

RIS3 design and implementation in Lubuskie
and preparation for 2021-2027 programming period

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Support to the Implementation of Smart Specialisation Strategies
in Lubuskie in Poland

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1. Introduction

The objective of this Report is to conduct an analysis of the status of RIS3 implementation and the level of preparation of the Lubuskie region in relation to the fulfilment criteria for the 2021-2027 enabling condition of good governance. The analysis will refer to the specificities of the regional research and innovation system within the context wider national and EU trends, and RIS3 governance structures, actors, institutions, capabilities and strengths. The analysis should consider data sources, data availability and stakeholder identification and engagement.

The structure of the Report starts with Chapter overviewing the RIS3 in the region to date and it is followed with number of chapters which reflect the order of the fulfilment criteria for 2021-2027 enabling condition of good governance¹. For each criteria the following aspects are covered: relevant reports and documents in existence as well as data gaps, strengths and weaknesses, challenges / barriers / obstacles, lessons learned and opportunities. Each chapter which reflects fulfilment criteria is summarized with clear recommendations for further action.

2. Methodology

The methodology of work on this Report is based on two major phases:

- desk analysis of available documentation – for identification of major questions, gaps and formulation of initial observations (findings),
- formulation of the draft report with presentation of analysis results and recommendations – for initial discussion with the JRC and the beneficiary – the Marshal Office of Lubuskie Voivodship, as well as any relevant stakeholders.

The methodology, data collection, as well as initial and final observations were discussed with the JRC and the beneficiary on an ongoing basis.

The majority of reference materials (sources for desk analysis) were supplied by the beneficiary. For clarity and simplicity this Report does not aim to copy and cite large parts of reference materials but focuses on summarizing major issues and providing observations and recommendations. However, precise citation details are provided in connection with source materials.

The COVID-19 pandemic in Poland has forced a slight change in the planned methodology for preparing the Report. Due to implemented restrictions, all meetings were converted into video conferences. Fortunately, the change of form of meetings has not influenced its effectiveness. However, the COVID-19 pandemic delayed the schedule of the work on the Report, due to modified work circumstances.

I would like to express my deep appreciation and thanks for personal support of Małgorzata Mizera-Wołowicz, deputy director of the Department for Management of Regional Operational Programme in Marshall Office of Lubuskie Voivodship and Bartłomiej Kobiernik from the same Department. I would like also to thank Jayne Woolford for her continued guidance, support and smooth cooperation.

¹ Reference the draft proposed regulation

3. Background / overview of RIS3 in the region to date

3.1 Strategic context for RIS3

The strategic framework for the development of Lubuskie Voivodship and implementation of all public interventions for period 2014 – 2020, including the **strategic reference for development and implementation of RIS3**, is the Development Strategy of Lubuskie Voivodship 2020 (Ref. A – referred later as Strategia 2020) adopted in November 2012 (and hence before EC requirements were introduced around RIS3). Strategia 2020 was a result of continued development/evolution of the first regional development strategy - Development Strategy of Lubuskie Voivodship from 2000 and its update adopted in 2005, with the time horizon of 2020. After five years of implementation of the strategy from 2005, dynamic change in socio-economic (e.g. global financial crisis and its impact on economy) and legal environment for development policy (from the adoption of the new Act on Principles of Development Policy in December 2006), as well as a significant change in the Polish regional development paradigm, meant there was a clear need for update and renewal. The new regional development paradigm was based on the following assumptions:

- strong focus of public intervention on enhancing the competitiveness of regions and unblocking growth processes through a more complete identification of and focus upon competitive advantages and their role in development;
- abandoning the model of short-term top-down subsidies in favour of the model of multi-annual, decentralized development policies aimed at supporting all regions,
- shifting away from scattered interventions to more selective (focused) investment.

The update of the Development Strategy of Lubuskie Voivodeship was prepared taking into account the assumptions of the Polish Development Management System, adopted in 2009 and in consistency with applicable European and national documents. The solutions proposed in the strategy were in line with the horizontal principles of the European Union (sustainable development, equality between men and women, equal opportunities and non-discrimination).

The **strategic vision presented in Strategy 2020** was by 2020 to take full advantage by Lubuskie Voivodeship of its location in Europe, natural environment and transport accessibility to develop competitive and innovative sectors of the economy and tourism. Additionally, Lubuskie community will become an information society. It was envisaged that the effective use of EU funds and activity of local government, entrepreneurs and non-governmental organizations would ensure a high standard of living for residents and access to a high standard of public services. The region has an ambition to be perceived as a "green land of modern technologies".

