25, 27, 28 a 29

Traditional industries – ceramics, porcelain and glass

- Kaolin mining and processing
- Design and development of kitchen and hotel porcelain and its decoration, crystal beverage and other collections and products made of flat and industrial glass

Links to CZ-NACE: 23

Energy transition and new challenges

- Lignite mining and processing, new methods of energy production
- Development of robotisation, digitalisation and research and development activities focusing e.g. on waste research, etc.

Links to CZ-NACE: 05

The spa industry, balneology and tourism

- Monitoring the effects of spa treatment on the human body, more detailed research on mineral springs in order to expand the possibilities of using natural healing resources
- Innovation in medical procedures

Links to CZ-NACE: 72, I, Q, 861

Emerging areas and trends of specific importance to the region or the societal challenges addressed within the regional RIS3 strategy

Cultural and creative industries: attracting Czech and foreign film crews, the existence of the Film Office of the Karlovy Vary Region operating under the Živý kraj destination agency. Film tourism is a new way to increase the number of visitors to the region and stimulate interest in film locations through films. From the perspective of the cultural industries, the traditional industries – manufacture of glass and porcelain, which are based on product design, are crucial to the Karlovy Vary Region. In the coming years, the Karlovy Vary Region should transform into a “Creative Region”, which will motivate its inhabitants to think creatively (for additional information see Chapter 3.1.3 Current challenges of the RIS3 Strategy of the Karlovy Vary Region).

Energy transformation: linkages to the Czech Republic’s climate commitments and transition to the low-carbon energy sector. The transition will result in significant structural changes and will affect a wide range of areas. The negative impacts of the energy transition will mainly take the form of the loss of a large number of jobs, increasing energy prices for both manufacturers and consumers (households, companies), stricter environmental regulations, increased prices in transport, increased extent of brownfields, increased post-mining areas that will have to be reclaimed and revitalised. However, these negative consequences are also accompanied by a number of positive ones, e.g. large areas/compounds that have technical infrastructure may become available for use for new activities, new business opportunities (e.g. new methods to produce energy, installation of RES) or new industrial activities. Opportunities are opening up for the emergence of new technologies, modernisation of the energy sector and other related sectors, development of robotisation, digitalisation, research and development activities not only in companies but also in public research organisations (e.g. materials research, waste research, etc.). For more information, see Chapter 3.4.4 Energy transition and new challenges of the RIS3 Strategy of the Karlovy Vary Region.

Implementation of the regional RIS3 strategy

The institution with the main executive responsibility for managing the implementation of the regional RIS3 strategy

The Karlovy Vary Region (www.kr-karlovarsky.cz)

Karlovarská agentura rozvoje podnikání, p.o. (www.karp-kv.cz) RIS3 implementing agency.

Implementation of the regional EDP process

The strategic function is performed by the Council for Research, Development and Innovation of the Karlovy Vary Region. The various domains of regional specialisation are covered by four innovation platforms:

- The spa industry and balneology innovation platform
- Traditional industries innovation platform
- Innovation platform for strategic opportunities
- Innovation platform for the cultural and creative industries

The horizontal topic of the self-governing region’s innovation brand of “Living the Region” is addressed by the marketing platform. At the working level, the EDP process is managed by the team of the Smart Accelerator 2.0 project. The EDP can also be considered to include the results of the key surveys within the mapping of the innovation environment of the Karlovy Vary Region and the mapping carried out in cooperation with TA CR (INKA).

Monitoring and evaluating the implementation of the strategy objectives

The regional RIS3 strategy has a set of indicators in place, which is regularly, once a year, monitored by the Business Development Agency of Karlovy Vary Region (Karlovarská agentura rozvoje podnikání, p. o.) The implementation of the action plan of the regional RIS3 strategy is also evaluated at annual intervals and approved by the Research,

Development and Innovation Council of the Karlovy Vary Region. The implementation of RIS3 activities is regularly evaluated through the Report Evaluating the Effects of Strategic Interventions and Projects.

5. The Hradec Králové Region

The Regional RIS3 strategy

Title and approval: The Regional Annex to the National RIS3 Strategy for the Hradec Králové Region (updated in June 2020)

Web link to the document: <https://www.proinovace.cz/cs/aktivity/koncepce/ris3-10382>

Action Plan for the Regional Annex to the National RIS3 Strategy for the Hradec Králové Region

Other related regional strategic documents:

The Regional Development Strategy 2021–2027 (approved in October 2019)

Web link to the document: <http://www.kr-kralovehradecky.cz/cz/rozvoj-kraje/rozvojove-dokumenty/rozvoj-2014-2020/strategie-rozvoje-kraje-2014--2020-70319/>

The Employment Strategy of the Hradec Králové Region 2019+

Web link to the document: <https://www.zamestnanyregion.cz/cs/strategie-zamestnanosti-khk>

The Hradec Králové Region – Smart Region Policy

Web link to the document: https://www.chytryregion.cz/koncepce_chytry_region

The Investment Opportunities Strategy (updated in October 2019)

Web link to the document: [The Investment Opportunities Strategy of the Hradec Králové Region \(windows.net\)](#)

Integrated Territorial Investment Strategy of the Hradec Králové – Pardubice Agglomeration 2014–2020

Web link to the document: <http://iti.hradec.pardubice.eu/upload/files/2020-03-27/strategie-iti-hradecko-pardubicke-aglomerace-4.4.pdf>

The Marketing Strategy and Communication Plan of the Regional Innovation Brand of the Hradec Králové Region (updated in October 2020)

Web link to the document: [komunikacni-a-marketingova-strategie-inovace_20-09-25_pp.pdf \(proinovace.cz\)](#)

Key conclusions of the problem analysis of the regional RIS3 strategy

The problem areas identified, including the main barriers to innovation diffusion and digitalisation:

- A low number of stable companies with high innovation potential
- A low level of cooperation between research organisations and companies in the region
- A lack of quality workforce for research, development and innovation
- Uncoordinated and fragmented development of regional R&D&I activities

Barriers to the diffusion of innovation and digitalisation:

- A lack of systematic support in the digital field for SMEs
- Insufficient and uneven coverage of the territory with high-speed internet
- The highest number of internet coverage black spots in comparison to other self-governing regions
- Low financial and human resources in the public sector dedicated to R&D&I marketing
- A low level of cooperation between the various entities in promoting R&D results
- Declining proportion of PhD students in the total number of HEI students in the Hradec Králové Region
- The generational problem of succession of research/development workers, especially in industrial fields
- Declining attractiveness of the self-governing region to investments in knowledge-intensive industries
- The absence of a technical HEI

Strategic orientation of the regional RIS3 strategy

Horizontal key areas of change and strategic objectives:

A. Increasing the innovation performance of companies

Strategic objective A.1. Increasing the level of business activity

Specific objective A.1.1. Increasing the number of new innovative companies with an emphasis on acceleration and incubation services

Strategic objective A.2. Strengthening research, development and innovation activities of companies, industry and interdisciplinary groupings with an emphasis on international activities

Specific objective A.2.1. Increasing the research, development and innovation activity of companies, industry and interdisciplinary groupings with an emphasis on international activities

Specific objective A.2.2. Increasing the number of skilled workers in companies

Specific objective A.2.3. Improving the region's attractiveness to investors (foreign and domestic) carrying out more knowledge-intensive activities

Specific objective A.2.4. Improving the capacities for the implementation of specific R&D&I activities in the region

B. Excellent public research for applications

Strategic objective B.1. Strengthening the application performance of research organisations

Specific objective B.1.1. Strengthening the relevance of research and development activities of research organisations in relation to applications

Specific objective B.1.2. Increasing the (international) mobility of human resources in research organisations

Specific objective B.1.3. Increasing the level of commercialisation of research organisations' results

C. Human resources for research and innovation - Human resources development for research and innovation

Strategic objective C.1. Improving the quality of graduates and teachers

Specific objective C.1.1. Strengthening the quality of initial education graduates, with an emphasis on technical/natural science disciplines and popularisation activities

Specific objective C.1.2. Strengthening cooperation between educational institutions and the business sector

Specific objective C.1.3. Introducing a system of care for the gifted in initial education

Specific objective C.1.4. Strengthening the quality of teachers

D. Implementation and marketing of the RIS3 strategy

Strategic objective D.1. Strengthening the implementation capacities of the RIS3 and intensifying the promotion of the regional R&D&I system

Specific objective D.1.1. Providing strategic management of the implementation of the RIS3 of the Hradec Králové Region

Specific objective D.1.2. Ensuring the efficient implementation of the RIS3 of the Hradec Králové Region

Specific objective D.1.3. Strengthening the shared marketing, promotion and mutual cooperation of the regional R&D&I system

Measures for an industrial transition:

Preparing the Digital Innovation Hub operating within the Hradec Králové Technology Centre in cooperation with the University of Hradec Králové. Support for areas such as virtual and augmented reality, the introduction of Industry 4.0 elements into companies, the Internet of Things and the use of 3D printing, which is already being provided by the HK Technology Centre. The planned specialisation of Digihub in the field of aviation.

International activities in the priority areas of the regional RIS3 (key areas of change and thematic priorities):

- Participation of the Hradec Králové Region in the REGIOTEX international S3 platform thanks to the entities in the textile industry
- Involvement in international networks through research organisations (Participation of the University of Hradec Králové in the ELIXIR international network – European infrastructure for biological information)
- Membership of the Hradec Králové Technology Centre in the European Business Network

- Involvement of CIRI in the international project “DIGITALIZATION, KNOWLEDGE AND GREEN INNOVATION EXCHANGE IN TEXTILE, CLOTHING, LEATHER AND FOOTWEAR SECTORS (DiGIn4Tex)”

Thematic priorities:

Specialisation domains of the self-governing region

Manufacture of transport equipment and components

- Manufacture of motor vehicles and their components (gearboxes, braking systems, body parts, locks, airbags, electronic components)
- Manufacture of rubber and plastic products for the automotive industry
- Manufacture of electric motors, generators and transformers
- Manufacture of aircraft and their engines and related equipment
- Development services for the automotive and aerospace industries

The domain's links to CZ-NACE: 22.1; 22.2; 7.1; 29.1; 29.2; 29.3; 30.3; 30.1; 30.2; 30.9; 32.9; 71.1;

Mechanical engineering and investment units

- Development and manufacture of parts (e.g. hydraulics, gearboxes) and machines (especially textile, printing, agricultural, forestry, metalworking, mining, quarrying, construction and welding machines)
- Engineering, design, manufacture and delivery of investment units (especially for the construction, pharmaceutical, food, chemical and petrochemical industries, the energy sector)
- Casting of metals, alloy machining and fabricated metal products
- Development of new materials/designs for mechanical engineering
- Prototyping using advanced methods (additive manufacturing)

The domain's links to CZ-NACE: 24.1; 24.2; 24.3; 24.5; 25.1; 25.2; 25.5; 25.6; 25.7; 25.9; 28.1; 28.2; 28.3; 28.4; 28.9; 33.1; 33.2; 71.1; 72.1

New textile materials for new multidisciplinary applications

- Manufacture of textile fibres and introduction of new technologies and processes in textile manufacturing
- The development of environmentally friendly processes in the textile industry
- The development and manufacture of smart textiles
- Manufacture of technical/industrial textiles (agrotiles, automotive textiles, household textiles)
- Research and development of 2D, 3D and multiaxial woven structures from technical fibres for a wide range of applications
- Finishing of textiles (textile finishing with an emphasis on ecological processes)
- The manufacture of clothing
- The manufacture of recycled and biodegradable synthetic fibres

The domain's links to CZ-NACE: 13.1; 13.2; 13.3; 13.9; 14.1; 72.1

Electronics, optoelectronics, optics, electrical engineering and IT

- Research/development and manufacture mainly of electrical, electronic and wiring devices and components (e.g. electric motors, rotating machines, generators, transformers, conductors, fans, attenuation filters, power supplies, cables, distribution and control equipment, switchgear, capacitors, microelectronics, sensorics)
- The development and manufacture of rubber/plastic products for the electrical engineering industry
- Industrial automation, measuring and sensor systems
- The manufacture, development and research of special optical and optoelectronic components, modules and devices (including mainly fibre lasers, research and development of passive elements for diagnostics and therapy using optical waveguides including optical sensors and communication in the visible spectrum – replacement of microwave wireless communications with optical communication)
- The development of software solutions (e.g. B2C, controlling, MIS, database systems)
- Big data processing
- Application of knowledge and mobile technologies
- Smart sensorics and data processing
- Interdisciplinary cooperation of ICT in biomedicine

- Digital humanities (digitisation and analysis of materials related to traditional humanities disciplines – history, philosophy, linguistics, literature, art, archaeology, etc.)

