



# DSI 2030



# Lower Silesian Innovation Strategy 2030








information brochure



**DOLNY  
ŚLĄSK**



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# Introduction

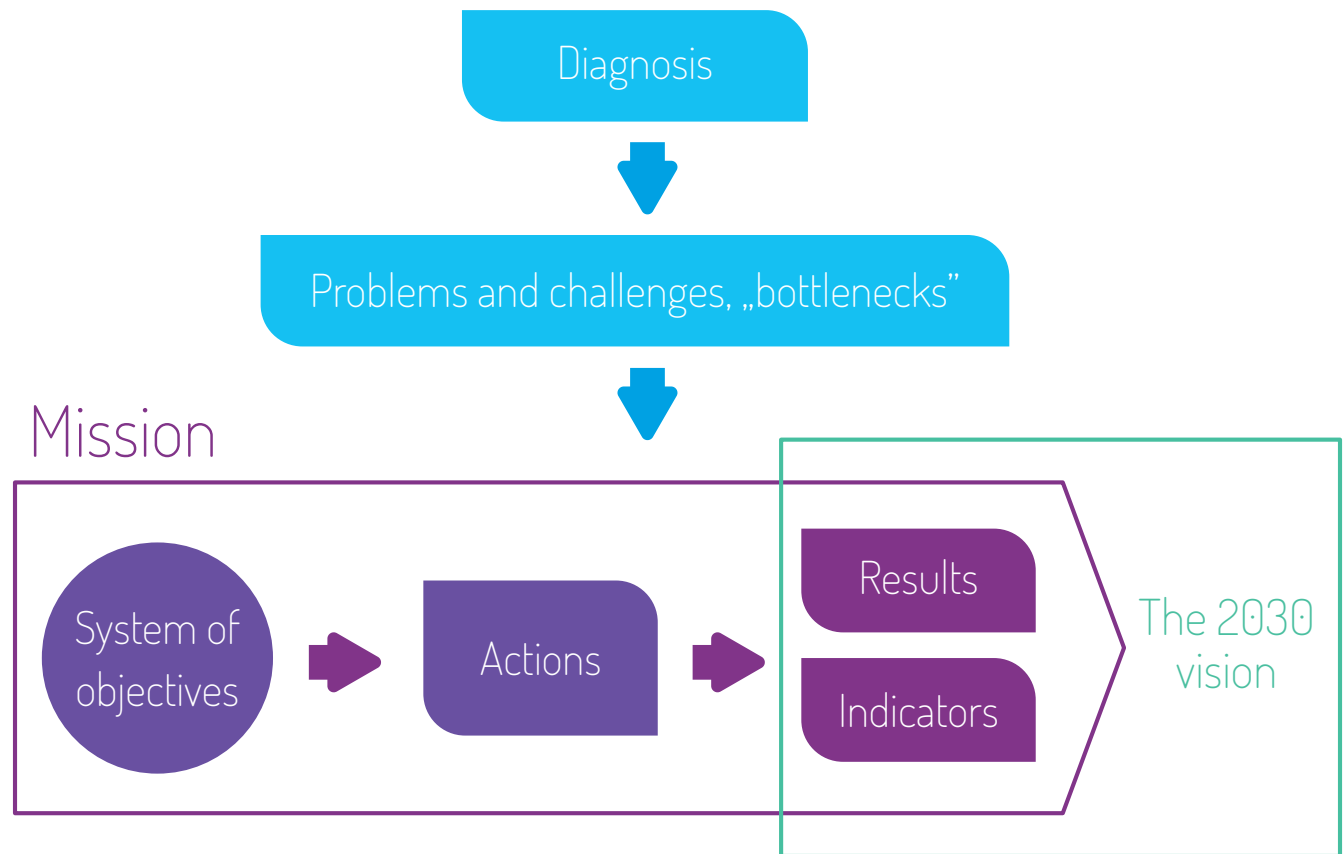
The Lower Silesian Innovation Strategy 2030 (Dolnośląska Strategia Innowacji 2030, DSI 2030) is an operational and implementation document, a tool for applying the provisions of the Lower Silesian Voivodeship Development Strategy 2030 in the field of innovation development policy in Lower Silesia.

