

**Regional Innovation Strategy
of the Moravian-Silesian Region
2021–2027**

(Annex to „Regional Development Strategy 2019–2027“)

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Introduction

The Regional Innovation Strategy of the Moravian-Silesian Region (MSR) 2021 – 2027 forms an Annex to „#hrajemskrajem – Development Strategy of the Moravian-Silesian Region 2019 – 2027“ (RDS MSR), which was approved by the MSR council in December 2019.

RIS MSR follows and develops horizontal topics of RDS MSR and Strategic Development Plan of the City of Ostrava for the period 2017 - 2023 (FAJNOVA) and defines areas that are necessary to meet the definition of “smart specialization”, i.e. defines the vision of regional innovation ecosystem, describes the EDP (“Entrepreneurial Discovery Process”) setting, identifies the domains of strategic specialization of MSR, presents the direction in the field of international cooperation, and describes the system of monitoring and evaluation of implemented activities.

The objectives of the RIS MSR reflect the areas of change in two horizontal areas of the RDS MSR “More Entrepreneurial and Innovative Region” and “More Educated and Employed Region” and in two horizontal areas of FAJNOVA “To improve the environment for business development” and “Be a centre of first-class education”.

The core of the MSR knowledge economy development process is a functional RIS. It is a regularly updated vision and a specific plan for its fulfilment. The content of the vision, plan and measurable implemented activities is the result of a continuously formed space of agreement between the Moravian-Silesian Region and the City of Ostrava as initiators of the process with relevant subjects of business, academic, public administration and civic sphere. A prerequisite for fulfilling the objectives of the RIS MSR is, among other things, a quality implementation structure based on specialized organizations with the necessary capacities and competencies.

The size and quality of the functioning of the regional innovation ecosystem has a direct impact on:

- growth and innovation in local companies,
- motivating local people to start new businesses,
- the desire of investors to implement activities with high added value in the region,
- the ability of the local economy to create attractive new jobs.

Mission of RIS MSR 2021+

„MSR 2030+ = smart and green region“

Vision of RIS MSR 2021+

By implementing the projects of the Regional Innovation Strategy, the Moravian-Silesian Region is included between the top 3 of the fastest growing regions in the Czech Republic in the following parameters (measured by the difference in absolute values between 2019 - 2027):

- a) the number of entrepreneurs per 1000 economically active inhabitants,

- b) the number of employees in corporate R&D per 1000 economically active inhabitants,
- c) average wage in the corporate sector.

1. Thematic Priorities

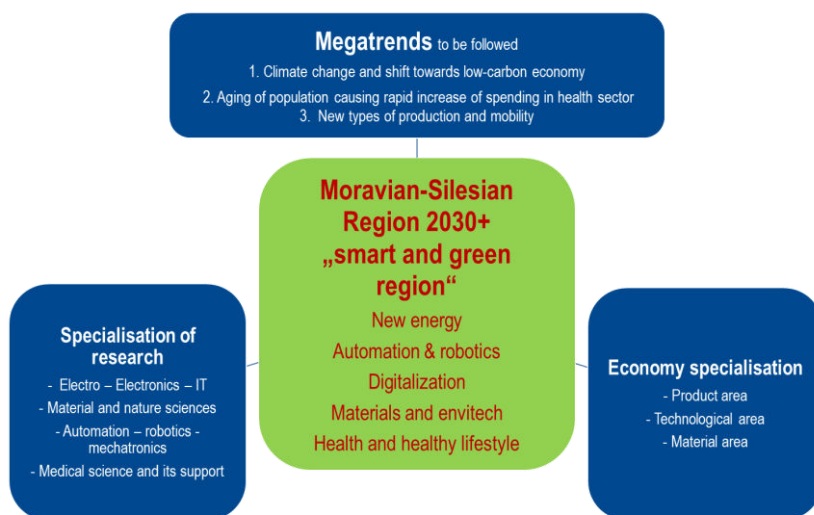
The process of formulating regional domains of specialization is based on knowledge in the areas of:

- a) application markets,
- b) technologies, and
- c) development trends.

Depending on these factors, and in accordance with the specialization of universities and economy in the Moravian-Silesian Region and taking into account current megatrends, the following areas of smart specialization have been identified. These areas of smart specialization were discussed and approved by the Innovation Council of the Moravian-Silesian Region at its meeting on 8 April 2021.

The validity of strategic specialization domains will be continuously evaluated and possibly modified, primarily on the basis of visions and strategies of technology companies.

Domains of Specialization: Continuous Process



Individual specializations of economy are further elaborated in regional domains of specialization.