The domain's links to CZ-NACE: 26.1; 26.2; 26.3; 26.5; 26.6; 26.7; 27.1; 27.3; 27.9; 43.2; 61.2; 62.0; 63.1; 71.1; 71.2; 72.1; 85.4

Drugs, medical devices, health care and health protection

- Research, development and manufacture of medical devices, aids, medical and diagnostic equipment and technologies
- Research and development of drugs and pharmaceutical forms with a focus on the synthesis of potential medicines, pharmaceutical and analytical evaluation of medicines, research on the effects of drugs in pathological conditions, determination of therapeutic values and consumptions, and research into the pharmacokinetic profile of drugs
- Medical care (focusing in particular on research into lifestyle diseases, new surgical procedures, oncology, oncosurgery, haemato-oncology, neurosciences, gastroenterology, neonatology, personalised medicine, issues relating to the ageing population)
- Clinical research
- Military medical research (protection against the effects of weapons of mass destruction, with a focus on biological weapons, nuclear weapons and the effects of radiation, molecular pathology and biology, disaster relief, the organisation of military health care, military surgery techniques, the provision of preventive health care in specific conditions and the provision of health care in the missions of the Army of the Czech Republic)
- Medical applications of nanotechnologies and biotechnologies (regenerative medicine, tissue engineering, drug delivery, health safety assessment of nanoparticles)

The domain's links to CZ-NACE: 21.1; 21.2; 22.2; 32.5; 72.1; 85.4; 86.1; 86.2; 86.9

Advanced agriculture and forestry

- Crop production, fruit varietal selection (selection, gene pools, cryobank, biotechnology, molecular genetics, molecular testing of pathogens)
- Animal production, reproduction
- Silviculture – applied research on forest cultivation
- Food industry – dairy, bakery, special nutrition
- Opportunities for interdisciplinary collaboration in biomedicine (functional foods) and the textile sector (agrotextiles) and landscaping (the environment in municipalities and cities and in the open countryside)

The domain's links to CZ-NACE: 01.1; 01.2; 01.3; 01.4; 01.5; 01.6; 02.1; 02.2; 02.4; 10.3; 10.4; 10.5; 10.7; 28.3; 72.1; 72.2;

Emerging areas and trends of specific importance to the region or the societal challenges addressed within the regional RIS3 strategy

- The prevention and treatment of major lifestyle diseases
- Personalised medicine
- Bioinformatics
- Robotisation, automation and digitalisation of production
- Big data processing and sharing
- Internet of Things
- Smart sensorics
- Additive manufacturing
- Smart textiles
- Cybersecurity
- Virtual reality
- Nanotechnology in medicine
- The area of waste management in industry – implementing the principles of the circular economy
- Digital education
- Digital humanities

Implementation of the regional RIS3 strategy

The institution with the main executive responsibility for managing the implementation of the regional RIS3 strategy

The Hradec Králové Region (www.kr-kralovehradecky.cz, RIS3 coordinator)

The Centre for Investment, Development and Innovation(www.cirihk.cz, RIS3 Manager)

Other institutions involved

The City of Hradec Králové, Hradec Králové Technology Centre, University of Hradec Králové, Charles University (Faculty of Pharmacy, Faculty of Medicine in Hradec Králové), Hradec Králové University Hospital, research organisations, overarching institutions (clusters etc.), secondary schools and other educational institutions, entities in the cultural and creative industries, business entities involved in the region's RIS3 structures, regional office of CzechInvest).

Implementation of the regional EDP process

Setting up a process of communication between key players in the innovation environment (innovative companies, HEIs, research organisations and other relevant partners, with public administration playing a coordinating role). Systematically working with innovative companies, research organisations and other entities in the R&D&I system through membership in the Research, Development and Innovation Council of the Hradec Králové Region; regional innovation platforms and the Regional Innovation Brand Platform. The following three regional innovation platforms were established in the Hradec Králové Region: 1. Automotive, mechanical engineering, investment units, (opto)electronics, optics, electrical engineering, IT; 2. Drugs, medical devices, medical care, biotechnology, advanced agriculture and forestry; 3. New textile materials for multidisciplinary applications. The composition of the regional innovation platforms is not rigid, and representatives of other entities operating in the Hradec Králové Region are invited to the meetings depending on the topic under discussion. Field surveys are being conducted as part of the nationwide survey of companies' innovation capacities (INKA). It was also implemented in 16 research organisations operating in the Hradec Králové Region.

Monitoring and evaluating the implementation of the strategy objectives

The monitoring of the evaluation of the regional RIS3 strategy is carried out in order to assess how the activities and interventions within the action plan of the regional RIS3 strategy contribute to the fulfilment of the RIS3 strategy objectives and whether these activities and interventions bring the Hradec Králové Region closer to accomplishing these objectives. This evaluation will be based on continuous measurement and monitoring of the values of indicators of the strategic and specific objectives. Each indicator has its own definition, unit of measurement and data source. The absolute increase and the change in relative value in percentage points (for indicators tracking a ratio) will be monitored. No target values are set for the indicators. The continuous trend in the indicator values will be monitored. Furthermore, the evaluation covers the strategic interventions being implemented, the success of their implementation, the outputs and results achieved. The third area of evaluation is the evaluation of the effectiveness of regional subsidy programmes that are implemented to strengthen the regional innovation system. The regional RIS3 strategy is monitored annually based on regularly updated action plans. These activities are monitored in terms of their focus on the different objectives and domains of the regional RIS3, the planned amount of expenditure and the progress of implementation.

6. The Liberec Region

The Regional RIS3 strategy

Title and approval: **The RIS3 Strategy of the Liberec Region** (updated in June 2020)

Web link to the document: <https://regionalni-rozvoj.kraj-lbc.cz/page1874/rozvojove-dokumenty-strategie-rozvoje-lk-a-program-rozvoje-lk/strategie-inteligentni-specializace-ris3>

Other related regional strategic documents:

The Development Strategy of the Liberec Region 2021–2027, <https://regionalni-rozvoj.kraj-lbc.cz/page1874/rozvojove-dokumenty-strategie-rozvoje-lk-a-program-rozvoje-lk/strategie-rozvoje-libereckeho-kraje-2021>

The “Smarter Region” policy for the Liberec Region, <https://regionalni-rozvoj.kraj-lbc.cz/page1874/rozvojove-dokumenty-strategie-rozvoje-lk-a-program-rozvoje-lk/koncepce-chytrejsi-liberecky-kraj/koncepce-chytrejsi-kraj-pro-liberecky-kraj>

The Employment Pact of the Liberec Region, <https://www.pzlk.cz/dokumenty-1>

Action Plans of the RIS3 Strategy of the Liberec Region, <https://arr-nisa.cz/cs/projekt/smart-akcelerator>,
<https://1012plus.cz/cs>

Key conclusions of the problem analysis of the RIS3 Strategy of the Liberec Region

- A lack of human resources for research, development and innovation activities
- A low number of companies located at higher tiers of global value chains
- Low participation of R&D organisations and companies in international R&D cooperation projects
- The high patent activity in the R&D environment is not reflected in the amount of sales of innovated products
- A low level of capital to invest in the development of own innovative products
- Room for improvement in the digital transition of SMEs in the self-governing region

Strategic orientation of the regional RIS3 strategy

Horizontal key areas of change (KACs) and strategic objectives:

KAC A: Competitive and innovative businesses

Strategic objective A.1.: Increasing the intensity of the establishment of new and development of existing companies with the potential for rapid growth and international competitiveness

Strategic objective A.2. Developing the digital transition in the self-governing region in both the business and public sectors

KOZ B: High-quality public R&D and its contribution to the development of the self-governing region

Strategic objective B.1: Strengthening the quality, intensity and international comparability of research carried out in the self-governing region

Strategic objective D.2: Increasing the benefits of R&D for both the business sector and areas of public interest in the self-governing region

KAC C: People for research and innovation

Strategic objective C.1: Improving the quality of human resources for research, development and innovation in both formal and non-formal education

Strategic objective C.2: Improving the availability and quality of human resources for internationally competitive research

Strategic objective C.3: Improving the skills and competences of the self-governing region's human resources in the field of digitalisation and industrial transition

Measures for an industrial transition:

- Developing a digital innovation hub (a European Digital Innovation Hub) – supporting the digital transition of businesses in the self-governing region – focusing on artificial intelligence

International activities in the priority areas of the regional RIS3:

- Activities and projects of the joint Centre of Excellence of the Fraunhofer Institute (FI) and the Technical University of Liberec (TUL) focused on the development of nanomaterials for biotechnologies, medicine, telecommunication systems and energy production and storage systems; joint projects of the TUL and Technische Universität Dresden, as well as the Research Institute of Textile Machines and FI in the field of advanced manufacturing technologies and new materials, and others.
- Activities of the Research Centre for Special Optics and Optoelectronic Systems at the Institute of Plasma Physics, v.v.i., for the European Space Agency (ESA) in the field of special materials and optical systems for space research, as well as activities of organisational units of the TUL in the field of advanced glass manufacturing technologies (3D glass printing, glass nanofibres) and research on possible ways to recycle glass.
- Activities/projects thanks to the Liberec Region's membership in the European Commission's Thematic Platform for Industrial Modernisation (S3 platform) within the Water Smart Territories and RegioTex partnership.
- The involvement of excellent clusters – Nanoprogress cluster and CLUTEX – cluster of technical textiles – in projects of international cluster communities.
- The development of a twinning partnership with Bar-Lan University in Tel Aviv, Israel, on the topic of cybersecurity, smart region, start-ups, and energy

Thematic priorities:

Specialisation domains of the Liberec Region

Advanced mechanical engineering

- The development and manufacture of parts and machines, especially for metalworking, textile, glass, the manufacture of nanomaterials, the energy sector, building technology, the processing of new materials
- Implementation of Industry 4.0 elements
- The development of cybernetic and robotic systems, human-machine collaboration, development of materials/designs for mechanical engineering and prototyping using advanced methods (e.g. 3D printing, laser technologies).

The domain's links to CZ-NACE: 28, 29, 30, 24, 25, 13, 14, 23, 27, 26, 71, 72

Advanced transport equipment, vehicles and their components

- Environmental aspects of propulsion units
- Research on materials and technologies for sustainable transport and mobility
- The research and development of technologies for driving autonomous vehicles

The domain's links to CZ-NACE: 29, 71, 13, 20, 22, 22.2, 23, 23.1, 26, 26.1, 27, 30, 46, 72.1

Optics, decorative and functional glass

- Research on systems for super-precision optics, optical diagnostics
- Research on high-power lasers, astronomical satellite- and ground-based instruments
- New glassworking and manufacturing technologies and machines for glass products, technologies and equipment for recycling glass and products made of recyclates, for modern design and modelling
- Research on synthetic crystals for lasers and detectors

The domain's links to CZ-NACE: 23, 23.1, 23.4, 23.7, 23.9, 26, 32, 32.1, 72, 72.19

Sustainable management of energy, water and other natural resources

- Research and development of advanced remediation, separation and membrane technologies
- Climate-neutral energy storage and transformation, efficient use of water and other natural resources, including the development of methods to retain water in the landscape
- Efficient management of waste, biowaste, its further processing and usability

The domain's links to CZ-NACE: 25, 25.1, 25.9, 28, 258.9, 10, 10.5, 37, 38, 38.3, 39, 27

Advanced materials based on textile structures and technologies for new multidisciplinary applications

- Research on new advanced materials, smart textiles, e-textiles, the interdisciplinary use of textiles, renewable, recyclable and biodegradable materials
- Research on advanced technologies and systems for manufacturing, the development of smart textile factory, and for saving water, energy and chemicals

The domain's links to CZ-NACE: 13, 14, 74.10, section F

Nanomaterials and their manufacturing technologies

- Research on nanomaterials for biomedical applications, pharmaceuticals, cosmetics, medicine, telecommunication systems and energy generation and storage systems
- Research on advanced methods of needle-free electrostatic spinning, preparation of nanofibrous materials using alternating current, technologies for permanent antibacterial treatments, nanosurfaces, nanocomposites

The domain's links to CZ-NACE: 13, 13.9, 13.95, 13.96, 13.99, 20, 20.6, 25, 25.6, 39, 72, 72.19

Advanced metal, composite and plastic materials and technologies for their processing

- Research on new types of composite, nanocomposite materials, biocomposites
- The development of advanced technologies for the manufacture of composites, nanocomposites, biocomposites

The domain's links to CZ-NACE: 20, 20.6, 22, 22.2, 25, 25.6, 39, 72, 72.19

Electronics, electrical engineering and ICT

- The development of artificial intelligence, machine learning and signal and data processing technologies (specialising in speech comprehension).
- Challenges in sustainable health care, telemedicine, ICT and artificial intelligence in medicine
- The development of intelligent ICT solutions for natural resource management and sustainable settlements
- Development in the area of new technologies (Internet of Things, industrial internet, cyber-physical systems) at different levels of data processing (Smart Office, Smart Industry, Smart City)

The domain's links to CZ-NACE: 26, 27, 29, 30, 28, 33, 60, 61, 62.01, 63, 63.1, 71.2, 72, 72.1

Emerging areas and trends of specific importance to the region or the societal challenges addressed within the regional RIS3 strategy

We will co-create a global trend of complex products that are built on the interconnection of software optics, sensors and precision mechanics, high-tech glass technology and glass product design.