The Strategy sets objectives and directions for supporting innovation to be reflected in initiatives, programmes and projects implemented in the region, including those co-financed under the 2021-2027 European Union financial perspective. The participants of the Lower Silesian Innovation System will focus on the development of prospective areas defined in DSI 2030 as the **Lower Silesian smart specialisations**.

Currently, the Lower Silesian Voivodeship is one of the leading regions in Poland in terms of the level of innovation development. In European rankings it ranks among the second hundred regions as a moderate innovator. Therefore, according to the DSI 2030, regional authorities have an ambition to direct innovation support in the next decade in such a way as to significantly improve their position in Europe as well as increase their presence and recognition in the international innovation system. It will be affected by increased activity, set forth in the Strategy, in such areas constituting the strength of innovation as R&D of enterprises and research units (also internationally), development of intellectual and infrastructural base for R&D and education about innovativeness at all levels.

# The mission

The Strategy mission is to create an innovation ecosystem that uses the potential of Lower Silesia, aimed at achieving ambitious goals based on effective cooperation on regional, national and international level.





# Barriers to and bottlenecks of introducing Innovations:

1

Unequal (on the sub-regional level) access to specialist staff

2

Limited effectiveness of enterprises in implementing innovations

3

Entrepreneurs' belief that there is no need to implement innovations

4

Small supply of specialised services and offers from research and development units

5

Limited activity of companies in the field of research

6

Low propensity of companies to benefit from research and development units offers

7

Limited availability of pro-innovation services provided by BEI and insufficient activity of clusters and producer groups, low propensity of companies to cooperate with partners from the industry (apart from purely contractual contacts)

8

Lack of access to specialised laboratories and research services in research centres (technology parks and incubators)

9

Limited access to funds to be spent on innovations and limited ability and effectiveness of enterprises to obtain funds to be spent on innovations

# Smart Specialisations of Lower Silesia

Effective public support for the development of innovation in the region should focus on selected industries with potential for further dynamic development and harmonious cooperation between enterprises and research units.

Limited financial resources that the region can invest in supporting research and development cooperation affects the concentration of this support. That is why a list of the so-called Smart Specialisations of Lower Silesia has been made. It covers industries the development of which will ensure that innovative socio-economic solutions will be developed, the added value of the economy will increase and the competitiveness level will rise internationally. Under the new Strategy seven areas of support have been indicated, including three horizontal specialisations that provide support not only for R&D and intersectoral implementations but also for the growth and development of four basic specialisations:

Chemistry  
and Medicine



Auto-Moto-  
Aero-Space



Natural and Recycled  
Raw Materials



Machinery  
and Equipment



Green Deal  
(horizontal specialisation)