Strategia 2020 defined the main goal as the use of the potential of the Lubuskie Voivodeship to improve quality of life in the region, to make the competitive economy more dynamic, to increase the region's cohesion and to effectively manage regional development. This goal was disaggregated into **four strategic goals**:

Strategic goal 1. Competitive and innovative regional economy;

Strategic goal 2. High levels of accessibility to transport and ICT;

Strategic goal 3. Social and territorial cohesion;

Strategic goal 4. Effective management of the region.

Each strategic goal was precisely defined with a number of operational goals. In particular, under strategic goal 1 on Competitive and innovative regional economy, there were eight operational goals, with the most relevant for this report being:

Operational goal 1.1. Development of the R&D sector and improvement of innovation transfer mechanisms;

Operational goal 1.2. Development of entrepreneurship and increasing professional activity;

Operational goal 1.3 Increasing the quality of education and adapting it to regional labour market.

Under strategic goal 2 on High levels of accessibility to transport and ICT infrastructure, there were 3 operational goals, with:

Operational goal 2.3 Development of information society;

the most relevant to the subject of the present report.

Subsequently, for each of operational goals Strategia 2020 defined a number of directions for interventions and among others for Operational goal 1.1 **identification and development of regional smart specialisation is explicitly mentioned**. However, the smart specialisation concept and concentration on certain sectors lacks elaboration in the description of the Operational goals.

For each Strategic goal a list of highly aggregated statistical indicators to monitor progress in implementation is presented, such as R&D expenditures (GERD), share of STEM graduates from Higher Education Institutions, employment structure by sector or share of households equipped with computers with access to Internet.

In addition to already mentioned structure of goals and activities, strategic projects with regional and supra-regional character were determined. Of the 25, mostly transport related, investment projects, there are 3 that are relevant for the subject of this report:

- Development of the Lubuski Industrial and Technology Park in Nowy Kisielin.
- Development of the INTERIOR Industrial Logistics and Technology Park in Nowa Sól.
- Establishing a science and industry park in Gorzów Wlkp.

Work on the preparation of the Strategia 2020 was conducted by the Working Group for Updating the Lubuskie Voivodeship Development Strategy consisting of managers (mostly directors or vice-directors) of selected departments of the Marshal Office in Zielona Góra. Representatives of the Voivodeship Labour Office, the Voivodeship Fund for Environmental Protection and Water Management, the Regional Development Agency and the Statistical Office in Zielona Góra also participated in the work of the Working Group. Representatives of local governments, universities and non-governmental organizations participated in the work of the sub groups organised by theme under the umbrella of the Working Group.

The Strategia 2020 was based on a well-documented evidence base (mostly statistical data from national regional and EU statistics) and presented a diagnosis and summary in the form of a SWOT analysis. The diagnosis is presented in the attachment to the Strategia 2020. The strategic diagnosis of the Lubuskie Voivodeship is based on the criterion of sustainable

development based on harmonious development of four capitals: material, natural, human and social. The adopted structure is a continuation of the method initiated in the Development Strategy of the Lubuskie Voivodeship from 2000 proposed by the team led by Prof. Grzegorz Gorzelak. However, it should be noted that preparation of the Strategia 2020 predated and therefore did not take into account the EC requirements for fulfilling the ex-ante conditions and principles laid down for RIS.

The institutional structure of the management and monitoring system for Strategia 2020 consists of the Sejmik of the Lubuskie Voivodeship and the Management Board (Zarząd) of the Lubuskie Voivodeship. The Management Board of the Lubuskie Voivodeship periodically assesses strategy implementation, primarily based on the adopted set of indicators. The Sejmik of the Lubuskie Voivodeship evaluates the implementation of the development strategy of the Lubuskie Voivodeship, introduces modifications and makes necessary and justified changes to this document. At the operational level, the relevant departments responsible for regional development and implementation of sectoral strategies and programmes are in charge of preparation of annual reports. Important support is given by the Council for Development of Lubuskie Voivodeship (Rada ds. Rozwoju) and Regional Territorial Observatory (Regionalne Obserwatorium Terytorialne – ROT). The ROT was established in October 2012 in the Marshal's Office of the Lubuskie Voivodeship. The location of ROT in the regional development implementation and monitoring system requires its close cooperation with leading scientific institutions (universities, research and development centres), reporting institutions (Central Statistical Office with its regional branches and regional research centres) and the National Territorial Observatory.



Fig. 1. Management and monitoring institutional framework for implementation of the Strategia 2020 in Lubuskie Voivodeship (picture taken from Ref. 1)

The monitoring system of the Strategia 2020 was planned as an element of a wider, national system of development policy monitoring that included monitoring of other sectoral strategies (e.g. transport, education, etc.) alongside the Regional Operational Programme.