From the point of view of application markets, the following 5 domains of specialization were formulated in MSR:

Name of the regional domain of specialization – Automotive

Domain focus – Automotive components

Name of the regional domain of specialization – Engineering

Domain focus – Special machinery and equipment, mechatronic systems and equipment

Emerging:

- a) **Name of the regional domain of specialization – E-Health**
Domain focus – Medical devices and services
- b) **Name of the regional domain of specialization – Smart-Agri**
Domain focus – Smart machines and devices
- c) **Name of the regional domain of specialization – Hydrogen Technologies**
Domain focus – Technologies for hydrogen production, hydrogen utilization

From the point of view of technological areas, the following 5 domains of specialization were formulated in MSR:

Name of the regional domain of specialization – Information Technologies

Domain focus – Digitization of business processes with emphasis on production

Name of the regional domain of specialization – Information Technologies

Domain focus – Activities related to data processing

Name of the regional domain of specialization – Technologies for production, transmission and storage of energy

Domain focus – Technologies for the production, transmission and storage of energy

Name of the regional domain of specialization – New Materials

Domain focus – Conductive plastics, new properties of steels, new composite materials, circular economics

Name of the regional domain of specialization – Cultural and Creative Industries

Domain focus – Audio-visual technologies and design

Within the RIS MSR, social science disciplines that have an impact on the successful transformation of the region will also be supported not only in terms of minimizing costs associated with changes in the ecosystem borne by the region's inhabitants, but especially also as supporting transformation by social changes and strengthening the participation of the region's inhabitants in the process. Social science research can make a significant contribution to proposals for solving specific social challenges that the transformation of the region will bring in practice. The effects of the transformation on society will affect the perception of the quality of life in the region.

The horizontal principles that the support of social sciences includes are as follows:

- participation of the population in the development of their region and community;
- dialogue between all players and communities concerned, strengthening effective cooperation and an interdisciplinary approach;
- building and developing regional capacities;
- identification of talents and regionally specific skills and their development;
- strengthening the knowledge base for successful transformation;
- thoughtful strategic planning and its evaluation;
- improving the quality of life in the region and preventing the outflow of population.

2. Implementation Structure

The process of “discovering new opportunities with entrepreneurial potential” (“Entrepreneurial Discovery Process”, EDP) has specifics that are also reflected in the management and implementation structure of RIS MSR. The participation of all relevant players in the process is crucial - in addition to public administration, also entrepreneurs, researchers and other socio-economic groups are strongly represented, including civil society in the role of users of innovations (the so-called quadruple helix). These participants are continuously involved in the process, i.e. they participate not only in defining the goals of the strategy, but also in verifying the results of implemented interventions, formulation of new ideas, adaptation of prepared projects in order to target them in accordance with current needs in the region, or further profiling of areas of specialization. The composition of the RIS MSR implementation structures is in accordance with the recommendation of the so-called S3 Guide of the European Commission¹.

There are two levels of management and implementation of RIS MSR:

- a. **Strategic management** is provided through the Innovation Council. It discusses the vision, strategy targeting and proposed projects that are prepared within the individual RIS MSR working groups. It selects key strategic projects for implementation, meets at least 3 times a year.

The Innovation Council has 9 members:

- Governor of the Moravian-Silesian Region,
- Mayor of the Statutory City of Ostrava,
- Rector of the VSB – Technical University of Ostrava,
- Rector of the University of Ostrava,
- Rector of the Silesian University in Opava,
- and 4 representatives of companies operating in key sectors of the region:
 - o automotive industry;
 - o ICT industry;
 - o healthcare industry;
 - o traditional industry.

- b. The **executive management** of the strategy is entrusted to the **Moravskoslezské inovační centrum Ostrava, a.s.** (MSIC, Moravian-Silesian Innovation Centre Ostrava), which coordinates implementation of the strategy and selected activities. The responsibility of its **RIS3 manager** is to ensure the preparation and discussion of project plans and to supervise the functioning of the implementation structure of the strategy.

MSIC also coordinates and ensures the activities of working groups:

a) horizontally focused:

- PS PODREG (Entrepreneurial Region)
- PS TAM (Talent Attraction Management)
- PS SMARAGD (Smart and Green District)

¹ Guide on Research and Innovation Strategies for Smart Specialisation (RIS 3 Guide), <http://s3platform.jrc.ec.europa.eu/>, p. 38

b) vertically focused:

- PS MSK Digital (MSR Digital)
- PS ENVITech
- PS Mobility
- PS Health

The working groups formulate new plans for fulfilling the objectives of RIS and participate in the preparation of projects. Companies, universities and scientific institutions, regional agencies, the public sector and others are represented in them. Membership in working groups is open and they meet at least 3 times a year. In the case of piloting new activities, ad-hoc working subgroups are created.