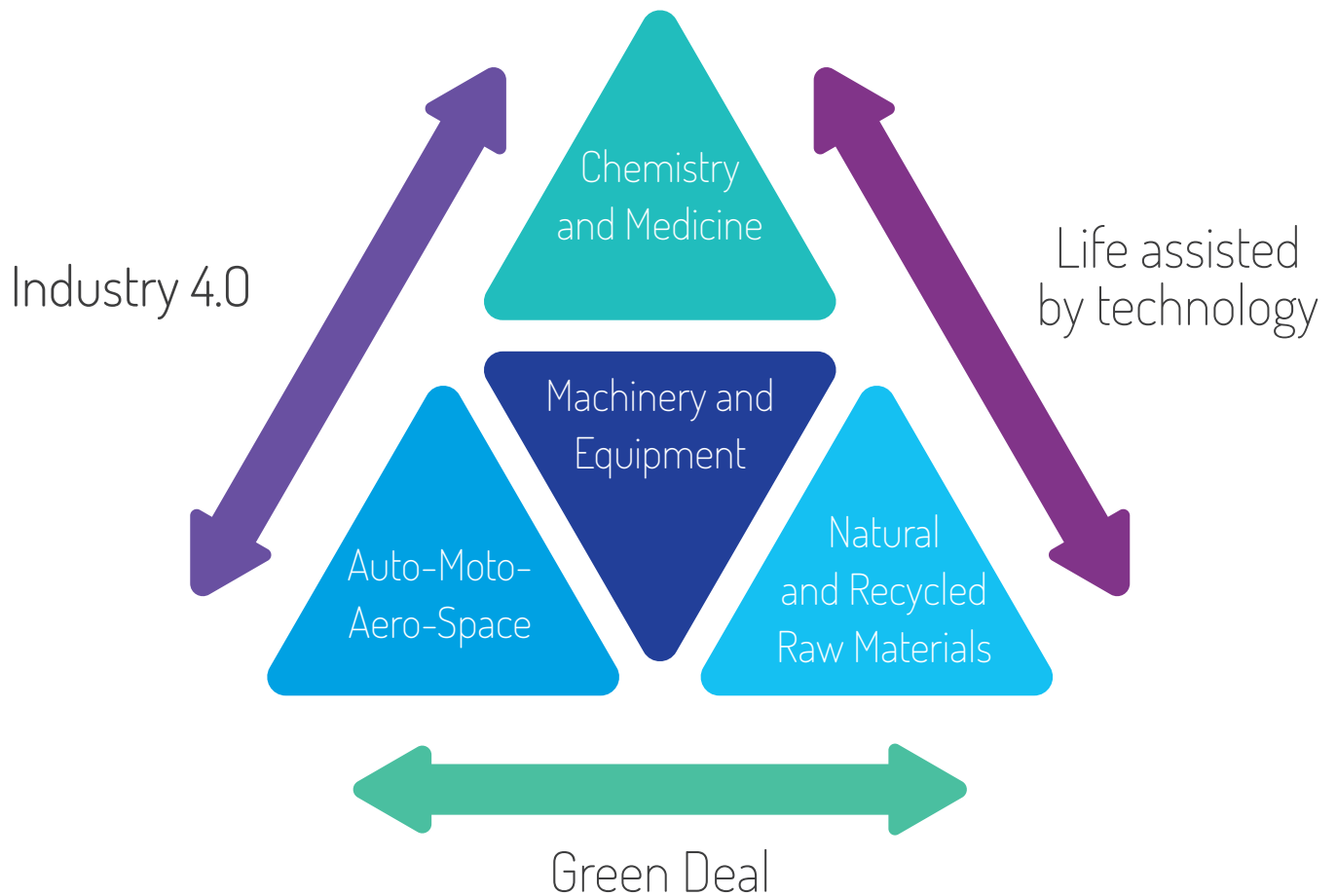
Life assisted  
by technology  
(horizontal specialisation)



Industry 4.0  
(horizontal specialisation)







# Chemistry and Medicine





# Areas and sub-areas of Smart Specialisation:

## Chemical technologies

1.1

- 1.1.1. Innovative chemical technologies for the production of active and auxiliary substances for the pharmaceutical and cosmetic industries as well as functional food.
- 1.1.2. Innovative chemical technologies for the production of monomers and auxiliary substances for the plastic processing industry.
- 1.1.3. Innovative chemical technologies for the production of other fine chemicals.
- 1.1.4. Innovative chemical technologies for the production of other raw materials and materials for the chemical industry used in large-scale processes.

## Chemical products

1.2

- 1.2.1. Innovative cosmetics.
- 1.2.2. Innovative household chemicals.
- 1.2.3. Innovative speciality chemistry products.
- 1.2.4. Innovative polymers and composites.

## Technologies, procedures and medical products

1.3

- 1.3.1. Innovative medical and biocidal products.
- 1.3.2. Innovative medical devices.
- 1.3.3. Innovative technologies for diagnostics, therapy as well as medical and spa care.
- 1.3.4. Advanced cell therapies and other experimental therapies.

## Material engineering

1.4

- 1.4.1. Smart materials with programmable properties.
- 1.4.2. Innovative detectors and sensors.
- 1.4.3. Innovative insulation materials.

Auto-Moto-  
Aero-Space





# Areas and sub-areas of Smart Specialisation:

## Low- and zero-emission land and water vehicles

2.1

- 2.1.1. Propulsion and power sources for land and water vehicles based on hydrogen, electric or hybrid technologies, including fuel cells.
- 2.1.2. Devices, systems, subassemblies and components as well as software for low- and zero-emission, land and water vehicles , including autonomous.
- 2.1.3. Innovative, low-emission and zero-emission means of land and water transport, including autonomous.

## Aircraft and space vehicles

2.2

- 2.2.1. Propulsion and power sources for air and space vehicles, regardless of the technology used.
- 2.2.2. Innovative devices, sub-assemblies and components for air vehicles and space vehicles.