We bring together the technical and natural sciences – bionics and biomimetics; we develop technologies for the circular economy and the sustainable management of natural resources.

Emerging research directions and application areas have been identified in the fields of medicine and life-sciences: the area of neurology and neurosurgery, cardiovascular diseases, neurointensive care, traumatology, orthopaedics and surgery, oncology, imaging and diagnostics, molecular biological and genetic profiling and cancer treatment, anatomy, histology and biomechanics, and medical and biomedical applications of nanomaterials and nanotechnologies.

Implementation of the regional RIS3 strategy

The institution with the main executive responsibility for managing the implementation of the regional RIS3 strategy

The Liberec Region ([www. https://www.kraj-lbc.cz/](https://www.kraj-lbc.cz/), www.1012plus.cz)

ARR – Agentura regionálního rozvoje, spol. s r.o.([www. https://arr-nisa.cz/](https://arr-nisa.cz/)). This is where the RIS3 manager is employed.

Implementation of the regional EDP process

The strategic function is performed by the **Council for Research, Development and Innovation in the Liberec Region**. The various domains of regional specialisation are covered by regional innovation platforms:

- For digital transition
- Glassmaking, optics, optoelectronics
- Advanced materials based on textile structures, nanomaterials and nanotechnologies
- For a green transition – Natural resources – water, soil, renewable energy sources – climate neutral solutions, a circular economy

The horizontal topic of the regional innovation brand is addressed by the Regional Innovation Brand Platform. Topics that are common to the RIS3 and the labour market are discussed with the Employment Pact of the Liberec Region. At the working level, the EDP process is managed by the team of the Smart Accelerator of the Liberec Region project.

Monitoring and evaluating the implementation of the strategy objectives

The regional RIS3 strategy has a set of indicators in place, which is regularly monitored on an annual basis by the team of the Smart Accelerator of the Liberec Region project. Implementation of the action plan of the regional RIS3 strategy is evaluated on an annual basis. The results are presented to the regional RDI Council. Evaluation of the implementation of the objectives of the regional RIS3 strategy is planned for mid-term (2024) and the end of the 2021–2027 cohesion period.

7. The Moravian-Silesian Region

The Regional RIS3 strategy

Title and approval: #hrajemskrajem – Strategy for the Development of the Moravian-Silesian Region 2019–2027 (December 2019 and May 2021) – the pillars entitled “A more enterprising and innovative region” and “A more educated and smarter region” and the annex entitled “Regional Innovation Strategy of the Moravian-Silesian Region 2021–2027” constitute the RIS of the Moravian-Silesian Region (MSR) 2019–2027.

Web link to the document: <http://www.ris3kvk.cz/dokumenty>

Other related regional strategic documents: N/A

Key conclusions of the problem analysis of the regional RIS3 strategy

The problem areas identified, including the main barriers to innovation diffusion and digitalisation:

- Low entrepreneurial spirit
- A low share of small and medium-sized enterprises
- Lagging behind in innovation
- Untapped potential of research and development activities
- A shortage of skilled labour
- Brain drain
- A persistent mismatch between supply and demand in the labour market
- A lack of systemic tools and services to improve the effectiveness of vocational education and the labour market
- Untapped potential of foreign labour
- Relatively smaller distance by international comparison

Strategic orientation of the regional RIS3 strategy

I. A more enterprising and innovative self-governing region

Key area of change – 1.1. Enterprising people

Strategic objective – 15% of the self-governing region’s population aged 25–44 have personal experience of starting a business

Key area of change – 1.2. Establishment and growth of companies

Strategic objective – increasing the number of companies based in the self-governing region under 10 years old with 25 or more employees

Key area of change – 1.3. Business and innovation ecosystem

Strategic objective – placing the self-governing region among the TOP10 regions of Central and Eastern Europe according to

the growth dynamics of the knowledge intensity of the economy

Key area of change – 1.4. Research and Development

Strategic objective – increasing the self-governing region’s share in public expenditure on research and development in the Czech Republic to at least 6% in the 2022–2027 period

Key area of change – 1.5. Large companies

Strategic objective – in the 2020–2027 period, the growth of exports of large companies from the self-governing region is 10% higher than the growth of exports from the entire Czech Republic in the same period

II. A more educated and employed region

Key area of change – 2.1. Modern education and competencies for life

Strategic objective – improving the readiness of graduates entering the labour market

Key area of change – 2.2. Attractive higher education institutions

Strategic objective – increasing the share of the region's population with higher education

Key area of change – 2.3. Career counselling

Strategic objective – making better use of personal potential and adequate employment opportunities for the population

Key area of change – 2.4. Quality jobs

Strategic objective – an increase in productivity, average wages and the supply of well-paid jobs

Key area of change – 2.5. Innovation in reducing long-term unemployment

Strategic objective – reducing the share of the long-term unemployed

Measures for an industrial transition:

- Developing the Ostrava Digital Innovation Hub – supporting the digital transition of the Moravian-Silesian Region
- Developing the IT4Innovations National Supercomputing Centre – research in the digital knowledge era
- Developing the “Smart Factory” project
- Further developing the Support for Business Subsidy Programme and the R&D Support Subsidy Programme financed by the Moravian-Silesian Region
- Implementing the “Promotion of vocational training and cooperation between companies and schools” project.
- Continuing the “Technology and business academy” project.
- Preparing and implementing the “Smart and Green District” project
- Preparing and implementing the “High-speed data networks” project
- Preparing strategic projects under the Just Transition Fund (13 pre-approved projects:
 - a) The Black Cube Centre for Digitalisation, Science and Innovation
 - b) Education District
 - c) Life & Environment Research Center Ostrava (LERCO)
 - d) REFRESH
 - e) Technology and Business Academy and Digital, Innovation and Media Lab
 - f) CirkArena –A Circular Economy R&D Centre
 - g) MUSEum+. National experimental platform for sharing, digitising and utilising collections and for developing the cultural and creative industries
 - h) EDEN Karviná – research and education park
 - i) PODOLUPARK Karviná
 - j) CEPIS – Centre for Entrepreneurship, Professional and International Studies
 - k) POHO Park
 - l) TRAUTOM – COMPETENCIES FOR THE 21ST CENTURY
 - m) Public Energy Centre

Alignment between KACs and RESTART:

- KAC 1.1. enterprising people – RESTART – Pillar D – strategic objective D.2. – more work-ready residents – medium-skilled
- KAC 1.1. enterprising people – RESTART – Pillar D – strategic objective D.1. – more and better job opportunities – high-skilled
- KAC 1.2. small and medium-sized enterprises – RESTART – Pillar A – strategic objective A.1. – the growth of businesses and their penetration into new markets
- KAC 1.2. small and medium-sized enterprises – RESTART – Pillar A – strategic objective A.2. – better innovation performance of the economy, greater number of innovative companies

- KAC 1.2. small and medium-sized enterprises – RESTART – Pillar C – strategic objective C.2. – more efficient and attractive R&D
- KAC 1.3. business and innovation ecosystem – RESTART – Pillar A – strategic objective A.3. – better innovation performance of the economy, greater number of innovative companies.
- KAC 1.3. business and innovation ecosystem – RESTART – Pillar B – strategic objective B.2. – Offering quality and affordable industrial/commercial real estate
- KAC 1.3. business and innovation ecosystem – RESTART – Pillar B – strategic objective B.3. – Quality and professional services for (external) investors
- KOZ 1.4. Research and development – RESTART – Pillar A – strategic objective A.1. – the growth of businesses and their penetration into new markets
- KOZ 1.4. Research and development – RESTART – Pillar A – strategic objective A.3. – better innovation performance of the economy, greater number of innovative companies
- KOZ 1.4. Research and development – RESTART – Pillar C – strategic objective C.1. More open and relevant R&D
- KOZ 1.4. Research and development – RESTART – Pillar C – strategic objective C.3. Better performing and more attractive R&D

International activities in the priority areas of the regional RIS3 (key areas of change and thematic priorities):

The following is planned as part of developing international activities within the areas of the regional RIS3:

- Developing activities within PRACE – Partnership for Advanced Computing in Europe and Joint Undertaking – EuroHPC, through IT4Innovations
- Participation in the Global StartUP Cities initiative within the upcoming HorizonEurope – pillar – European Innovation Ecosystem
- Establishing the Brussels Praline platform for sharing information, experience and contacts for international R&D&I projects (coordinated by the Moravian-Silesian Region – it is planned that VŠB-TUO, OSU, SLU, MSIC, MSID, MS Pact, MEC and others will be involved)
- Involvement in S3 platforms – Efficient and Sustainable Manufacturing and Hydrogen Valley

Thematic priorities:

The process of formulating the priorities of regional specialisation domains in the MSR is based on 3 factors a) application markets, b) technological areas, and c) development trends. Within the RIS of the MSR, a process will be set up to jointly discover and precisely define the priorities, based on the visions and strategies of companies. This process will be continuous and is still in its initial stages.

In terms of the application markets, the following specialisation domains have been formulated in the MSR:

Automotive

Focus of the domain – automotive components

- main links to CZ-NACE – 29

Engineering

Focus of the domain – special machinery and equipment, mechatronic systems and equipment

- main links to CZ-NACE – 28

Emerging:

a) Title of regional specialisation domain – e-health

Focus of the domain – medical devices and services

- main links to CZ-NACE – 86

b) Title of regional domain of specialisation – smart-agri

Focus of the domain – smart machinery and equipment

- main links to CZ-NACE – 01 – 03

- c) Title of regional domain of specialisation – **Hydrogen technologies**
Focus of the domain – hydrogen production technologies, hydrogen use

In terms of the technological areas, the following 5 specialisation domains have been formulated in the MSR:

Information technologies

Focus of the domain – digitalisation of processes in companies with an emphasis on manufacturing

- main links to CZ-NACE – 62 – 63

Information technologies

Focus of the domain – activities related to data processing

Technologies for energy production, transmission and storage

Focus of the domain – technologies for energy production, transmission and storage

- main links to CZ-NACE – 27, 29

New materials

Focus of the domain – conductive plastics, new properties of steels, new composite materials, a circular economy

- main links to CZ-NACE – 24, 25, 23, 22, 34

Cultural and creative industries

- Focus of the domain – audiovisual technology and design

Implementation of the regional RIS3

The institution with the main executive responsibility for managing the implementation of the regional RIS3 strategy

The Moravian-Silesian Region – <https://www.msk.cz/>

- Chairman of the RDI Commission – coordinator of the RIS of the MSR
- Regional Development Department of the MSR – the apparatus supporting the MSR coordinator

Moravian-Silesian Innovation Centre Ostrava, a.s - <https://www.ms-ic.cz/> – this is where the RIS3 regional manager is employed

Implementation of the regional EDP process

Innovation Council – 9 members

Horizontally-focused WG:

- SPODREG working group
- Talent Attraction Management working group
- SMARAGD working group

Vertically-focused WG:

- MSK Digital working group
 - ENVI Tech working group
 - Mobility working group
 - Health working group

WG for the preparation and implementation of the strategy:

- A more enterprising and innovative self-governing region WG

- A more educated and employed region WG

Business MasterMind Groups – from September 2019

Regular meetings of the regional agencies (MSIC, MSID, MS Pact, MEC) organised by the Chair of the RDI Commission to coordinate the activities of the different agencies related to the implementation of the Regional Development Strategy and also joint marketing activities.

The EDP is expected to involve and make use of the results of key surveys of INKA innovation capacity mapping in cooperation with TA CR.

Monitoring and evaluating the implementation of the strategy objectives

The RIS of the MSR has a monitoring system in place that will be monitored on an annual basis by the MSIC in cooperation with MS Pact, MSID and the Regional Development Department of the MSR. The implementation of the action plan of the RIS3 of the MSR will be evaluated on an annual basis and submitted to the IC for approval.

The evaluation of the implementation of the objectives of the RIS of the SMR is planned for 2024. This evaluation will be submitted for approval to the IC and also to the MSR Assembly. The final fulfilment of the objectives of the RIS of the SMR is planned for 2028. This evaluation will be submitted for approval to the IC and also to the MSR Assembly.