3.2 Regional Smart Specialization Strategy – Innovation Development Programme

The Regional Smart Specialization Strategy of Lubuskie Voivodship was adopted in February 2016 in the form of an Innovation Development Programme (Ref. C – referred later as PRIWL 2016). The PRIWL 2016 has been developed as one of the sector strategies under Strategia 2020 to effectively support its implementation in the area of innovation, research and development and entrepreneurship. The PRIWL 2016 was a continuation of the Regional Innovation Strategy which expired in 2015. It was created as a result of a two-year Entrepreneurial Discovery Process (EDP) which started with the identification of areas of smart specialization of the region in 2014 and continued throughout 2015 when the final document was developed and adopted². The EDP was based on intensive interaction with entrepreneurs, scientists, business support institutions and administration (quadruple helix concept) through a number of meetings, workshops, surveys and consultations with a wide audience. Meetings were held of the Lubuskie Innovation Council to identify main problems, challenges and expectations of public policy in the field of innovation and entrepreneurship and finally to agree the suite of smart specializations. It was strongly supported with in-depth analytical work mostly based on available quantitative and qualitative data. The PRIWL 2016 that emerged is a hybrid form of document that incorporates aspects of both strategy and implementation; it combines a smart specialisation strategy, broader regional innovation strategy and an action plan (development programme) supported by an extensive analytical component.

In line with the monitoring and evaluation principles of the PRIWL 2016, the programme was reviewed and updated in 2018 (Ref. D – referred later as PRIWL 2018). This process was part of the continuous implementation of the EDP and resulted in the addition of space industry and space medicine as a sub-elements of the second and the third main specialisation areas. Finally, **three smart specialisation areas** have been chosen:

1. **Green economy**, including in particular:

- a. environmental technologies,
- b. environmental services,
- c. bioeconomy,
- d. other industries like ICT, metal processing or logistics supporting green economy.

2. **Health and quality of life**, including in particular:

- a. Medical technologies and equipment,
- b. Medical services, in particular prevention and rehabilitation,
- c. medical tourism, including sport and recreation,
- d. healthy and safe food, including regional products,
- e. other supporting industries like ICT, metal processing, space medicine, logistic etc.

3. **Innovative industry**, including in particular:

- a. Information and communication technologies
- b. metal industry
- c. automotive industry
- d. energy and mining industries

² The Lubuskie Voivodeship identified its smart specializations in 2014 in cooperation with the Consortium Bluehill Sp. z o.o. and Quality Watch Sp. z o.o.

- e. wood, paper and furniture industry
- f. Paper industry
- g. Space industry

Initially, one more so-called horizontal, smart specialisation area was defined – Collaboration and Business Cooperation. Due to the fact that the key development problems (listed below) turned out to be repeated in all three smart specialisation areas, it was decided, in consultation with the participants of the EDP, to abandon the horizontal specialization. This decision reflected the fact that the horizontal specialisation was not supported by entrepreneurs, but mostly by business support organisations, and it did not fulfil the guidelines for smart specialisation identification. The initial ideas for strategic actions under the horizontal specialisation became cross-cutting strategic actions under all other smart specialisation areas.

The selected smart specialisations correspond to the specificity of the Lubuskie region with its poor industrial specialisation (lack of concentration) and without clear competitive advantages. It resulted in an arguably **over- broad definition of specialisations** (in particular the third area), **where most of the traditional industries present in the region are reflected**. On the other hand, and for the same reason, new, emerging areas where dynamic development of enterprises was observed (called **economic starters**) were included within the first and second smart specialisation areas.

As it was already mentioned above, PRIWL incorporates a broader regional innovation component based on solid, multidimensional analysis. The diagnosis of the innovation and competitiveness of the region is concluded with a number of SWOTs and is summarised with a list of key development problems. The **key development problems**, which became the basis for planning cross-cutting goals and actions (in the form of a PRI goal tree) important for all entities of the regional innovation system are the following:

- Insufficient pool of highly qualified labour,
- Low level of innovation with a high level of entrepreneurship,
- Insufficient access to technical education at various levels, including the lack of dual education,
- Failure to use social capital in the development of innovative processes.

Building on a strong analytical background, the Innovation Development Programme defines mission, vision and strategic objectives for innovation policy in the region. The **mission of regional innovation policy** is to create favourable conditions for the development of innovation by supporting cooperation between science and business, creating a competitive environment for people with high-level qualifications and for implementation and strengthening the potential of the region's specialization.

The **vision of regional innovation policy** is built around a concept of recognizable regional innovative products based on/produced through collaboration amongst entrepreneurs within the regional specialization areas and in a business-friendly environment.