# Natural and Recycled Raw Materials



# Areas and sub-areas of Smart Specialisation:

## Extraction of mineral resources

3.1

- 3.1.1. Low-waste and waste-free extraction of metal ores.
- 3.1.2. Low-waste and waste-free extraction of other mineral resources.

## Recovery of raw materials from waste

3.2

- 3.2.1. Waste processing and obtaining energy resources.
- 3.2.2. Waste processing and obtaining valuable raw materials.

## Processing of mineral resources

3.3

- 3.3.1. Innovative technologies for the processing of metal ores.
- 3.3.2. Innovative technologies for the processing of mineral resources.

## Processing of natural resources

3.4

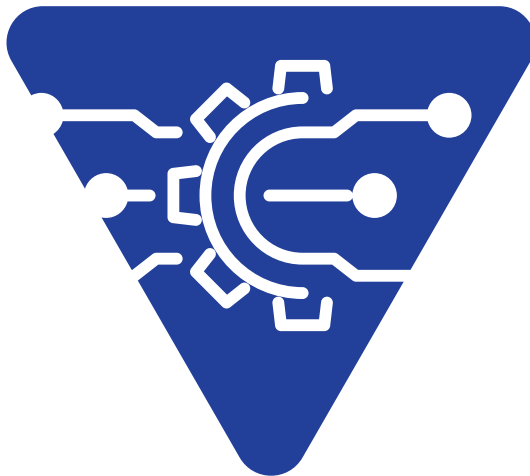
- 3.4.1. Innovative technologies for the processing of wood and its waste.
- 3.4.2. Innovative processing of plant- and animal-based material (biorefining).
- 3.4.3. Farming and agri-food processing.

## Water extraction and processing

3.5

- 3.5.1. Innovative technologies for the recovery of water from washings, sludge and other streams generated during water treatment and the recovery of water from sewage and other waste streams.
- 3.5.2. Recovery of raw materials from sewage and other waste streams, production of fertilizers from sewage sludge and other waste streams.
- 3.5.3. Management of rainwater.

# Machinery and Equipment



# Areas and sub-areas of Smart Specialisation:

## Design of structures and developing new technologies for the production of machines and devices

4.1

- 4.1.1. Design of machines and devices, regardless of their purpose.
- 4.1.2. Development of innovative technologies for the production of machinery and equipment, regardless of their purpose.

## Manufacture of machinery and equipment

4.2

- 4.2.1. Manufacture of machinery and equipment for the energy sector, including the sector using renewable energy sources.
- 4.2.2. Manufacture of machinery and equipment for the purposes of photonics, electronics and automation.
- 4.2.3. Manufacture of machinery and equipment for material recycling and recovery.



# Green Deal

(horizontal specialisation)



# Areas and sub-areas of Smart Specialisation:

## Low- and non-waste technologies

5.1

- 5.1.1. Implementation of waste-free technologies in production companies, regardless of the industry.
- 5.1.2. Technologies for the processing of waste into products with high added value in the value chain, regardless of the industry.
- 5.1.3. Technologies for the monitoring of the purity of technological processes, regardless of the industry.

## Technologies to improve energy efficiency

5.2

- 5.2.1. Technologies to improve the energy efficiency of processes, regardless of the industry.

## Technologies to improve the efficiency of water management

5.3

- 5.3.1. Technologies to improve the efficiency of water management.

# Industry 4.0

(horizontal specialisation)



# Areas and sub-areas of Smart Specialisation:

## Technologies and products of the manufacturing industry

6.1

**6.1.1.** Technologies in industrial applications to automate or robotize production, regardless of the industry.

## Technologies used in services

6.2

**6.2.1.** Technologies in services to automate customer service and service delivery processes, regardless of the industry.

## Technologies used in environmental and climate protection as well as precision agriculture

6.3

**6.3.1.** Technologies used to automate processes related to monitoring and protection of the natural environment and climate.

# Life assisted by technology

(horizontal specialisation)





# Areas and sub-areas of Smart Specialisation:

## Technologies and products used in medicine

7.1

- 7.1.1. Robotics, automation, photonics, information and communication technologies supporting therapy.
- 7.1.2. Robotics, automation, photonics, information and communication technologies supporting physical therapy of people with disabilities and the activation of people with chronic diseases and the elderly.