8. The Olomouc Region

The Regional RIS3 strategy

Title and approval: RIS3 Strategy of the Olomouc Region (approved in September 2022)

Web link to the document: <https://www.olkraj.cz/ris3-strategie-cl-3882.html>, <https://www.ris3ok.cz/dokumenty/>

Other related regional strategic documents (if applicable), including web links to the documents:

The Development Strategy for the Territorial District of the Olomouc Region: <https://www.olkraj.cz/strategie-rozvoje-uzemniho-obvodu-olomouckeho-kraje-cl-537.html>

The ITI Strategy of the Olomouc Agglomeration: <https://olomoucka-aglomerace.eu/dokumenty>

The Regional Action Plan for the Development of Education in the Olomouc Region:
<https://www.olkraj.cz/krajsky-akcni-plan-rozvoje-vzdelavani-olomouckeho-kraje-cl-3449.html>

The Territorial Employment Pact of the Olomouc Region: <https://www.olkraj.cz/teritorialni-pakt-zamestnanosti-olomouckeho-kraje-cl-3880.html>

Key conclusions of the problem analysis of the regional RIS3 strategy

The problem areas identified, including the main barriers to innovation diffusion and digitalisation:

- Significant economic and social disparities between different parts of the region.
- Inconsistent marketing of the Olomouc Region from the R&D&I perspective.
- Persistent mistrust among innovation eco-system stakeholders. A low level of identification with the RIS3 theme.
- Within a part of regional specialisation, there is misalignment of disciplines between the corporate and the academic environments that reduces the actual interconnection and the potential for generating and applying disruptive technologies with final production in the Czech Republic. A persistent disconnect between research and education and practice.
- A low level of internationalisation of SMEs that have their own final product. A limited ability to expand abroad, especially to distant developed markets, often despite a strong position in the Czech Republic.
- A low number of newly established spin-off companies, low importance of commercialisation in the mindset of researchers, a lack of practical motivation to maximise the value of the resulting know-how (ownership interest, intellectual property licensing).
- Inability of many SMEs to manage innovation processes, a lower share of knowledge-intensive activities and, in turn, a weak demand for innovations
- Despite the undeniable results in the field of basic research (especially in the areas of new (nano)materials and technologies, agricultural research, biomedicine), the self-governing region's media image as an R&I centre
- Wage policy issues.
- A relatively low level of GDP per capita and its low dynamic.
- Slow approval processes by institutions slow down dynamic development.

Strategic orientation of the regional RIS3 strategy

Horizontal key areas of change and strategic objectives:

KAC A: Open and attractive region for innovative business

- SO A.1. Comprehensive system of support for innovative companies
- SO A.2. Attractive regionalized ecosystem for start-ups

KAC B: Conditions for excellent research, development and transfer of knowledge and technology

- SO B.1. Effective transfer of research outputs to business
- SO B.2. Internationally successful projects and partnerships

KAC C: Development of human potential

- SO C.1. Motivation for education in key competencies as entrepreneurship, creativity and initiative
- SO C.2. Attractive way of teaching in polytechnic education fields in cooperation with employers
- SO C.3. Attractive system of lifelong education responding to social trends

KAC D: Digitalization as a common tool

- SO D.1. Development of efficient and digitalization processes
- SO D.2. Digitalized and automated industry ready for the technological challenges of the 21st century
- SO D.3. Functional supportive ecosystem in the field of eHealth

KAC E: Sustainability as part of the life cycle

- Strategic objective E.1. Socially and environmentally responsible region
- Strategic objective E.2. Sustainable system of financial R&D support

Measures for an industrial transition:

- Developing the DIGI2Health digital innovation hub
- 5G pilot projects in Jeseník

International activities in the priority areas of the regional RIS3 (key areas of change and thematic priorities):

- Implementing international activities/projects resulting from participation in the Water Smart Territories S3 thematic platform
- As part of internationalisation efforts, the Smart Accelerator of the Olomouc Region III project plans to establish cooperation with foreign partners in the field of RIS3.

Thematic priorities:

Specialisation domains of the self-governing region:

- **Biomedicine, Life Science and Well-being** - by linking medicine, life sciences and the growing need for the life balance of individuals in the eco-system, we have a very strong domain of specialisation that has a broad interdisciplinary scope. Thanks to its stable scientific background, quality medical education and traditional spa industry, the Olomouc Region has ideal conditions for the development and transfer of emerging trends in this field to the business environment and daily life of citizens.
- **Agriculture for the 21st century** - the development of technology is unstoppable and affects all areas. Agriculture is no exception. Thanks to its geographical diversity, the Olomouc Region has the pre-requisites for the development of this specialisation domain on multiple levels, from the production of agricultural machinery, seed breeding, development of agricultural technologies to eco-farms and organic production.
- **Optics and fine mechanics, optoelectronics** - a traditional specialisation domain of the Olomouc Region with all the pre-requisites for transfers and commercialization. The strong academic background combined with the downstream industry creates great potential for growth in the region.
- **Pumping and water management technology** - technologies for water works, water and waste management and renewable energy sources are an integral part of this strong domain of specialization in the Olomouc region. The excellent application research that is being conducted here can be continuously developed also outside the region.
- **Advanced materials and technologies** – unstoppable scientific progress influences the development of material modifications and their possible applications in industry, the use of new technologies. Thanks to the broad base of the mechanical and electrical engineering industries in the Olomouc Region, the specialisation domain has a visible potential for growth in the transfer and applicability of new technological processes and applications.

- **Cultural and creative industries** - include sectors in the Olomouc Region where culture, creativity and industry are interconnected. This domain of specialisation has a growing tendency and potential for increased economic impact due to the high added value offered to other industries in the region.

Annex 2 of the RIS3 strategy of the Olomouc Region (available at the link above) lists the CZ-NACE codes assigned to the individual specialisation domains.

RIS3 Mission

- Reducing the material and energy intensity of the economy

Implementation of the regional RIS3 strategy

The institution with the main executive responsibility for managing the implementation of the regional RIS3 strategy

Innovation Centre of the Olomouc Region (ICOR, www.inovaceok.cz) – [this is where the RIS3 manager is employed](#)

Olomouc Region (www.olkraj.cz) – [this is where the RIS3 coordinator is employed](#)

Implementation of the regional EDP process

The strategic function is performed by the Regional Council for Innovation of the Olomouc Region (RCI OR), which has a coordinating, monitoring/evaluation and motivational role within the implementation structure of the RIS3 strategy. Members of the RCI OR include representatives of relevant stakeholders from the self-governing region who influence topics related to the RIS3. The RCI OR establishes regional innovation platforms (RIPs) that focus on selected topics, e.g. specialisation domains and horizontal or cross-cutting topics. The role of these RIPs is to provide impulses, and the working groups further develop the topics addressed by the RCI OR. There are currently two innovation platforms, which focus on the topics of Industry 4.0 and Life Science. Since 2016, the executive role in implementing the RIS3 strategy in the self-governing region has mainly consisted in implementing the Olomouc Region's projects in partnership with the ICOR within the Smart Accelerator or Smart Accelerator II call under the Operational Programme Research, Development and Education. Within the ICOR, the Regional RIS3 Manager is both the main person responsible for the implementation of the RIS3 strategy in the self-governing region, and the Secretary of the RCI OR.

Monitoring and evaluating the implementation of the strategy objectives

The implementation of the RIS3 strategy is based on implementing and evaluating the fulfilment of the RIS3 Action Plan of the Olomouc Region, which is drawn up every year. The results are submitted to and evaluated by the RCI OR.

9. The Pardubice Region

The Regional RIS3 strategy

Title and approval: **The Regional Innovation Strategy of the Pardubice Region** (approved in June 2022)

Web link to the document:

<https://paradnikraj.cz/wp-content/uploads/2022/07/Aktualizace-RIS3-Pk-2022.pdf>

Other related regional strategic documents:

The Development Programme of the Pardubice Region 2012–2020, <https://www.pardubickykraj.cz/rozvoj-kraje>

The ITI of the Hradec-Pardubice Agglomeration, <http://iti.hradec.pardubice.eu/>

The Development Strategy of the Pardubice Region 2021-2027, https://paradnikraj.cz/wp-content/uploads/2021/03/Strategie_rozvoje_Pardubickeho_kraje_2021__2027.pdf

Key conclusions of the problem analysis of the regional RIS3 strategy

The problem areas identified, including the main barriers to innovation diffusion and digitalisation:

- A persistent shortage of HEI graduates in science and engineering fields
- Weaker economic performance (compared to the Czech Republic's other self-governing regions), especially in terms of share in Czech GDP, wages (including R&D&I workers) and investment activity (including the R&D&I area)
- A low level of graduates' preparedness for practice
- Partial mismatch between the sectoral focus of educational institutions and the business sector (this applies e.g. to the textile industry)
- Concentration of R&D&I employees in only a few larger companies
- Large disparities in economic activity within the Pardubice Region (regional disparities)
- Low "patent activity" of the University of Pardubice (compared to other public HEIs in the Czech Republic)
- Low intensity of non-technical innovation (compared to the Czech Republic's other self-governing regions)

Strategic orientation of the regional RIS3 strategy

Horizontal key areas of change and strategic objectives:

Key area of change A: An adequate supply of quality human resources to meet the needs of practice

SO A.1. Providing graduates in line with labour market needs

SO A.2. Improving the quality of school graduates

SO A.3. Increasing the number of quality adult experts to meet the needs of practice

Key area of change B: Strengthening the quality and economic benefits of public research

SO B.1. Increasing the quality and economic benefits of public research

Key area of change C: Increasing innovation performance and business activity resulting in companies' economic efficiency

C.1. Increasing the innovation activity of companies in the Pardubice Region

C.2. Increasing business activity in the Pardubice Region

C.3. Improving the quality of the environment for companies' development

Measures for an industrial transition:

Strategic interventions in the area of Industry 4.0 will take place within the Smart Accelerator of the Pardubice Region II project in cooperation with the University of Pardubice.

International activities in the priority areas of the regional RIS3 (key areas of change and thematic priorities):

The Pardubice Region (as an entity) intends to participate in internationalisation through involvement in European S3 platforms. Together with the Liberec and Hradec Králové Regions, it already is a member of the REGIOTEX European textiles platform. Internationalisation will also be supported by the self-governing region's Marketing Strategy, including the use of the www.paradnikraj.cz website, which is also available in English.

International activities are largely implemented by other stakeholders in the regional innovation eco-system. These are mainly cooperation projects of the University of Pardubice, or activities of individual innovative companies from the region.

Thematic priorities:

Specialisation domains of the self-governing region

Intelligent chemistry for industrial and bio-medical applications

In the Pardubice Region there is a strong bio-chemical industrial base in the area of medical applications, both in the field of synthetic chemistry and in technologies for the preparation of bioactive materials. Furthermore, the University of Pardubice traditionally includes unique departments and institutes for the spinning of biologically active polysaccharides and their coupling with biologically active substances, bio-analytical laboratories with an excellent global reputation, testing possibilities in biochemical laboratories, etc. The University of Pardubice is cooperating internationally on a number of projects in the field of bio-analytics, medical devices (lab-on chips) and (nano)materials for medicine.

Nano-biomedical technologies also require the development of new technological apparatuses, such as apparatuses for the softening and preparation of micro- and nano-fibre fabrics, apparatuses for the preparation of wound covers, scaffolds, diagnostics, data processing, etc. The region's active industrial and R&D base in textiles, textile machinery, special manufacturing equipment, electrical engineering and ICT creates good conditions for the development of these applications and in the future, and it will also bring an opportunity for the development of new innovative companies in technological domains based on the related variety.

At the Faculty of Chemical Technology of the University of Pardubice, an entire ecosystem of companies is linked to education and public R&D in the fields of pulp processing, coatings or printing.

The core CZ NACE for this domain: 19, 20, 21.

Advanced applications in electrical engineering and computer science

This domain includes the production, research and development of electrical and electronic equipment and systems, their parts and components, as well as the development of security, automation, information and communication systems and equipment for the measurement, control and distribution of energy, and systems and equipment for alternative power generation, control and conservation, especially for alternative energy sources. This includes research, development and production of location and detection systems, radar and radio communication systems and technologies and their use in transport, automation of production control, inspection of production quality, monitoring, security and traffic control for all types of transport infrastructures.

The core CZ NACE for this domain: 26, 27, 62.

Sustainable transport, manufacture of transport equipment and components, transport infrastructure

This domain covers the area of sustainable transport, the manufacture, research, development and innovation of transport vehicles (especially road and rail) and their components, and transport infrastructure.

In this area, public-sector research capacity is concentrated mainly at the Jan Perner Transport Faculty of the University of Pardubice, whose key organisational units include in particular the Educational and Research Centre in Transport (R&D related to transport – transport vehicles, transport structures – in terms of construction, hydraulics, diagnostics and safety, electrical engineering, energy, materials research and testing, testing of the static and dynamic properties of real structures or their parts) and the Competence Centre of Railway Vehicles

(applied research and development of rail vehicle designs, the application of newly developed materials in terms of deformation and contact resistance, including transport engineering).

Another important area of cooperation is also sustainable transport, transport engineering, transport planning and organisation, transport technology, transport safety, transport management and logistics, transport informatics (timetabling, transport modelling) and telematics.