From the level of the Moravian-Silesian Region, the following also enter into the process:

- The **Commission for Research, Development and Innovative Entrepreneurship**, which submits opinions and proposals to the Regional Council in accordance with the RIS MSR, recommends to the Regional Council proposals for the announcement of subsidy programs or discusses applications for funding from these programs. The **chairman of the commission** is also the **coordinator of RIS MSR**. For this purpose, the chairman organizes regular meetings of regional agencies (Moravian-Silesian Innovation Centre - MSIC, Moravian-Silesian Investments and Development - MSID, Moravian-Silesian Employment Pact - MS PAKT, Moravian-Silesian Energy Centre - MEC), which coordinate the activities of individual organizations related to the implementation of the Regional Development Strategy and also joint marketing activities. The technical support for the coordinator is provided by the Department of Regional Development and Tourism.
- The working groups for the preparation and implementation of the Development Strategy of the Moravian-Silesian Region 2019–2027 followed the existing structures of the ITI Strategy of the Ostrava Agglomeration, where the topics of the RIS MSR relate mainly to the activities of the **working group More Entrepreneurial and Innovative Region** and the **working group More Educated and Employed Region**.

In order to analyze the innovation potential within the EDP process, the RIS MSR implementation structure uses the results of key surveys of innovation capacity mapping INKA in cooperation with TAČR (Technology Agency of the Czech Republic).

RIS MSR is implemented through the **Action Plan**, which includes a portfolio of all key project plans. MSIC Ostrava is responsible for updating the Action Plan and evaluating it. The project plan can be included in the draft RIS MSR Action Plan only if it meets the objectives of either the Strategic Development Plan of the City of Ostrava for the period 2017-2023 (www.fajnova.cz) or the Development Strategy of the Moravian-Silesian Region 2019-2027 (www.hrajemskrajem.cz) or it is a strategic project of one of the three public universities of the Moravian-Silesian Region. At the same time, the inclusion of the project in the RIS MSR Action Plan had to be discussed and recommended at the meeting of the working group More Entrepreneurial and Innovative Region or the working group More Educated and Employed Region. The inclusion of the project plan in the Action Plan is

finally decided by the Innovation Council. The Action Plan for a given year is always discussed and agreed at the first meeting of the Innovation Council in that year.

3. International Cooperation

Numerous measures of the Development Strategy of the Moravian-Silesian Region 2019-2027 are aimed at strengthening international activities. Their overview in relation to the strategic objectives is given in the table below:

Measure	Strategic area of change (SAC)	Strategic goal (SG)
More Entrepreneurial and Innovative Region		
To increase the internationalization of small and medium-sized enterprises	1.2 Establishment and growth of enterprises	Increasing the number of companies based in the region under 10 years of age with 25 or more employees
To support international research excellence in thematic areas with an already existing critical mass of researchers and results	1.4 Research and development	Increasing the share of the region in public expenditure on research and development in the Czech Republic in the period 2022–2027 to at least 6%
More Educated and Employed Region		
To improve the study offer of universities and strengthen internationalization	2.2 Attractive universities	Increasing the share of the region's population with a university degree
To provide top experts for the regional labour market, create good conditions	2.4 Quality jobs	Growth of productivity, average wages and well-paid jobs offer
To use qualified foreign workers in the regional labour market, support the integration of foreign workers	2.4 Quality jobs	Growth of productivity, average wages, and well-paid jobs offer

Other planned measures, the implementation of which has primarily a local or national dimension, will consequently significantly improve the conditions for the development of international cooperation. These are in particular the following:

- To **achieve international excellence in the practical implementation of regional innovation policy**, as the quality of the local innovation ecosystem is becoming an increasingly important factor in attractiveness of cities and regions for investing companies and the highly mobile class of "global experts" (SAC 1.3 Business and Innovation Ecosystem, SG Classification of the region among the TOP10 regions in the region of Central and Eastern Europe according to the dynamics of growth of knowledge intensity of the economy).

- To **create strategic research alliances** and for this purpose develop Professional services for companies focused on the development of international research and technological cooperation of leading innovative companies from the region (SAC 1.5 Large companies, SG Growth of export of large companies from the region).
- To **co-create the brand and environment of an attractive region for work and start-ups** and involve Successful large companies representing major exporters as key partners of local government and universities in their joint effort to develop a functioning innovation ecosystem in the region (SAC 1.5 Large companies, SG Growth of export of large companies from the region).