## Technologies and products used in the management of facilities, networks and systems

7.2

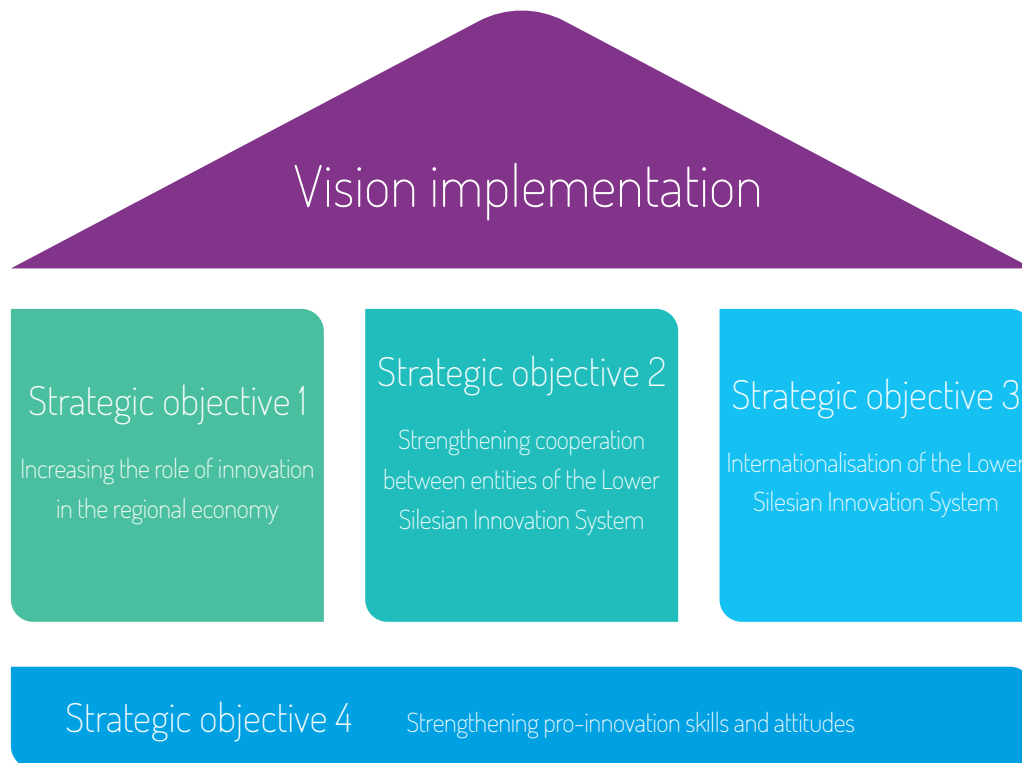
- 7.2.1. Robotics, automation, photonics, information and communication technologies and fibre optic technologies in applications related to municipal management, intelligent buildings and facilities, as well as supply of power and media.
- 7.2.2. Robotics, automation, photonics, information and communication technologies and optical fibres in applications related to transport infrastructure and public transport.
- 7.2.3. Robotics, automation, photonics, information and communication technologies and optical fibres in applications related to public safety.
- 7.2.4. Robotics, automation, photonics, information and communication technologies and fibre optic technologies in applications related to the management of public administration, municipal services, healthcare, education and culture.
- 7.2.5. Technologies for acquiring and managing information.

# Strategic and operational objectives

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Strategic and operational objectives serve to develop the vision and respond to key challenges and needs.

They show to the regional authorities not only the actions necessary to ensure innovative development but also the way they should be taken.



## Increasing the role of innovation in the regional economy

1

### Operational objectives:

- 1.1. Developing and building technological advantages in the areas of Lower Silesian Smart Specialisations.
- 1.2. Supporting digital transformation and advanced process automation in enterprises.
- 1.3. Supporting the transformation of industrial processes towards a circular economy and energy transformation.
- 1.4. Improving the financial framework for innovative undertakings.