The core CZ NACE for this domain: 28, 29, 30, 22.

Advanced materials based on textile structures

This domain includes the manufacture, research and development of advanced and functional materials based on textile structures for new applications that support societal challenges and the use of clean production and renewable raw materials.

The core CZ NACE for this domain: 13, 14, 15.

Engineering and modern manufacturing technologies

This domain mainly includes the manufacturing, research and development of production equipment and single-purpose machines, robotics and the area of precision and special engineering.

The core CZ NACE for this domain: 25, 28.

Emerging areas and trends of specific importance to the region or the societal challenges addressed within the regional RIS3 strategy

Megatrends for the Pardubice Region: Increasing educational attainment, Global ageing, Increasing migration, Lifestyle diseases, global infections, Globalisation, Virtualisation of the world, Increasing availability of technologies + increasing speed of technological change, Digitalisation and robotisation, Increasing mobility, Increasing energy consumption, Urbanisation, Increasing inequality and Increasing power of individuals and interest groups.

Implementation of the regional RIS3 strategy

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

The Pardubice Region (www.pardubickykraj.cz)

The Regional Development Agency of the Pardubice Region (www.rrapk.cz), at which the RIS3 manager operates and which performs the role of the executive unit.

Implementation of the regional EDP process

Method of implementation of the RIS3 strategy

The implementation of the RIS3 of the Pardubice Region take place primarily through action plans that contain, among other things, supporting instruments and specific projects that contribute to fulfilling the objectives of RIS3. Starting in 2020, the Pardubice Region announces a call for new projects to be included in the action plan at least once a year. RIS3 developers actively assist all those interested in being included in the action plan with the preparation of the necessary documents for the call. This mainly includes clarifying the basic parameters of the projects.

As the next step, RIS3 developers assess all applications received and, once they have been discussed at the innovation platforms, submit them together with their comments to a meeting of the Regional Council for Innovation of the Pardubice Region (RCI PR). The RCI PR decides whether or not to include the applications in question in the action plan. Once included in the action plan, the RIS3 developers provide the selected projects with the necessary project support, which mainly consists in developing the projects into detailed project proposals.

The Regional Council for Innovation of the Pardubice Region (RCI PR)

Within the regional self-government, the Regional Innovation Council of the Pardubice Region is the coordinating, advisory and initiating body in the field of innovation, science and research. It is composed of representatives of public administration, the business sector, educational and research institutions and institutions supporting entrepreneurship and innovation from the Pardubice Region. It strategically manages the process of preparing and implementing the regional RIS3 strategy, discusses and approves the actual regional RIS3 strategy, determines the priority directions for implementing the regional RIS3 strategy based on recommendations from the various working groups (innovation platforms), discusses and approves action plans of the regional RIS3 strategy and their updates, assesses the progress of the implementation of the regional RIS3 strategy based on monitoring and evaluation results, and discusses and approves its updates. It serves as a forum for mutual communication and coordination of the activities of the different working groups (innovation platforms). The scope of its activity and the way it operates are governed by its Statute and Rules of Procedure.

Innovation platforms

These are loose working groups of the RCI mainly in the regional specialisation domains. Participants in the innovation platforms meet regularly at meetings organised on specific topics. The outputs from the meetings of regional innovation platforms serve e.g. as input in the process of updating the regional RIS3 strategy, and also as suggestions for the focus of regional interventions and tools to support the development of the self-governing region's innovation environment, etc. Currently, 4 innovation platforms have been set up:

1. Transport and mechanical engineering
2. Chemicals, plastics and textiles
3. Electrical engineering and IT
4. Smart region

Innovation and interventions are also supported by the Innovation Platform of the Pardubice Region, where innovation system actors from the public and private sectors (the Pardubice Region, Smart Accelerator, P-PINK, CzechInvest, API, MAS, University of Pardubice, representatives of major companies and others) meet at least every two months. This activity is aimed at a more efficient and meaningful implementation of interventions and activities for the development of the Pardubice Region.

An integral part of supporting the innovation environment in the Pardubice Region consists in expanding and deepening collaboration with the Hradec Králové Region and the Liberec Region. Examples of cooperation include joint industry-specific innovation platforms and other events.

At the working level, the EDP process is managed by the team of the Smart Accelerator of the Pardubice Region II project. The EDP can also be considered to include the results of the key surveys within the Mapping of the innovation environment of the Pardubice Region (INKA) in cooperation with TA CR.

Monitoring and evaluating the implementation of the strategy objectives

The process of implementing the RIS3 strategy

Monitoring of the RIS3 Strategy

The regional coordinator together with RIS3 developers and other members of the Smart Accelerator project team will submit a monitoring report on the implementation of the RIS3 strategy for discussion to the RCI PR and subsequently to the Pardubice Regional Assembly every year. The report comprises two parts:

- Report on the fulfilment of the context indicators of the RIS3 strategy describing the position of the Pardubice Region in the area of innovation, science and research. The indicators are as follows
 - GDP per capita – total
 - GDP per capita – PPS per capita
 - Share of the unemployed
 - Gross fixed capital formation
 - Net disposable income of households
 - Number of economic operators
 - Share of HEI students in the population
 - Number of ICT professionals
 - Internet coverage
- Report on the implementation of the indicators listed for the various specific objectives and specific measures of the RIS3 strategy.

On the basis of these reports, the authorities of the Pardubice Region may initiate an update to the RIS3 strategy.

10. The Pilsen Region

The Regional RIS3 strategy

Title and approval: **The Regional Innovation Strategy of the Pilsen Region** (May 2020)

Web link to the document: <https://www.inovujtevpk.cz/ris-3-strategie>

Key conclusions of the problem analysis of the regional RIS3 strategy

Key problems of the Pilsen Region:

- A lack of human capital for R&D&I in the self-governing region
- Underdeveloped cooperation between R&D&I partners in the self-governing region
- Inadequate infrastructure for R&D&I in the region
- Low intensity of utilisation of R&D&I capacity in the self-governing region
- A low share of businesses with product innovations in the self-governing region
- The Pilsen Region is not perceived as an innovative region with cutting-edge research

Strategic orientation of the regional RIS3 strategy

Horizontal key areas of change (KACs) and strategic objectives:

KAC 1: Human resources for R&D&I

- Strategic objective 1: Increasing the attractiveness of studies and stabilising the number of HEI students in the Pilsen Region

KAC 2: Environment for R&D&I

- Strategic objective 2: Improving the infrastructure and the cooperation between actors in research, development and innovation in the Pilsen Region

KAC 3: R&D capacities

- Strategic objective 3: Increasing the intensity of the utilisation of research and development capacities in the Pilsen Region

KAC 4: Innovation

- Strategic objective 4: Expanding the number of companies with high innovation potential in the Pilsen Region

KAC 5: R&D&I marketing

- Strategic objective 5: Strengthening the reputation of the Pilsen Region in the world of research, development and innovation

Measures for an industrial transition:

- **The existing infrastructure to support innovative entrepreneurship will be further expanded.** It is planned that 'brownfield' structures will be modernised in Pilsen. New office space, prototype workshops and testing facilities for innovative companies will be created. The project of the science and technology park in Pilsen will thus expand its current services to include services in the field of robotics, IoT, IT, and unmanned aerial vehicles.
- **The region's specialisation in new materials** is strengthened by the newly built COMTES FHT Science and Technology Park in the industrial zone in Dobřany near Pilsen. As an organisation for the research and

development of metallic materials and technologies for their production, COMTES FHT a.s. provides a significant synergistic effect for the participating entities.

- The following programmes are being piloted in order to strengthen the endogenous sector of innovative companies: **Incubation of companies and Acceleration of companies**.
- The cooperation between business entities from the Plzeň metropolitan area and research organisations from the Pilsen metropolitan area is supported by the already functioning programme entitled “Pilsen business vouchers”.
- The strengthening of infrastructure and services to support digitalisation (SMEs, midcaps, public administration) is planned through the activities of a Digital Innovation Hub (DIH).
- The creating of an organisational scheme and infrastructure to support innovative companies in relation to the smart mobility specialisation domain for mobility, autonomous mobility and drones (Mobility Innovation Hub)

International activities in the priority areas of the regional RIS3:

- The **Consulting Centre for International Cooperation in R&D&I** is an ongoing project that contributes to achieving specific objective 2.3: Improving support for R&D&I and specific objective 3.1: Improving the effectiveness of research organisations’ involvement in international teams.
- Support for the innovations and internationalisation of small and medium-sized companies is provided by BIC Plzeň within the **Enterprise Europe Network** project in the Czech Republic.
- The **Academic Career in Pilsen** project focuses on recruiting academic and research staff from abroad, including the return of staff after completing PhD studies or a long-term research stay abroad.
- A **twinning project** entitled Adopting a model to organise cooperation between entities within the process of supporting specialisation is being implemented. The methodology for supporting cross-border clusters in cooperation with a German partner from Regensburg will be used.
- The **Welcome Centre** of the University of West Bohemia in Pilsen is an upcoming project that aims to set up a full-service international cooperation office for the University of West Bohemia’s visiting staff and students in order to strengthen the development of internationalisation in the region.
- The **Support for vocational study programmes offered in foreign languages** project has been planned to expand and improve the range of available vocational subjects taught in a foreign language to meet the requirements of employers in the region. This will increase graduates’ competitiveness in the labour market and the interest of foreign students and staff in working at the University of West Bohemia.
- Since May 2020, the RIS3 of the Pilsen Region has been registered on the portal of the European “**S3 Platform**” (<https://s3platform.jrc.ec.europa.eu/en/region-page-test/-/regions/CZ032#general-information>) The S3 Platform is used as one of the resources for establishing international cooperation, it is a source of information.
- International cross-border cooperation is developed within the **Danube-Vltava European Region**. The following regions are involved: Upper Austria, Lower Austrian Mostviertel and Waldviertel, Lower Bavaria, Upper Palatinate, the Pilsen **Region**, the South Bohemian Region and the Vysočina Region.

Thematic priorities:

Specialisation domains of the Pilsen Region

New materials

- materials with advanced properties
- materials for additive technologies
- special steels

The domain’s links to CZ-NACE: 26, 27, 28, 29, 30.3, 30.3, 30.4.,30.9, 32.5

Intelligent manufacturing systems

- intelligent diagnostics and maintenance
- intelligent manufacturing control
- built-in intelligence
- big data, neural networks and machine learning
- AI-enabled models, management, trends, predictions
- sensors, sensor control technology

The domain's links to CZ-NACE: 26, 27, 28, 61, 62

Smart mobility

- new transport equipment concepts
- autonomous mobility
- charging systems for electromobility
- transport modelling and planning
- traffic monitoring and control
- shared transport

The domain's links to CZ-NACE: 26, 27, 29, 30.3, 30.4, 30.9, 61, 62

Biomedicine and equipment in health care

- oncology
- infectious diseases and antibiotic resistance
- multidisciplinary medicine
- reproductive medicine
- technologies for preventive medicine
- organ replacement
- medical diagnostics
- materials in health care

The domain's links to CZ-NACE: 32.5, 61, 62, 86

Implementation of the regional RIS3 strategy

The institution with the main executive responsibility for managing the implementation of the regional RIS3 strategy

The Pilsen Region (www.plzensky-kraj.cz/, <https://www.inovujtevpk.cz/>)

The Regional Development Agency of the Pilsen Region (www.rra-pk.cz). This is where the RIS3 manager is employed.

Implementation of the regional EDP process

The strategic function is performed by the Regional Council for Research, Development and Innovation of the Pilsen Region. At the working level, the EDP process is managed by the team of the Smart Accelerator of the Pilsen Region project. In addition, the entire process of identifying the specialisation domains of the Pilsen Region was also carried out based on the EDP. The various domains of regional specialisation are covered by four industry-specific innovation platforms:

- New materials
- Intelligent manufacturing systems
- Smart mobility
- Biomedicine and equipment in health care

The horizontal topics of Human resources for R&D&I and Organisation and cooperation in R&D&I are discussed in the Human resources horizontal platform. The topics of Infrastructure for R&D&I, Research and development capacities and Innovation are discussed in the Capacities for R&D&I horizontal platform. The topic of regional innovation marketing is addressed by the Marketing Working Group.

Monitoring and evaluating the implementation of the strategy objectives

The regional RIS3 strategy has a set of indicators in place, which is regularly monitored on an annual basis by the Regional Development Agency of the Pilsen Region. The evaluation focuses on the fulfilment of objectives and on monitoring R&D&I in the self-governing region. At the same time, the implementation of the action plan of the regional RIS3 strategy is being evaluated, especially in terms of the progress, financial security and fulfilment of project indicators of individual projects. The results of the monitoring are submitted to the Regional Council for Research, Development and Innovation.