The specific activities that will be mainly developed are the following:

- development of activities within the “Global Start-up Cities” initiative through the involvement of the Statutory City of Ostrava and MSIC Ostrava, a.s. (follow-up to the area of strategic change PODREG and the program HorizonEurope – European Innovation Ecosystems)
- strengthening involvement in European initiatives “PRACE - Partnership For Advanced Computing in Europe” and “Joint Undertaking – EuroHPC” through IT4Innovations (follow-up to the area of strategic change MSK Digital)
- preparation and implementation of the activities of the project “DIH Ostrava” (follow-up to the area of strategic change MSR Digital and the program Digital Europe)
- preparation and implementation of the activities of the project “MSR R&D Chair / Global experts” (follow-up to the area of strategic change Talent Attraction Management and the program HorizonEurope – Marie-Sklodowska Curie Actions and the operational program “Just Transition Fund”)
- preparation and involvement in S3 platforms:

a) Efficient and Sustainable Manufacturing² (follow-up to the area of strategic change MSR Digital)

Activities of the platform focus on advanced technologies and tools that help to:

- increase the efficiency, quality, environmental and social sustainability of production while reducing costs;
- reduce emissions, energy intensity, resource consumption;

² <https://s3platform.jrc.ec.europa.eu/efficient-and-sustainable-manufacturing>

- achieve synergy in production efficiency, sustainability and systemic solutions for the transformation of European industry

The aim of the platform is to develop innovative solutions in connection with the research in the area and to use the potential of smart specialization to support new supply chains with high added value. Specifically, the intention is to create a European network of test production technologies that companies could use to verify the possibility of their application in the production process. In line with their specialization, the regions are developing test technologies and can thus offer companies across Europe a “one-stop-shop” to test the possibilities of increasing the efficiency of their production process using innovative technologies.

Leaders among the participating regions include:

- Lombardy,
- Catalonia,
- Auvergne-Rhône-Alpes.

Within the platform, several thematic areas are defined for the preparation of investment projects, where the objectives of RIS MSR correspond to the “**Digital and virtual factory.**” We anticipate involvement in the partnership within this area through the RIS3 manager or members of the MSR Digital working group.

Hydrogen valleys³ (follow-up to the area of strategic change SMARAGD)

The platform responds to the potential use of fuel cells and hydrogen technologies in the process of energy transformation and aims to:

- Readiness and availability of the application of hydrogen technologies;
- Increasing awareness and expertise in the field of hydrogen solutions;
- Regional cooperation and shared funding of activities;
- Strengthening the value chains for hydrogen technologies through interregional cooperation;
- Contribution to the decarbonisation of the European economy;
- “Green” hydrogen production;
- Active role in the process of creating the European policy in connection with the use of hydrogen.

Most of the activities of the participating regions are directed to the transport sector (especially passenger and freight land transport), therefore the technological sophistication of the solution and the high potential for commercial use are evident here. The use of hydrogen technologies is also one of the key prerequisites for improving air quality, where cities and regions have a direct impact on the implementation of specific steps (low-emission public transport and mobility in general).

Leaders in this area include the regions:

³ <https://s3platform.jrc.ec.europa.eu/hydrogen-valleys>

- Normandy,
- North Holland,
- Auvergne-Rhône-Alpes,
- Aragon.

Specific projects are being prepared within the thematic working groups, where the MSR specialization corresponds mainly to **“Production, Transport & Storage”** (ecological hydrogen production for the decarbonised industry, energy and transport). We expect to be involved in the working group through the RIS 3 manager and / or members of PS SMARAGD.

4. Monitoring and Evaluation:

RIS MSR monitoring is based on a combination of three interconnected levels of information:

1. Microeconomic – the level of individual persons and entities of the MSR innovation ecosystem

The monitoring system works with two main categories - (i) supported companies and (ii) supported change projects of companies. At the level of individual supported companies, information is collected on services and programs through which the company has received support for its change projects. As part of the customer care process, information of a qualitative nature about individual supported companies as well as potential applicants for RIS MSR services and programs is being collected at the same time. To store and work with this data, CRM is gradually developed to meet the needs of MSIC as a company responsible for managing the implementation of RIS MSR.

2. Microeconomic – level of aggregation for individual programs and services of development of the MSR innovation ecosystem

Primary data at the level of individual companies and their change projects, which were supported by RIS MSR services and programs, make it possible to create purpose-built aggregations for monitoring and analyzing trends. This data is used for internal and external (towards RIS shareholders and stakeholders) reporting. At the same time, they are a key input for evaluation analysis. At this level, surveys among specific segments of companies and people using RIS MSR services and programs are also regularly conducted.