## Strengthening cooperation between entities of the Lower Silesian Innovation System

2

### Operational objectives:

- 2.1. Initiating and strengthening scientific and industrial cooperation for the development of innovative character of Lower Silesia.
- 2.2. Supporting regional networks of economic links.
- 2.3. Professionalization and the use of innovation centres to increase the innovativeness of enterprises.
- 2.4. Effective entrepreneurial discovery process.
- 2.5. Creating a demand for innovation by public authorities in public services they provide.

## Internationalisation of the Lower Silesian Innovation System

3

### Operational objectives:

- 3.1. Supporting the internationalisation of innovative enterprises.
- 3.2. Creating a coherent system of incentives for research and development cooperation on an international scale.
- 3.3. Increasing the activity of regional units in cooperation networks and international thematic platforms.

## Strengthening pro-innovation skills and attitudes

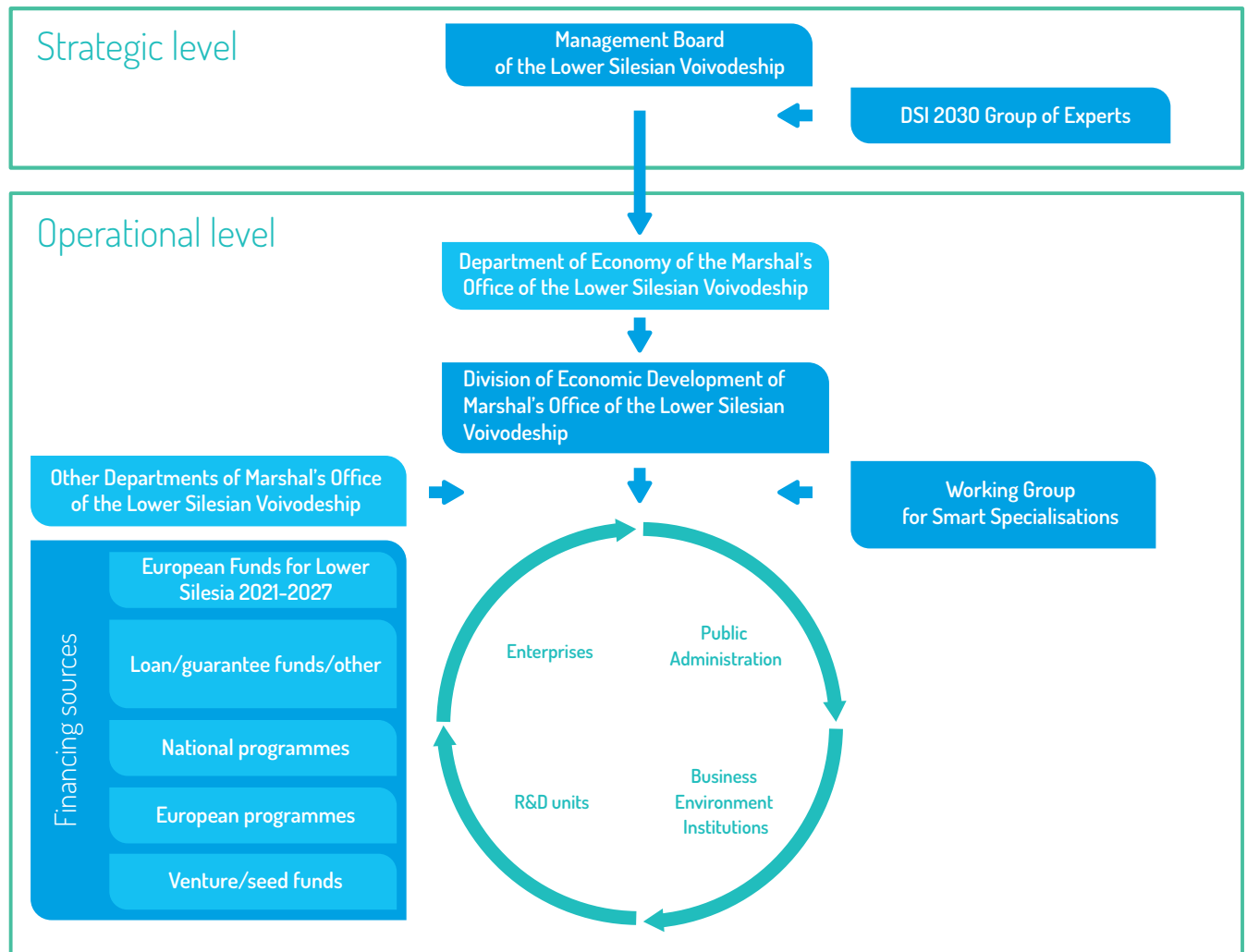
4

### Operational objectives:

- 4.1. Encouraging pro-entrepreneurial attitudes among children and youth.
- 4.2. Developing employees' competence in economic transformation.
- 4.3. Encouraging pro-innovative attitudes among entrepreneurs.