The **main goal of the PRIWL** is defined as increasing the regional innovativeness through the development of smart specializations. It is going to be achieved and implemented via **three operational goals** divided into a number (5 or 6 per operational goal) of **strategic actions** under each goal. The strategic actions respond to the key development problems for innovation policy identified in the EDP. Due to the fact that these identified key development

problems were considered important for all smart specialization areas of the region by the representatives of these specializations, they were integrated across the different specialisations and no additional objectives specific for each specialization were formulated. In this way, a strategic vision of the development of smart specializations in the region was created.

The operational goals indicate the main areas within which public intervention can strengthen the innovative development of the region. The **first one addresses the problem of attracting and maintaining a qualified workforce in enterprises**, identified in all areas of specialization. Companies in the Lubuskie Voivodeship have a problem both with finding employees with appropriate competences in the region and with recruiting such people from other voivodships and more widely. On the other hand, employees who have developed professional qualifications within the regional market are often recruited by large enterprises from large metropolises in other regions. Overcoming this obstacle requires action at various levels - both in the educational process and through programmes aimed at people already employed in enterprises or supporting firms in the employment of competent employees.

The **remaining two operational objectives concern, respectively, soft and hard innovative behaviours of enterprises and are to support their competence and capability to introduce and manage them**, increasing the financial possibilities of enterprises in the area of outlays on R&D and innovation activities and supporting investments necessary for the implementation of such activities. The adopted **objectives were detailed by strategic actions, both general and specific for individual areas of smart specialization of the region**. In fact it creates a quite comprehensive but rather complex matrix (or mix) of activities.

Table 1. The structure of PRIWL goals and actions.

Main goal: Increase the region's innovation through the development of smart specializations		
Operational goal 1: Adaptation of the education system to the needs of the market, especially on specializations that fit into smart specializations	Operational goal 2: Increase in pro-innovative attitudes in enterprises	Operational goal 3: Increase investment in innovation
Strategic activities: 1. Improving the availability of technical equipment necessary for vocational training corresponding to the needs of the market 2. Supporting the development of competences in the field of creative and innovative attitudes of students 3. Supporting cooperation between entrepreneurs and schools (dual education) 4. Supporting lifelong learning which corresponds to the needs of the market 5. Promoting the participation of enterprises in internship programs	Strategic activities: 1. Creating incentives for innovative behavior through co-financing R&D works that meet the needs of the market 2. Advisory and training support for innovative people 3. Development of tools aimed at gaining experience (missions, study visits, good practices) 4. Support for companies using intellectual property protection instruments 5. The continuation of the entrepreneurial process of discovery 6. Strengthening inter-branch cooperation	Strategic activities: 1. Creating activities carried out in partnership 2. Supporting investment of enterprises in innovative activity 3. Development of R&D departments and laboratories in enterprises and their equipping with specialized equipment and design software 4. Simplifying procedures for applying for funds 5. Use of the demand system for research carried out by the science sector

The management of the PRIWL is divided into three stages/levels:

1. Strategic – The Board of Region (Zarząd Województwa Lubuskiego) – which accepts/approves all strategic documents like PRIWL updates and modifications
2. Support – The Innovation Development Programme 2020 Working Group – referred later as the Working Group or WG (Zespół Roboczy do spraw Rozwoju Innowacji do 2020 roku) – is a support committee coordinating activities across different departments and consisting of the heads (or delegated persons) of 5 Marshal's Office departments, with its major focus on monitoring activity.
3. Executive – The Department for Management of ROP (Departament Zarządzania Regionalnym Programem Operacyjnym) and other Marshal's Office units according to their defined competences.

During the development of the PRIWL 2016, an Interdepartmental Team for the Preparation of the Innovation Development Programme was appointed in 2015 at the Marshal's Office of the Lubuskie Voivodeship, consisting of representatives of departments responsible for innovation policy and the creation, management and implementation of the ROP. Its main task was to prepare the PRIWL 2016 through active EDP participation (including in the various working groups) and to discuss and agree on key issues related to the development and implementation of the PRIWL. Once this was finalised, the Interdepartmental Team was

dissolved. Since May 2017, the implementation and monitoring of the PRIWL 2016 has been overseen by a Working Group for the Innovation Development Programme until 2020 (see level 2 of the management structure above). **The composition of the working group and its role suggests a significant limitation in relation to the involvement and ownership from the wider stakeholder community in RIS3 processes.** Whilst the group's terms of reference enable the involvement of external experts, there is little evidence that this has occurred. For more details see Chapter 4.2.

The monitoring and evaluation system of the PRIWL was based on several principles (for more details see Chapter 4.3), like the use of generic indicators from a set of standard, recommended indicators; the close link of PRIWL monitoring and evaluation system with the ROP monitoring system and with the EDP, as well as complementing the results of monitoring and evaluation with additional studies and expert opinions to explain aspects of the various observed phenomena in more depth.