3. Macroeconomic – structural characteristics of the MSR innovation ecosystem

Microeconomic data within the evaluations will need to be regularly analyzed in relation to relevant indicators at the level of the entire self-governing region. The following three were identified primarily as impact indicators:

- i. Business intensity – number of entrepreneurial persons per 1000 economically active inhabitants
- ii. Knowledge intensity of the economy – the number of employees in corporate research and development per 1000 economically active inhabitants
- iii. The average wage in the MS region expressed by the median wage

The data collection system and its subsequent use for evaluations reflect the fact that the aggregate impacts of RIS MSR interventions in the economy can be realistically monitored with a delay of min. 3 years, especially then after 5 years from the implementation of the evaluated interventions. As the current RIS MSR started to be implemented with the establishment of the MSIC in July 2017, data sets and analyzes for impact assessment are only in the phase of professional draft.

The above mentioned monitoring system is used for three different types of evaluation. The RIS MSR evaluation plan is gradually being developed with the evolution of the services and programs of the strategy itself, implemented since mid-2017.

1. Ex-ante evaluation

In the period 2017–2020, intensive work was underway on piloting completely new services and programs in MSR, which had never been implemented in this region before. Within the pilot verification, emphasis was placed on qualitative methods of working with information from individual entities directly involved in the piloting. Since 2021, wider data for larger numbers of entities have been gradually used. This is made possible, among other things, by a substantial expansion of the number of companies supported by newly created services and programs.

2. Interim evaluation

Work at this level of evaluations began at the end of 2020 and is gradually expanding. The main emphasis is on services and programs that a sufficient number of companies have already gone through. The ongoing evaluation of the programs focuses on verifying the effectiveness of processes at the level of the individual companies involved. Two years later, the impact assessment of the programs and services used begins. So far, it is mainly the collection of methodologically relevant data for subsequent interim and ex-post evaluation analyzes. Each program has a framework evaluation plan in the following form:

- i. Verification of the relevance of the target group
- ii. Verification of process efficiency
- iii. Verification of benefits and methodology for measuring overall impacts

All outputs of evaluation work serve the ongoing process of improving RIS MSR services and programs. So far, the interim evaluation is performed by the MSIC by internal forces.

3. Ex-post evaluation

MSIC is only conceptually preparing this level of evaluations. Within the framework of monitoring and the first two stages of evaluations, preconditions are created for quality verification of impacts. For ex-post evaluation analyzes, external entities will be used to obtain the necessary insight and also the neutrality of the evaluators.

5. Areas of strategic change

In accordance with the vision of RDS MSR “WITH NEW ENERGY WE CHANGE LIFE IN THE REGION”, i.e. a unique culture and openness to cooperation - #hrajeMSkrajem; a region attracting talents and offering competent staff; the most significant technical and technological pole of growth in the Czech Republic; intensive innovation and high added value of business; attractive and well-paid jobs; clean air and a healthy environment; higher dynamics of establishment of new companies; low-emission economy; a region of top services and simply a new image; and in accordance with the vision of FAJNOVA, i.e. Ostrava is a city that attracts young, hardworking and talented inhabitants; Ostrava develops and uses innovative technologies that are friendly to nature and the environment; Ostrava is a confident European city full of energy from active people; Ostrava offers a high quality of life for all generations; and Ostrava will make use of its industrial tradition, 5 areas of strategic change of RIS MSR have been defined:

1) Entrepreneurial Region (PODREG)

- a. Objective: To increase the intensity of business in MSR
- b. KPIs: number of supported change projects (1600 business starts vs. 800 mature companies)
- c. Sub-projects: see action plan

2) Talent Attraction Management (TAM)

- a. Objective: To stop the “brain-drain” and attract highly qualified professionals to the MSR
- b. KPIs: increase in the number of R&D workers in the corporate sector (among the 3 fastest growing regions)
- c. Sub-projects: see action plan

3) MSR Digital

- a. Objective: To increase the levels of digitization and robotization, especially for SMEs in MSR
- b. KPIs: number of companies using the services of MSR Digital partners
- c. Sub-projects: see action plan

4) ENVI Tech

- a. Objective: To support the development of environmental technologies and the concept of circular economy in MSR
- b. KPIs: number of companies using the services of ENVI Tech partners
- c. Sub-projects: see action plan

5) SMARAGD – Smart and Green District

- a. Objective: To expand the capacity of the shared research and innovation infrastructure used by the participants of the MSR Innovation Ecosystem
- b. KPIs: revenues from the operation of the shared infrastructure
- c. Sub-projects: see action plan