# Structure of the DSI 2030 implementation system





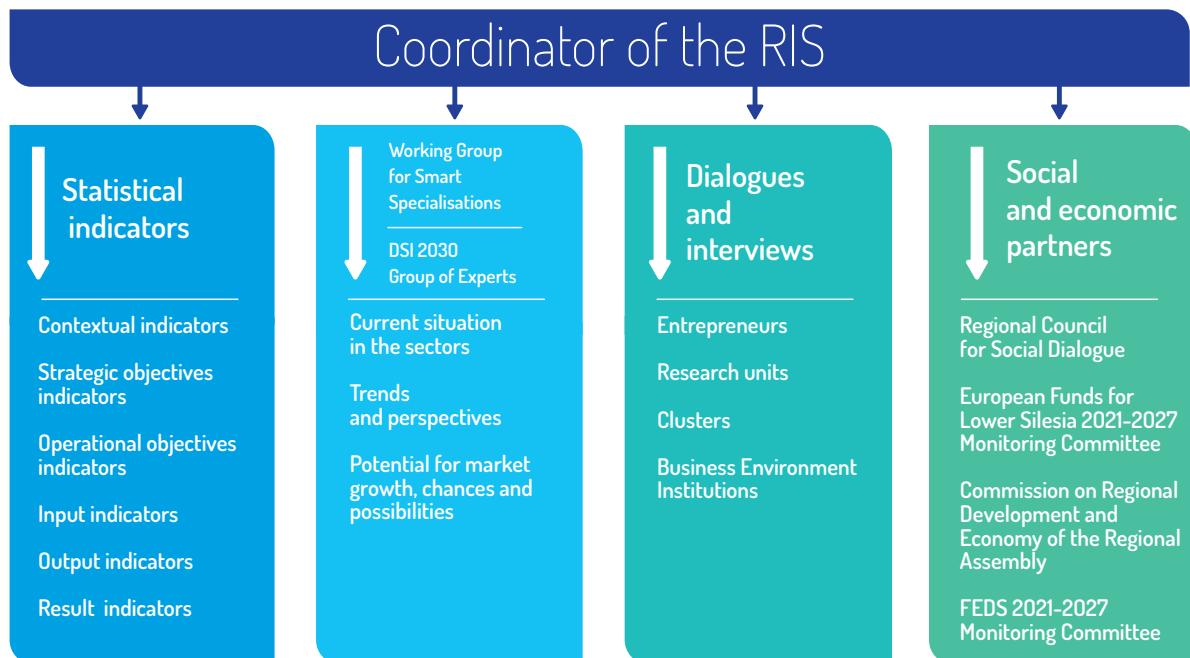


# EDP – Entrepreneurial Discovery Process

The Process of Entrepreneurial Discovery (the EDP) is an integrative and interactive bottom-up process, in which representatives from various environments participate such as: local government, business, academic community, R&D units, social partners. They generate information about potential new activities supporting/improving the operation of the existing innovation system.

The purpose of the EDP is to identify the most promising areas for the region's future development and to build a bridge between research and innovation, economic development and decision-makers responsible for the innovation policy. The Regional Government of the Lower Silesian Voivodeship serves as an integrator and coordinator of this process in the region.

At the operational level, the Department of Economy – Division of Economic Development of the Marshal's Office of the Lower Silesian Voivodeship is responsible for the coordination of the EDP, while the Management Board of the Lower Silesian Voivodeship is responsible for the implementation of tasks at the strategic level.