11. The Capital City of Prague

Title and approval: **The Regional Innovation Strategy of the City of Prague** (updated in 2018 and another update is envisaged in 2021)

Web link: https://www.prazskyinovacniinstitut.cz/files/ris_hmp.pdf

Prague's other related strategic documents:

The Strategic Plan of the Capital City Prague, <https://www.iprpraha.cz/clanek/83/co-je-strategicky-plan>

The Concept of Smart Prague 2030, https://smartprague.eu/files/koncepce_smartprague.pdf

The Prague Climate Plan 2030, <https://klima.praha.eu/cs/klimaplan-v-kostce.html>

The Economic Diplomacy Action Plan 2018–2019,

<http://zastupitelstvo.praha.eu/ina/tedusndetail.aspx?par=134172231239234195185172249239234195182172246239234195182172243239234195182&id=508353>

Key conclusions of the problem analysis of the regional RIS3 strategy

Prague's RIS3 strategy identified the following weaknesses of Prague's innovation environment:

- Prague is a Central European centre of education, research and entrepreneurship, but
 - it neither perceives itself nor is perceived that way
 - it does not communicate that externally
 - it does not make adequate use of that for its development
- The city's innovation environment is fragmented
 - Without sufficiently effective communication platforms
 - With little multidisciplinary overlap
 - With only little spillover abroad
- The development of R&D&I is significantly limited by a lack of skilled workers
 - Lacking career guidance and a system for working with talent at lower-level schools
 - A rigid structure of degree programmes in higher education
 - Few incentives motivate HEI graduates to work in an innovative environment
 - Few incentives motivate skilled workers to come/return from abroad
- Prague may lose crucial European sources of R&D&I funding in the near future

Strategic orientation of the regional RIS3 strategy

Horizontal key areas of change:

- A: An environment that stimulates innovation and well-functioning partnerships
- B: Easier establishment and development of knowledge-intensive companies
- C: Increased intensity of work with local human resources for the needs of the knowledge economy
- D: Increasing the intensity of internationalisation in research and innovation

Strategic objectives:

- A.1: Increasing the intensity cooperation between the public, private and academic sectors
- A.2: Involving companies in innovative solutions for public administration
- A.3: Improving the quality of public administration processes in the field of research, development and innovation
- B.1: Facilitating the development of new innovative SMEs
- B.2: Improving the availability and quality of services for innovation and entrepreneurship
- B.3: Better-quality innovation infrastructure facilities for innovative start-up SMEs
- B.4: Supporting innovative companies in the form of indirect support (e.g. training, vouchers)

- C.1: Facilitating the development of gifted pupils as early as the lower levels of education
- C.2: Making it easier for talented PhD students and young scientists to gain experience
- C.3: Increasing the entrepreneurship of tertiary education graduates
- D.1: Present Prague's potential in the field of research, development and innovation abroad
- D.2: Facilitating the arrival and work of skilled workers and employers from abroad in Prague
- D.3: Increasing the frequency of cross-border mobility of skilled labour to strengthen research teams

Measures for an industrial transition:

- Developing the Prague Innovation Institute (Pii) as an umbrella organisation for supporting the innovation environment in Prague
- Coordinating the development of Prague's innovation ecosystem in the areas of space activities, cultural and creative businesses, biotechnologies and AI
- Comprehensive infrastructure to support innovation – hubs, accelerators and other KIBS support
- A business and innovation centre, an institute to support SMEs' transition
- Large-scale response to the digitalisation challenge:
 - a dedicated DigiHub (EDiH)
 - supporting digitalisation in education – remote learning, virtual teaching materials, digitalisation of administrative and management processes in education
 - an initiative to digitalise public administration based on the activation of all types of innovative actors according to the quadruple helix principle
 - initiation of the prg.ai platform for communication within the field of artificial intelligence
- Large-scale measures responding to climate change driving demand for innovation

International activities in the priority areas of the regional RIS3

- international networking within:
 - EBN
 - EEN
 - Eurocities
- Pii's involvement in the preparation of projects under Horizon Europe calls
- international activities of the ESA BIC incubator and others
- twinning in the development of talented children
- twinning in career guidance

Thematic priorities – specialisation domains of the self-governing region

- A. Selected disciplines of life sciences
- industrial and environmental biotechnologies
 - biomedical technologies
 - disease diagnostics and virology
 - biologically active materials, biopolymers, biocompatible materials
 - pharmaceutical industry
 - chemical processes and substances used in medicine
- B. Selected creative industries
- digital media and visualisation
 - art and industrial design
 - gaming
 - film industry
- C. Emerging technologies
- aerospace industry
 - artificial intelligence
 - robotics
 - the energy sector and low-carbon technologies
 - biomedicine
 - nanotechnologies

- D. Knowledge intensive business services (KIBS)
 - information services (marketing analyses, regulatory reviews, searches for technological trends and industries)
 - specialised IT services (data mining, visualisations, services using satellite systems)
 - specialised business consulting (support for strategic management, searching for and testing opportunities, evaluating idea, trendwatching, etc.)
 - technological services
 - highly specialised education, professional training, mentoring, coaching for implementations, headhunting

In the next RIS update, Prague is considering adding the following specialisation domains:

- Developing the environment for innovation incubators, accelerators, etc. and greater involvement of venture capital
- Urban innovation as a response to climate change, the Covid crisis and other societal challenges
- Transformation of primary and secondary education as a basic prerequisite for the future development of Prague's innovation ecosystem

Implementation of the regional RIS3 strategy

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

The City of Prague and the Prague City Hall – political decision-making

Prague Innovation Institute within the Prague Smart Accelerator project:

– RIS3 management and development, mapping of the innovation ecosystem, supporting the Prague Innovation Council, supporting the coordination of the innovation environment

Implementation of the regional EDP process

- Prague Innovation Council (PIC)
- Prague innovation platforms revised pursuant to the PIR resolution of 25 May 2021 (to be established in 3/4Q 2021):
 - Strategic/Visionary Innovation Platform
 - for the use of artificial intelligence
 - for the development of biotechnologies
 - for SPACE technologies
 - for the development of cultural and creative industries
 - for business support
 - education for innovation
 - for promotion and internationalisation of the Innovation Platform
 - for urban innovation
- Smart Prague Working Groups
- Council of Economic and Social Agreement of the City of Prague

Monitoring and evaluating the implementation of the strategy objectives

The monitoring and evaluation is carried out by the Prague Innovation Institute in cooperation with other city organisations as part of implementing the Prague Smart Accelerator project. The evaluation focuses on the fulfilment of objectives and on monitoring R&D&I in the self-governing region. At the same time, the implementation of the action plan of the regional RIS3 strategy is being evaluated in terms of the progress, financial security and fulfilment of project indicators of individual projects. The results of the monitoring are submitted to the Prague Innovation Council and the Prague City Hall.

12. The Central Bohemian Region

The Regional RIS3 strategy

Title and approval: The RIS3 Strategy of the Central Bohemian Region (approved in June 2020)

Web link to the document: <https://s-ic.cz/cs/region/ris3-strategie/>

Other related regional strategic documents:

The Central Bohemian Regional Development Strategy for 2019–2024 with an Outlook to 2030 (approved on 25 November 2019)

Web link to the document: <https://www.kr-stredocesky.cz/documents/20541/17031810/SRK+2019+-+2024/d59a9153-ec0c-47ce-a8a8-d3cb03f7097c>

Action Plans of the RIS3 Strategy of the Central Bohemian Region

Web link to the document: <https://s-ic.cz/cs/region/ris3-strategie>

Key conclusions of the problem analysis of the regional RIS3 strategy

The main barriers to the diffusion of innovations:

- Insufficient diversification of private R&D in the self-governing region.
- Relatively weak links between the research and business sectors.
- A general lack of quality human resources for business, R&D and innovation activities.
- A low level of business activity.
- High dependence on the activities of foreign companies.
- The institutional background for supporting innovation in the self-governing region is still inadequate.
- Insufficient links between the innovation environment of Central Bohemia and Prague.

Strategic orientation of the regional RIS3 strategy

Horizontal key areas of change (KACs) and strategic objectives:

KAC A: People for innovation

- Strategic objective A.1.: Improving the ability of the education system to generate talented, creative and enterprising people for the labour market of the future
- Strategic objective A.2. Bringing qualified and talented people from the Czech Republic's other self-governing regions and from abroad to the Central Bohemian Region
- Strategic objective A.3. Improving the competencies of teaching staff at all levels of education

KOC B: Competitive and innovative companies

- Strategic objective B.1: Increasing the intensity of the establishment of new companies with the potential for rapid growth
- Strategic objective D.2: Increasing the export performance of SMEs
- Strategic objective B.3: Improving innovation processes and strategic management in SMEs
- Strategic objective B.4: Strengthening the R&D capacities of all types of companies and their cooperation with research organisations

KAC C: High-quality public research and its contribution to the development of the self-governing region

- Strategic objective C.1: Strengthening the quality and International openness of public research
- Strategic objective C.2: Increasing research organisations' contribution to the regional economy

Measures for an industrial transition:

- Programme to improve strategic management, accelerated growth and innovation in SMEs
- Facilitating process and product upgrading
- Providing quality managerial education in the field of strategic management, innovation management, etc.
- The region, through the SIC, joined the Brain4Industry consortium (EDIH)
- Cooperation with the National Centre for Industry 4.0, Regional Innovation Platform for Digitalisation

International activities in the priority areas of the regional RIS3:

- The region is registered in the Commission's S3 Platform; the RIS3 implementation team is implementing the Color Circle project under the Interreg Europe programme (it has already successfully implemented two Interreg projects in the past); it is currently implementing two twinning projects (SPINLab Accelerator, Leipzig, Germany; Lulea University, Sweden), previously Austria (EcoPlus), Israel (TelAviv) and Mexico (University of Guadalajara); membership in the Central European Public Procurement of Innovation Network; KetGate Points; Wetzlar Network
- Promoting the region abroad, supporting the arrival of foreign skilled workforce to the region (Welcome Office)
- Participating in major international events that bring together companies, researchers, policy makers and other actors in the international innovation environment, e.g. Innovation Growth Lab, CyberWeek, European Week of Regions and Cities
- The self-governing region is home to CzechBio – association of Czech biotech companies, z. s. p. o., a cluster that pursues international activities (international projects, partnerships, matchmaking, etc.)

Thematic priorities:

Specialisation domains of the self-governing region (vertical specialisations) with the most important product areas

Manufacture of transport equipment (CZ-NACE 29, 30)

- Motor vehicles and engines (29.1)
- Modules and parts for motor vehicles (29.2 and 29.3)

Electrical engineering and electronics (CZ-NACE 26, 27)

- Batteries, cables, wires (27.2, 27.3)
- Electric motors, generators (27.1)

Biotechnology/Life-sciences (CZ-NACE 21, 32.5)

- Pharmaceutical products (21.1, 21.2)
- Medical devices (32.5)

The chemical industry (CZ-NACE 20)

- Chemicals in primary forms (20.1)

Mechanical engineering and metalworking (CZ-NACE 28, 25)

- Construction and mining machinery (28.92)
- Cooling/air-conditioning equipment (28.25)

The food industry (CZ-NACE 10, 11)

- Meat industry (10.1)
- Bakery and mill products (10.6, 10.7)
- Industrial feeds (10.9)

Research and development (CZ-NACE 72)

- Laser technologies and photonics, biotechnologies and biomedicine, materials engineering/materials research, nuclear energy, space research and space technologies, energy efficient construction and reducing the negative environmental impacts of human activities

Emerging areas and trends of specific importance to the region or the societal challenges addressed within the regional RIS3 strategy

- Adaptation to the changing nature of industrial production (automation and robotisation).
- Sufficient capacity of electronic communication as the main tool to enable the above adaptation.
- Creating environmentally friendly conditions for the quality of people's lives, applying the principles of a circular economy.
- Ensuring safety and security (cyber, transport, physical, food, etc.)

Implementation of the regional RIS3 strategy

The institution with the main executive responsibility for managing the implementation of the regional RIS3 strategy, website

The Central Bohemian Region (www.kr-stredocesky.cz)

The Central Bohemian Innovation Centre, an association. (www.s-ic.cz); This is where the regional RIS3 manager is based.

Implementation of the regional EDP process

The strategic function is performed by the Competitiveness Council of the Central Bohemian Region.

Innovation platforms:

- Municipalities
- Digitalisation
- A circular economy
- Research organisations

The domains are defined in a cross-cutting manner so that they can work with all regional specialisation domains and address them in a polythematic and interdisciplinary manner. There is also an informal group of PR and marketing staff from ROs and HEIs operating in the region. The EDP function also performs mapping activities including fieldwork and conducting interviews with target groups and holding mandatory face-to-face meetings with applicants for subsidy support from regional programmes (INO:EX, SIC Platinn), which helps to obtain information from the business sector.