Quite a **large number of 21 indicators specific for interventions under the PRIWL** were chosen for monitoring progress of its implementation. Surprisingly, the **PRIWL does not propose numerical values – targets** – for selected indicators, so **measurement of progress and deviation from expected targets is impossible to measure and identify.**

Despite the fact, that annual reports on the state of the Lubuskie Voivodship (see Ref. j and Ref. k), present very detailed information regarding the implementation of actions under the Strategia 2020, they do not provide the necessary information to enable progress of implementation of PRIWL and its effectiveness **to be suitably assessed.**

The PRIWL assumed financial support for its activities would come from the Regional Operational Programme of the Lubuskie Voivodeship 2014-2020 (ROP), national programmes, mainly OP Inteligentny Rozwój (Smart Growth), PO Wiedza Edukacja Rozwój (Knowledge-Education-Development) and PO Polska Cyfrowa (Digital Poland), alongside other EU programmes, mainly HORIZON 2020. Due therefore to potential modifications of the budget breakdown, a detailed expenditure plan is not presented as an integral part of the strategy but rather provisional estimations are attached in the annex. It is clearly stated, that the ROP plays a special role in the financing of the PRIWL. For that reason, the PRIWL indicates in detail the relations (links) between its objectives and strategic activities with the ROP priority axes and their specific objectives.

The alignment across the two documents is not only reflected in terms of assumptions, goals or priorities, but also in implementation. Both the provisions of the PRIWL and ROP determine the shape and scope of project selection criteria in the areas related to smart specialization, hence translating strategic assumptions through to project implementation. As stated in the PRIWL, the monitoring systems of both documents partially contain common indicators of implementation progress, which allows, on the one hand, an assessment of the impact of interventions at the regional level on the implementation of the PRIWL objectives, and, on the other hand, to verify the assumptions of the PRIWL and define the directions of change in the process of entrepreneurial discovery.

In accordance with the monitoring and evaluation framework of the PRIWL, besides annual reporting, an evaluation should be carried out at least once during the implementation and at the end of implementation, including an assessment of progress and recommendations for a possible update. The mid-term evaluation was conducted in the second half of 2019 and published in December 2019 under the title "Ewaluacja Programu Rozwoju Innowacji

Województwa Lubuskiego w kontekście wsparcia innowacyjności oraz badań i rozwoju w ramach RPO-Lubuskie 2020” (see Ref. f – referred later as Evaluation Report) – for more details see Chapter 4.3 of this Report. The evaluation report draws upon a large evidence base but nevertheless, **fails to provide a clear picture of the results of implementation of the PRIWL** as it does not provide an in-depth analysis of smart specialisation sectors, nor of the relationship between the strategy, its implementation and results in the smart specialisation sectors.

On the positive side, a strong element of the Evaluation Report is the analysis of bottlenecks and challenges for innovation diffusion in the region. The starting point for determining the barriers to diffusion of innovation was verification and updating of the four key development problems identified in the PRIWL. On the basis of the analysis of the PRIWL, literature on the subject and the current data of public statistics, sixteen bottlenecks and barriers to diffusion of innovation were determined for six areas (for more details see Chapter 4.1 of this Report). Additionally, expert assessment of the relative influence on the further development of the region is provided.

The assessment of timeliness of the objectives of the PRIWL was carried out using analysis of bottlenecks for innovation diffusion mentioned above and their relationship with operational objectives and strategic activities of the PRIWL. The conducted analyses show that all identified bottlenecks for diffusion of innovation are appropriately reflected in the operational goals and activities indicated in PRIWL, while the degree of coverage of bottlenecks by the different objectives varies significantly. Two major observations contained within the evaluation report are, firstly, that for a bottleneck called “insufficient number and quality of actually functioning cooperation networks of entities capable of transferring innovation in the region” there is only one response to the identified problem under a single strategic activity. Secondly, that none of the strategic activities assigned to individual objectives relates directly to the need to build social capital in the region, despite the fact that failure to use social capital in the development of innovative processes was indicated in PRIWL as one of the key development problems. **Both of these aspects should be addressed in a future review.**

The assessment of the effectiveness of the implementation system of the PRIWL is based mostly on deliberation of the provisions of the PRIWL. In particular progress of implementation is assessed through an analysis of the implementation of activities listed in the Road Map of PRIWL implementation. In conclusion, the Evaluation Report states, that all activities planned at the stage of PRIWL preparation are implemented. Their implementation is primarily the responsibility of the Regional Operational Programme Management Department of the Marshal Office, with support of the Working Group since 2018. It seems, that **focus of assessment is on timely delivery of implementation steps, but not efficiency or effectiveness of the implementation system**, in that there is no element of stakeholder engagement or continuous EDP evidenced.