Entrepreneurial Discovery Process

## Monitoring and evaluation

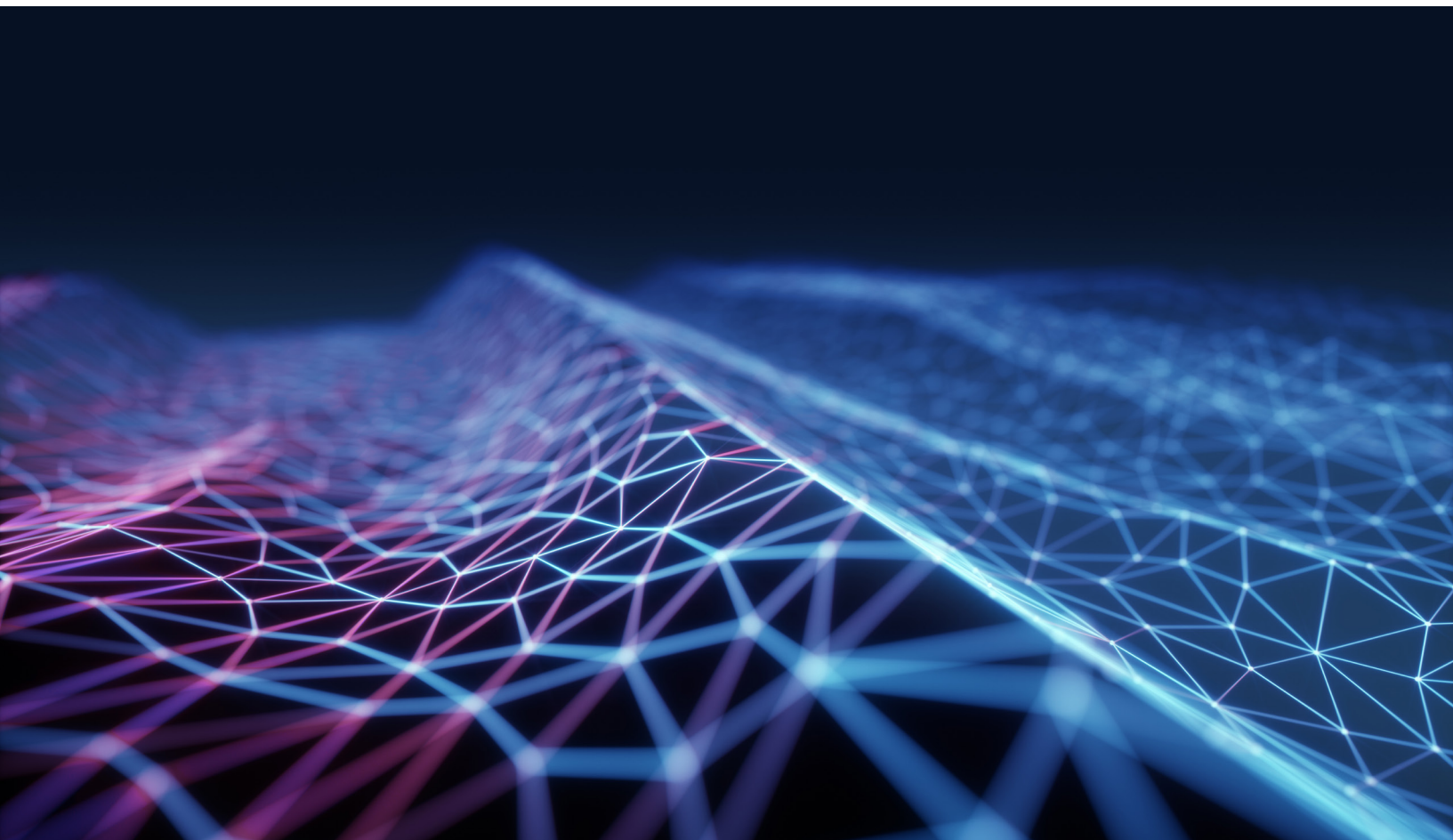
The role of the monitoring and evaluation system is to assess the effects of the implementation of individual objectives of the Strategy and to verify the achieved results in relation to the formulated expectations. The system includes collecting data from available sources (statistical, programme- and project-related), as well as collecting information in the scope not covered by these sources by conducting dedicated monitoring studies.

An important task within the monitoring system will be to analyse and summarize all information collected as part of the monitoring in such a way as to provide recipients with a clear message. For this purpose, cyclical, synthetic **reports on the implementation of the Strategy** will be drawn up **every two years** to be later discussed by entities involved in the DSI 2030 implementation system.









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