Monitoring and evaluating the implementation of the strategy objectives

Under the conditions existing within the RIS3 Strategy of the Central Bohemian Region, this includes monitoring reports of action plans, evaluations of the implementation of the RIS3 strategy based e.g. on an indicator system.

The monitoring reports of action plans contain information on the actual implementation of the interventions and projects planned. These reports are produced at annual intervals in parallel with the preparation of the new action plan.

The evaluation of the RIS3 strategy will be carried out during 2022 as part of the project entitled Smart Accelerator II in the Central Bohemian Region, so that an update to the strategy can be prepared in 2023 for the second half of the 2021–2027 EU programming period. In the proposal section of the strategy, monitoring indicators have been prepared for each key area of change.

13. The Ústí nad Labem Region

The Regional RIS3 strategy

Title and approval: **The Regional Innovation Strategy of the Ústí nad Labem Region** (approved in September 2020)

Web link to the document: https://www.kr-ustecky.cz/assets/File.ashx?id_org=450018&id_dokumenty=1749678

Other related regional strategic documents, including web links to the documents:

The Development Programme of the Ústí nad Labem Region

<http://www.kr-ustecky.cz/program-rozvoje-usteckeho-kraje-2014-2020/ds-99668>

The Development Strategy of the Ústí Region until 2027

<https://www.kr-ustecky.cz/strategie-rozvoje-usteckeho-kraje-do-roku-2027/ds-100053/archiv=0&p1=206906>

The Business and Industry Development Strategy

https://rskuk.cz/files/Strategicke-a-rozvojove-dokumenty-UK/AC_I-Strategie-rozvoje-podnikani-a-prumyslu-UK_strategie.pdf

The Human Resource Development Strategy of the Ústí nad Labem Region

<https://www.kr-ustecky.cz/strategie-rozvoje-lidskych-zdroju-usteckeho-kraje/d-1651650/p1=206906>

Key conclusions of the problem analysis of the regional RIS3 strategy

The problem areas identified, including the main barriers to innovation diffusion and digitalisation:

- A low number of companies with in-house research and development
- Low share/number of employees working in R&D
- Regulation of innovation relies primarily on rigid structures
- Low degree of openness of the innovation ecosystem, involvement in national and international structures
- Persistent focus on traditional industries (coal, energy and heavy chemicals) which are facing a major structural change
- Overall, the region's innovation performance is evaluated as low
- A lack of major shared infrastructures linking businesses and research, including a larger science and technology park
- A digital Innovation hub as a tool to spread digitalisation is still lacking
- Negative image of the region

Strategic orientation of the regional RIS3 strategy

Horizontal key areas of change and strategic objectives:

A. People for innovation, research and development

A.1 Working with talent

A.2 Education linked to practice

A.3 Talent acquisition

B. Innovative and competitive companies

B.1 Support for start-ups

B.2 Services for the growth and development of SMEs

B.3 Modern technologies for innovative SMEs

B.4 Links between companies and research organisations

B.5 Support for cooperation between companies

C. Quality research and its applications

C.1 Capacities and competencies of research organisations

C.2 Support for project preparation

C.3 Commercialisation of research organisations' results

D. Innovation in the public sector

D.1 Smart cities / smart region / smart public services

D.2 Region-specific areas for innovation

E. Support for the innovation ecosystem

E.1 Data on the innovation ecosystem

E.2 Development of national and international cooperation

E.3 Marketing of the innovation ecosystem

Measures for an industrial transition:

Within the Re:start programme, the following pillars and objectives have been defined, which are linked to the RIS3 of the Ústí nad Labem Region:

Pillar A: Business and innovation

A.1 Growth of businesses and their entry into new markets, greater resilience to market changes

A.2 Establishment of new companies and their higher success rate

A.3 Better innovation performance, greater number of innovative companies

A.4: Stabilising and developing existing large companies

Pillar C: Research and Development

C.1 More open and relevant R&D

C.2 Better performing and more attractive R&D

Pillar D: Human resources

D.1: More and better job opportunities (“high-skills” for both the private and public sector)

D.2: More residents better prepared for work (medium-skills for employment)

D.3: More residents better motivated to work (low-skills for leaving the welfare world)

D.4: More residents are better prepared and more motivated to do business (entrepreneurial skills)

At the level of the 3rd RE:START Action Plan or at the level of the update to the 4th Action Plan that is currently being prepared, the Ústí nad Labem Region has proposed strategic projects that are perceived by the region as essential to its transition – these projects include e.g. the “Alternative energy sources” project (and the entire thematic area), in which the self-governing region de-facto commits itself to developing significant projects in the field of energy sector transition.

The establishment of the regional Digital Innovation Hub has been initiated. It is being formed by linking partners (HEIs etc.) through the Innovation Centre of the Ústí nad Labem Region (ICUK), which is responsible for the development of the regional digital and innovation ecosystem. The preparation of the plan is supported by the ECOS4IN international project under Interreg Central Europe.

International activities in the priority areas of the regional RIS3 (key areas of change and thematic priorities):

The Ústí nad Labem Region is already a member of the S3 platform for the chemical industry. Following the changes to the organisational structure of S3 specialisation management, we expect that an application will be submitted for the entire S3 platform and we are also considering participating in these specialisation platforms: Efficient and sustainable manufacturing, Chemicals, Safe and sustainable mobility, NanoEnabled Products.

There is Twinning in place with TU Dresden and HTW Dresden. A cross-border mobility cluster is being prepared with selected partners from the Free State of Saxony.

The Innovation Centre of the Ústí nad Labem Region also participated in the European EBN network. In addition, an agreement was signed between the self-governing region and the Technology Centre of the Czech Academy of Sciences regarding cooperation within the European Enterprise Network.

Recently, the self-governing region has become increasingly involved in projects that are focused on developing business, and in particular on developing innovation ecosystems – these projects are as follows:

- SIE (leader: Kent County UK) focused on the internationalisation of SMEs
- PURE COSMOS (leader: City of Genoa IT) – digitalisation of business support systems
- ECOS4IN (leader: Ústí nad Labem Region) focused on developing an ecosystem for Industry 4.0

Thematic priorities:

Traditional areas:

The energy sector; resources, supplier and downstream industries; reclamation (Links to CZ-NACE: 05.2; 35.1; 35.2, 35.3;)

The main focus is on new challenges in alternative energy, new sources and uses, as well as site remediation, decontamination, the use of areas and structures after heavy industry, and the use of other minerals such as polymetallic ores.

Organic and inorganic chemistry (Links to CZ-NACE: 20.1; 20.2; 20.6)

The main focus is on specialty and green chemistry, hydrogen use, a circular economy, nanotechnology applications, water use.

The manufacture of glass and porcelain (Links to CZ-NACE: 23.1; 23.4)

The main focus is on nanosurfaces and sensors, and the creative use of glass and new materials.

Engineering, mechatronics and automotive (Link to CZ NACE 25 to 30)

The main focus is on industrial automation and robotisation, additive technologies.

Emerging areas and trends of specific importance to the region or the societal challenges addressed within the regional RIS3 strategy

Mobility (Links to CZ-NACE: 49.1, 49.2;49.3, 49.4; 72.1; 62.0; 61.2)

The main focus is on the use of alternative fuels, new materials, autonomous driving and its testing.

Digitalisation including Smart Cities and Industry 4.0 technologies (Links to CZ-NACE: 35.1; 35.2; 35.3; 62.0)

The main focus is on cybersecurity, open data, big data.

Cultural and creative industries

The main focus is on design and applied arts.

Implementation of the regional RIS3 strategy

The institution with the main executive responsibility for managing the implementation of the regional RIS3 strategy

The Ústí nad Labem Region (RIS3-manager, RIS3-coordinator) – www.kr-ustecky.cz

The Innovation Centre of the Ústí nad Labem Region, z. s. – www.icuk.cz

Implementation of the regional EDP process

EDP groups operate under the umbrella of the Regional Council for Competitiveness of the Ústí nad Labem Region. For several years now, there has been an active expert working group (platform) for the chemical industry and a new Hydrogen Platform for the Ústí nad Labem Region has been formed. A nanotechnology expert group was launched in early 2020 and a working group on Smart City and Open Data has been set up (PORTABO – Digital Platform of the Ústí nad Labem Region). Working groups are being prepared for other domains.

Monitoring and evaluating the implementation of the strategy objectives

- Monitoring of the implementation of the RIS3 Regional Annex – fulfilment of indicators. Part of the Action Plan (once a year)
- Reports evaluating the effects of interventions and proposing new interventions (at least twice every 3 years).
- Analytical evaluations of programmes from the piloting (at least twice every 3 years).
- Analyses of impacts of the implementation of the RIS3 strategy (at least twice a year).
- Analyses of the situation of R&D in the business environment (at least once a year).

14. The Vysočina Region

The Regional RIS3 strategy

Title and approval: **The RIS3 Strategy of the Vysočina Region** (updated in June 2020)

Web link to the document: <https://www.kr-vysocina.cz/regionalni-rozvoj/ds-302501/p1=61524>

Other related regional strategic documents:

The Development Strategy of the Vysočina Region 2021–2027

Web link to the document: <https://www.kr-vysocina.cz/strategie-rozvoje-kraje-vysocina/ds-300352/archiv=0&p1=61524>

The Territorial Employment Pact of the Vysočina Region

Web link: <http://www.khkvysocina.cz/3-projekty/2-teritorialni-pakt-zamestnanosti-kraje-vysocina.html>

Key conclusions of the problem analysis of the regional RIS3 strategy

Key problems of the Vysočina Region:

- Underdeveloped human potential for developing R&D activities (underdeveloped higher education network, a lack of skilled R&D personnel)
- Weak scientific and research base
- Low innovation performance in the business sector within the Czech Republic
- A low interest of companies in R&D activities – with few exceptions, these activities in knowledge-intensive sectors are implemented sporadically and haphazardly (in most cases these are only innovations of existing products responding to customers' needs), as well as low interest of companies in expanding their R&D activities and increasing the number of employees in R&D
- Low interest in cooperation with HEIs and research institutes (fear of administrative complexity, the problem of intellectual property protection, etc.), greater willingness to cooperate with companies

Strategic orientation of the regional RIS3 strategy

Horizontal key areas of change (KACs) and strategic objectives:

KAC A: Development of an entrepreneurial environment and innovation in businesses

- Strategic objective A.1.: Developing an entrepreneurial environment
- Strategic objective A.2. Increasing the intensity of innovation activities in companies

KOZ B: An available and skilled workforce for production and innovations in the Vysočina Region

- Strategic objective B.1: Improving the competencies of graduates at secondary schools and HEIs, especially those focused on technical and natural sciences
- Strategic objective D.2: Strengthening interest in technical fields and popularising them

KAC C: ICT infrastructure

- Strategic objective C.1: Covering grey and black spots with high-speed ICT infrastructure

Measures for an industrial transition:

- Consulting services for the introduction of new technological trends into production and operation
- Developing an environment for cutting-edge research (infrastructure, equipment and material)
- Making research institutions' instrumentation available to external users

- Developing activities in the field of digitalisation and Industry 4.0 (e.g. preparing and implementing cross-border cooperation projects – cross-border knowledge transfer in the field of Industry 4.0 and DigiVill, improving skills in the field of Industry 4.0 and related trends in companies and at secondary schools and HEIs, etc.)
- Measures to promote cybersecurity and the development of artificial intelligence (e.g. the Cybersecurity Platform, technical forums, specialised courses and knowledge pathways, etc.)

International activities in the priority areas of the regional RIS3:

- Implementation of international projects under various subsidy programmes (Horizon 2020, Interreg V-A Austria – Czech Republic, Interreg Central Europe)
- Cooperation within the Danube-Vltava European Region (medium-term development topic of “ERDV – Space for Society 4.0” with the subtopics: Industry 4.0, DigiHealth and Tourism)
- Membership in the S3 platform (with a view to joining the “Industrial Modernisation”, “Agri-Food” thematic platforms for international cooperation)
- Activities of the College of Polytechnics in Jihlava, the Telč Centre and other regional partners
- International activities of clusters operating in the Vysočina Region (e.g. the CGMC co-operative operating the Jihlava Technology Park is a member of the EBN international European network, bringing together business and innovation centres and other organisations that support the development and growth of innovative businesses. For example, the Cluster of Czech Furniture Makers, Lukavec branch, is also involved in international cooperation.)