The EDP was also assessed in the Evaluation Report. It was assumed in the PRIWL that this process would be continued throughout the entire period of the implementation. As part of that process, activities aimed at diagnosing the needs of stakeholders implementing innovative solutions and monitoring bottom-up discovery or experimentation that could indicate the possibility of new areas of smart specialization and, if necessary, updating information on the region's development potential in terms of smart specializations should

be performed. The Evaluation Report positively assesses the EDP, as systematically implemented. As a positive example of functioning EDP in the region, the positive responses received to a survey conducted in 2017/2018 among entrepreneurs regarding the R&D potential and willingness to apply for EU funds in the R&D area in the current perspective is referred to. Equally, the participants of the meetings organised as part of the evaluation did not make any negative observation about the entrepreneurial discovery process during the implementation of PRIWL. According to their opinions, the method of selecting smart specializations, preparing PRIWL and the ongoing process of updating the programme was in line with their expectations. This assessment is somewhat surprising, as, comparatively, an EDP was only minimally exercised during the implementation phase and was not a well-structured, continual process. Stakeholders' opinion might reflect a weak understanding of the EDP and their role, lack of experience and limited expectations, but also the fact that they were successful in securing their interest (for example through the introduction of a new smart specialisation area).

To assess the relevance of smart specialisation areas of the PRIWL, data from the Annual Monitoring Reports and information obtained from participants of workshop meetings for the Evaluation Report were used. **The assessment of the relevance of smart specialisation areas through statistics of submitted and financed project applications and their budgets provides quite a narrow and limited understanding of the situation.** However, according to the Evaluation Report, "smart specializations identified in the Lubuskie Voivodeship have a very wide scope and are defined as horizontal specializations. The choice of this type of specialization is particularly justified in the case of regions characterized by the lack of leading development areas in the traditional, industry-specific approach. In Poland, this type of approach to designating smart specializations has been applied in many regions in the country, including voivodeships developing much faster than Lubuskie, such as Mazowieckie or Podkarpackie. A horizontal approach to designating smart specializations gives a chance to support many different areas, including those whose development potential is high, but, for example, the critical mass of enterprises in the region is still insufficient at this stage." However, during the workshop meetings, it was pointed out that after the next programming period, **it will be necessary to review the selected specializations further and narrow their focus.** However, the Evaluation Report states that at this stage of development of the Lubuskie Voivodeship, such activities would be premature, without justifying this conclusion. Moreover, the Evaluation Report advocates extending the existing catalogue of specializations to include electromobility.

3.2.1 Relations between regional and national smart specialisations.

The process of National Smart Specialisation (Krajowe Inteligentne Specializacje – KIS) identification was in line with the requirements of the ex-ante conditionalities defined in ESIF-related regulations and involved stakeholder consultation, foresight exercises (2006-2009 foresight of scientific research directions; 2011-2012 foresight of industrial technologies), as well as quantitative data analysis related to patents and R&D activities.

In 2013 as a result of the analysis, a list of 18 cross-sector areas – National Smart Specialisations (KIS) – was defined. The list was supplemented in 2014-2015 to include an additional 2 specialisations. In 2018 a review of smart specialisations was conducted, and the number was reduced to 17. Since 1 January 2019 there has been a new list of 15 national

smart specialisations published. The latest change was introduced on 1st January 2020 and the number of national smart specialisations was reduced to 14.

Initially there was no coherent mechanism to communicate and coordinate regional and national efforts related to the development and implementation of smart specialisation. Moreover, monitoring mechanisms of KIS and RIS in Poland are not fully established nor coordinated. On the national level it consists of:

- A Steering Committee composed of the representatives of the Ministry of Economic Development, the Ministry of Science and Higher Education and the Ministry of Funds and Regional Development. It aims at monitoring the effects of KIS implementation, evaluating outcomes and targets and selecting experts to be engaged in the Working Groups for National Smart Specialisations.
- Working Groups for National Smart Specializations (Grupy Robocze ds. krajowych inteligentnych specjalizacji) that provide regular, detailed updates on technologies and research areas linked to each of the specialisations.
- An Economic Observatory composed of experts from various industries and organisations that analyse the current and emerging potential of Polish R&I, identify relevant barriers, threats and opportunities, important market niches, development trends, R&D results and prepare cyclical reports on KIS implementation in order to support KIS monitoring process.
- A Consultative Group (Grupa Konsultacyjna) constituted by national and regional authorities.

Apart from updates to KIS, it is hard to identify any tangible outcomes of the monitoring process. In particular, no analytical reports or data summaries were published by the Economic Observatory to date.³ There is equally no standard approach across the regions to implementing monitoring mechanisms and to coordinate them with national level. However, central administration recently developed and introduced the SmartRadar⁴, an interactive tool for data visualization and comparison, supporting the process of monitoring smart specializations at the national and regional level. The effectiveness and usability of the tool, as well as its' impact on regional level monitoring and multi-level RIS3 alignment and coordination may be assessed in a future evaluation exercise.

3.3 Regional Innovation System characteristics

According to the most recent data analysis of the economic situation and in particular elements related to the Regional Innovation System presented in the diagnosis of the Strategia 2030 (Ref. b), despite the systematic increase in the value of GDP per capita in recent years and good growth dynamics, its level expressed as a percentage to the national average over the years 2012-2017 slightly decreased, and the voivodship's contribution to the national GDP is relatively low. The value of GDP per capita in 2017 was 57% of the EU average, with the average for Poland at 70%. As it is stated in the Strategia 2030 "In the era of the development of the knowledge-based economy, the weak R&D sector in the region is a

³ Paragraph based on RIO Country Report 2017: Poland, 2018; Science for Policy report by the Joint Research Centre (JRC) EC.

⁴ <https://mpit-smartradar.avility.pl>

disturbing phenomenon.” Low innovation indicators persist and characterise Lubuskie as region with:

- Low R&D expenditures per capita (one of the lowest amongst Polish regions)
- A small share of enterprises engaged in innovative activities (below average for Polish regions and decreasing since 2012),
- A low number of reported inventions and granted patents (the lowest amongst Polish regions),
- Poor cooperation between the scientific and research sector and enterprises.

Among all voivodships, the lowest number of students was educated at universities in Lubuskie in relation to the voivodship population. The academic sector is generally weak and requires strong support from the authorities. Due to the requirements of the labour market, the growth trend in the number of graduates of technical and natural sciences is positive and desirable. Unfortunately, Lubuskie inhabitants are also fairly inactive in relation to lifelong learning.

In the context of smart specialisations, diagnosis of the Strategia 2030 observes also, that in recent years, the role of industry in the Lubuskie economy has clearly grown. The high share of industry in gross value added creates a good basis for strengthening this sector in the regional economy for each of the developing industries. The leading sector of the Lubuskie economy is production for the automotive industry, followed by the wood, food, paper, metal products and production of machinery and equipment, as well as furniture. Almost $\frac{3}{4}$ of industrial production is exported and the Lubuskie Voivodeship has continuously maintained a surplus of exports over imports since 2010. The services sector is dominated by trade and repair of motor vehicles, real estate services, transport and warehouse management.

An in-depth statistical analysis of Research, Development and Innovation in the region is presented in a special report published August 2020 (Ref. i). Its main conclusion is that research and development activity in the Lubuskie Voivodeship in 2018 showed an improvement in performance compared to the year before. However, data on the innovative activity of enterprises were less positive. Some key observations (for the full list see Ref. i) were the following:

- In Lubuskie voivodship there was a decrease in the number of entities that conducted research and development activities, but still the number of entities conducting R&D activity per 100 thousand population remains at a level much lower than national average;
- Lubuskie is distinguished by a relatively high share of entities from the enterprise sector in the total number of entities showing research activity;
- There was a further increase in internal expenditure on research and development activities in annual terms, however, the growth rate was lower than in the previous year;
- Most of the internal expenditure was carried out in the enterprise sector, and the share of this sector in total R&D expenditure increased;
- From the total expenditure on R&D activities, the most funds are still allocated to works in the field of engineering and technical sciences;
- In 2018, as in the previous year, research and development activities in the Lubuskie Voivodeship were financed mainly by the enterprise sector; units classified in this sector allocated over 30% more funds to research and development activities than in 2017;

participation of the government sector in financing R&D activities in the voivodship increased to over 25%;

- Lubuskie belongs to the group of voivodships with the lowest share of the most important group of people from the point of view of science and technology, constituting the core of resources (people who have higher education and work for science and technology) in the overall population of professionally active people;
- The average share of innovative enterprises in the total number of enterprises covered by the study has increased in comparison to 2017, both in the voivodship and in the country; in Lubuskie the share was still lower than the average in Poland;
- Industrial enterprises most often introduced business process innovations, and less frequently product innovations;
- In 2017, expenditure on innovative activities in the Lubuskie Voivodeship accounted for 1.6% of GDP, i.e. less than the national average; taking into account the estimated GDP in 2018, a deterioration of performance against this indicator in the voivodship can be expected;
- In 2018, the percentage of private companies' own funds in financing expenditure on innovative activities decreased compared to 2017, but was still higher than the national average;
- In the period 2016-2018, as compared to the period 2015-2017, the percentage of innovatively active industrial enterprises that received public financial support for innovation activities, including research and development activities, decreased.