Thematic priorities:

Specialisation domains of the Vysočina Region

Mechanical engineering and the metalworking industry

- This is the region’s key sector with a large number of companies and a wide portfolio of products
- The main industries within this specialisation are the manufacture of machinery and equipment (NACE 28) and the manufacture of fabricated metal products, except machinery and equipment (NACE 25)

The automotive industry

- It includes the region’s second key sector, whose dynamic development is linked to foreign investment and has mainly been observed in the past 20 years
- The manufacture of motor vehicles (except for motorcycles), trailers and semi-trailers (NACE 29) and the manufacture of other transport equipment (NACE 30)

Energy sectors

- These are products and services oriented towards activities that are related to the production and use of electricity, most often in mechanical engineering and metalworking industries (NACE 24, 25 and 28) and electrical engineering and IT industries (NACE 26, 27, 62 and 63)

ICT, electrical engineering and industrial automation

- The development and production of switchboards, system solutions and services for data centres, fibre optic components, wireless communication equipment and other software, industrial automation (NACE 26, 27, 62 and 63)

Emerging areas and trends of specific importance to the region or the societal challenges addressed within the regional RIS3 strategy

Digitalisation and issues relating to Industry 4.0

Implementation of the regional RIS3 strategy

The institution with the main executive responsibility for managing the implementation of the regional RIS3 strategy, website

The Vysočina Region (www.kr-vysocina.cz)

The agenda that is associated with implementing the Regional Innovation Strategy of the Vysočina Region and the Regional Annex to the National RIS3 Strategy is the responsibility of the Department of Regional Development of the Vysočina Region.

Implementation of the regional EDP process

The umbrella advisory body for the area of RDI in the Vysočina Region is the Innovation Council of the Vysočina Region, which brings together key regional partners in the development of RDI on the basis of the Cooperation Agreement between the Vysočina Region, the Institute of Theoretical and Applied Mechanics of the Czech Academy of Sciences, the College of Polytechnics Jihlava, the Regional Chamber of Commerce of the Vysočina Region and representatives of innovative business entities.

The key task of the Region is the Innovation Council of the Vysočina Region is to coordinate support for RDI in the region, determine the main directions of development and decide on new projects and tools to meet the objectives of the RIS and the Regional Annex to the RIS3.

Given the relatively low number of companies in each specialisation domain, establishing thematic innovation platforms according to the specialisation domains is not realistic in the Vysočina Region. The following can be considered as a way of communication similar to that which normally takes place at meetings of innovation platforms:

- Passing on information from the regional level to the business and academic level and back (e.g. presentations of subsidy opportunities, latest information from the national and European levels, latest information from the Commission's S3 platforms of which the self-governing region is a member, information on projects/activities that are being implemented or prepared, etc.)
- Professional seminars and conferences organised by the self-governing region or partners from the territory
- Meetings between local government and the business sector (breakfast with the Regional President)
- Cooperation within already existing platforms whose members include the educational, business, research and public sectors (e.g. the Council of Economic and Social Agreement of the Vysočina Region, the Territorial Employment Pact, working groups at the Regional Standing Conference, the Public Forum of the Vysočina Region, etc.).

Monitoring and evaluating the implementation of the strategy objectives

For each key area of change, indicators have been prepared that make it possible to evaluate the development of that area. Most of the indicators set are monitored regularly. For the purpose of monitoring, the RIS3 team has developed a methodology for collecting data on individual indicators, which specifies the specific data source and frequency.

The fulfilment of the objectives of the RIS and the Regional Annex to the RIS3 is evaluated by the Innovation Council of the Vysočina Region.

15. The Zlín Region

The Regional RIS3 strategy

Title and approval: **Regional Annex to the National RIS3 Strategy for the Zlín Region (Regional Innovation Strategy)** (updated in June 2020)

Web link to the document: [Regional Innovation Strategy of the Zlín Region | Zlín Region \(kr-zlinsky.cz\)](#)

Other related regional strategic documents:

The Development Strategy of the Zlín Region 2030

Web link to the document: <https://www.kr-zlinsky.cz/strategie-rozvoje-zlinskeho-kraje-2030-cl-4623.html>

A Smart Region – Strategy for the Development of the Smart Zlín Region 2030

Web link to the document: [Smart Region – Strategy for the Development of the Smart Zlín Region 2030 | Zlín Region \(kr-zlinsky.cz\)](#)

Long-term Objectives for Education and the Development of the Education System in the Zlín Region

Web link to the document: <https://www.kr-zlinsky.cz/zakladni-koncepcni-dokumenty-cl-47.html>

Action Plans of the RIS of the Zlín Region

Web link to the document: <https://www.kr-zlinsky.cz/strategie-rozvoje-zlinskeho-kraje-1957-cl-4623.html>

Key conclusions of the problem analysis of the regional RIS3 strategy

Key problems of the Zlín Region:

- Loss of the working-age population
- A lack of highly skilled people for R&D&I and the creative base of the region
- Low innovation performance of the region
- A low number of emerging companies with scalable product

Strategic orientation of the regional RIS3 strategy

Horizontal key areas of change (KACs) and strategic objectives:

KAC A: Improved availability of HR, in terms of quantity and quality, for innovative enterprise, research and development

- Strategic objective A.1.: Securing sufficient number and quality of skilled workers for the needs of employers in the region or for the implementation of new business plans

KOZ B: Improving the region's innovation performance

- Strategic objective B.1: Increasing the number of innovations in companies

KAC C: Increasing the number of start-up and technology-oriented companies in the Zlín Region

- Strategic objective C.1: Increasing the number of people starting their own business

Measures for an industrial transition:

- Activities in the field of eDIH development – the Zlín DIH with a focus on artificial intelligence and cybersecurity. Within applications into industrial, transport and logistics, corporate services and cultural and creative industries.
- Implementation of the strategy objectives of the “Smart Region – Strategy for the Development of the Smart Zlín Region 2030”
- Activities for the transformation of the Zlín Region in the field of ICT.

International activities in the priority areas of the regional RIS3:

The Zlín Region is addressing internationalisation at several levels:

- The twinning activity is not part of Smart Accelerator II, within SAll foreign activities are replaced with the implementation of 3 foreign trips and subsequent invitation of foreign partners to the region to share experience, establish contacts and cooperate with partners in the areas addressed within the RIS of the Zlín Region.
- Involvement in international projects and activities – described in more detail under key area of change B: Improving the region’s innovation performance, where one of the specific objectives in this area is to strengthen the internationalisation and international promotion of R&D&I activities in the region by increasing the number of international projects that are being prepared in R&D&I or by supporting the use of support tools for the internationalisation and promotion of R&D&I in the region by companies, clusters and other entities.
- Cluster organisations participate in international networks through which they implement projects and establish contacts. The Plastics and Moravian Aviation Clusters repeatedly implement projects and activities that are aimed directly at internationalisation (e.g. through the OP EIC programme), and the Zlín Creative Cluster is a member of the international Creative Ring network.
- The Zlín Region’s registration and participation in the S3 platform (Smart Specialisation Platform³). There is currently no project being prepared.

Thematic priorities:

Specialisation domains of the Zlín Region

Progressive product, technology and process design

This involves creating products, developing technologies and processes that are based on the basic principles of design (emphasis on function, aesthetic dimension, economic dimension, presence of emotions, uniqueness and originality). Its primary driver is creativity, a holistic approach to meeting the customer’s needs and, ultimately, the resulting user experience. In this broader sense, we find design approaches mainly at the following levels:

- Product, service, technology and process design that cuts across sectors and that is also largely applied in the self-governing region’s other specialisation domains
- An innovative approach to marketing that emphasises design approaches in the broader sense mentioned above
- The design of the different levels of an audiovisual work
- The design of processes and services in the public sector (with links to current “smart” urban concepts)
- The design of products and services that respect the principles of sustainable development, do not burden the environment and are moving towards a circular economy

Links to CZ-NACE (mainly): 13; 14; 152; 231; 58; 582; 591; 60; 702; 711; 73; 741; 742; 90

³ <https://s3platform.jrc.ec.europa.eu/regions/CZ072/tags/CZ072>

Polymers in a circular economy

This is the application of polymers in sectors that will be characterised mainly by one of the following:

- New polymer systems with value added (e.g. (nano)composites, biopolymers and advanced materials)
- Advanced polymer materials for hi-tech applications (e.g. power generation and storage, medical devices, sensors, electronics, smart material systems, etc.)
- Functional additivation of active substances, fillers and other additives with specific properties (e.g. sensory, antibacterial, electrostatic, etc.) to polymer systems
- New polymer-based materials (including nano- and biotechnologies, bundled materials, composites)
- Additivation of active substances with specific effects (such as sensory, microbial, nanoparticles, etc.)
- Surface treatments and coatings
- Innovating and reducing the energy intensity of manufacturing processes and products
- innovating and reducing the energy intensity of products and the applications during their use, operation, recycling or disposal
- The use of local material resources
- User safety, i.e. the functionality of materials and products, health safety and wholesomeness
- Eco-innovation – reducing the environmental impacts of materials and products with an emphasis on the circular economy concept (e.g. new recycling technologies, the use of recycled materials, the use of renewable resources and biodegradable materials, innovations in environmental technologies)

Links to CZ-NACE (mainly): 22; 272; 3832; 20

Innovation in ~~design~~ construction activities

Construction activities and related processes in selected sectors (emphasis on aerospace and mechanical engineering) that are characterised in particular by any of the following:

- New and significantly innovative technologies, processes and construction solutions, integral design
- Machine and equipment construction and repairs
- New materials and surface treatments that improve the properties of construction or products
- The use of new and innovative raw materials and process innovation in their processing
- Innovating and reducing the energy intensity of manufacturing processes
- Improving product safety and reliability
- Products with better energy performance and lower environmental impacts
- Efficient and safe manufacturing practices and processes, including e.g. innovations in the area of management and control, industrial engineering, logistics and trends characteristic of Industry 4.0

Links to CZ-NACE (mainly): 23; 24; 25; 28; 29; 30; 33; 41; 42; 951

Information, control and safety systems

This involves the application of the following approaches and techniques:

- Mechatronic and robotic systems
- Measuring systems and technical means for automating manufacturing processes
- Computer equipment for the implementation of control systems at all levels (microcomputers, PLC, industrial computers) and communication between them
- Systemic analysis of production technologies with regard to their intelligent and complex control
- Software security of the functionalities of the entire system in real time
- Information and computer security, codes and cryptology
- Artificial intelligence and machine learning, soft computing, big data processing and knowledge extraction from data
- Web and mobile technologies

- Database systems and data warehouses
- Computer modelling and simulation, augmented and virtual reality in industrial applications
- Software engineering
- Optimisation and operational research

Links to CZ-NACE (mainly): 27; 26; 61; 62; 63; 582; 711; 631

Emerging areas and trends of specific importance to the region or the societal challenges addressed within the regional RIS3 strategy

In the regional RIS3, selected megatrends are listed in a cross-cutting manner under the specialisation domains and the key areas of change. These include the circular economy, principles of sustainable development, progressive design of products, technologies and processes, and smart region principles.

Implementation of the regional RIS3 strategy

The institution with the main executive responsibility for managing the implementation of the regional RIS3 strategy

The Zlín Region (<https://www.kr-zlinsky.cz/>)

The Technology Innovation Centre in Zlín (<http://www.inkubatorzlin.cz/>). This is where the RIS3 manager is employed.

Implementation of the regional EDP process

The strategic function is performed by the Management Committee of the Regional Innovation Strategy of the Zlín Region (acting as the Regional Councils for Innovation). It is comprised of 20 representatives – 8 representatives of the Zlín Region and its organisations, 6 representatives of the public sector and supporting business organisations, and 6 representatives of companies.

At the working level, the EDP process is managed by the team of the Smart Accelerator of the Zlín Region II project. This team organises innovation platforms, roundtables, workshops, individual meetings with partners, etc. There is close cooperation on activities within the platforms in the region – Employment Pact, KAP, RSK. The self-governing region's innovation platforms are mostly aligned with the specialisation domains and also with cluster organisations. The area of Polymers in a circular economy is supported by the specialisation domain of the same name, an innovation platform and the activities of the Plastics Cluster. The domain of Innovation in design activities is supported by an innovation platform focusing on aviation and by the activities of the Moravian Aviation Cluster. The domain of Progressive product, technology and process design is supported by an innovation platform in the field of creative industries and by the activities of the Zlín Creative Cluster. IT is the only area where there is no cluster or industry association in the self-governing region, which is why IT support is implemented through an innovation platform, related to the specialisation domain of Information, Control and Security Systems and the VR and AR platform.

Monitoring and evaluating the implementation of the strategy objectives

The Regional Innovation Strategy of the Zlín Region has a set of indicators in place that is regularly monitored on an annual basis. Action Plans are created for two-year periods – they are evaluated annually for the past year and updated for the following year. The results of the evaluation of the implementation of Action Plans and monitoring indicators are submitted to the Management Committee of the Regional Innovation Strategy of the Zlín Region (Regional Council for Innovation), which assesses them in the context of the strategy's set of objectives and, based on the conclusions reached, decides to update/create Action Plans. If it is found that the actual trends and

developments in the region's innovation ecosystem deviate significantly and in an undesirable manner from the strategy's objectives, the Management Committee may initiate an update to the strategy.