A comprehensive review of different aspects of RDI activity in Lubuskie region, including up-date of data and information from diagnosis for PRIWL 2016 is presented in the Evaluation Report (Ref. f). The Evaluation Report, as an important element of identification of bottlenecks and challenges, provides also an update on the Lubuskie innovation ecosystem. The situation of the region compared to the results of the diagnosis from 2014 remained more or less unchanged. Whilst the main research and development performing organisations in Lubuskie are higher education institutions (HEIs), R&D activity is the weakest element of university performance in Lubuskie.⁵ The region lacks favourable conditions for the creation of new technologies and the development of close university – industry cooperation. The most important centre in the context of innovative capacity of the region, research and innovation activity and cooperation with entrepreneurs is the University of Zielona Góra and the Academy of Jakub from Paradyż in Gorzów Wielkopolski (including units and companies established by these universities).

The evaluation report additionally confirms that, as stated in PRIWL 2014, compared to the rest of the country, the number of institutions supporting entrepreneurship and innovation and clusters in the Lubuskie Voivodeship is small, although this corresponds to the potential of the regions' population and its enterprises.

According to the latest report of the Association of Organizers of Innovation and Entrepreneurship Centres in Poland (SOOIPP), in 2017 there were 19 centres of this type in

⁵ "Directions for the development of higher education in the Lubuskie Voivodeship until 2030"

the region, of which only 2 were supporting innovation. That is the lowest number in the country.

According to the Evaluation report and documents cited there, currently, in the Lubuskie Voivodeship, there are among others the following institutions, organisations or entities creating entrepreneurship and innovation ecosystem:

- Agencja Rozwoju Regionalnego S.A. in Zielona Góra (Regional Development Agency),
- Employers' organizations, including: the Western Chamber of Industry and Commerce in Gorzów Wielkopolski, the Organization of Employers of the Lubuskie Region in Zielona Góra, the Lubuski Sejmik Economic and the Lubuska Employers' Organization in Gorzów Wlkp
- Units established within the structures of the Marshal's Office of the Lubuskie Voivodeship, operating in the field of entrepreneurship promotion, e.g. the regional Investor Assistance Centre and the Investors and Exporters Assistance Centre
- Industrial parks, science and technology parks and research and development centres:
 - Science and Technology Park of the University of Zielona Góra Sp. z o.o. in Zielona Góra (Nowy Kisielin), which includes: Logistics Centre, Platform for Science and Economy, Centre for Sustainable Construction and Energy, Centre for Innovation - Technologies for Human Health, Centre for Information Technologies and Entrepreneurship Incubator of the City of Zielona Góra . The Science and Technology Park UZ together with the Kostrzyńsko-Słubicka Special Economic Zone (SEZ) subzone constitute the Lubuski Industrial and Technology Park;
 - Regionalne Centrum Technologii i Wiedzy Interior Sp. z o. o. in Nowa Sól, in which there are laboratories: metrology, corrosion research, metal, ICT, data warehouse, intuitive electronic data archiving;
 - Gorzowski Ośrodek Technologiczny Park Naukowo-Przemysłowy Sp. z o.o. specializing in the implementation of projects related to environmental technologies, in which there is an Environmental Technology Transfer Centre, Young Inventor's Club and laboratories for entrepreneurs. There is also a Research and Implementation Centre "Eco-Innovations" in the vicinity of the Park;
 - Lubuski Ośrodek Innowacji i Wdrożeń Agrotechnicznych Sp. z o.o. located in Kalsk (UZ unit), whose main activity is focused on work for the agri-food sector, in particular for food processing, horticulture and nursery;
 - Centrum Energetyki Odnawkowej Sp. z o.o. in Sulechów (UZ unit), was established to develop new energy technologies and to support the preparation of competent engineering staff for enterprises designing, manufacturing and implementing renewable energy devices.
 - Units supporting entrepreneurship of entities starting business activity, including: the Entrepreneurship Incubator at the "Entrepreneurship" foundation in Żary and the Academic Entrepreneurship Incubator operating at the University of Zielona Góra.

It is also important to notice, that one of the largest special economic zones in Poland - Kostrzyńsko-Słubicka SEZ, was established in 1997 for a c.10 year period in the Lubuskie Voivodeship.

An important element of the Lubuskie innovation ecosystem is the enterprise sector, with some leaders in innovation activity present in the region including in ICT business, advanced metrics, nanotechnology and advanced materials for metal industry, automotive, industrial and energy automation, heat treatment of metals and food processing. Their scale is varied as well – from big enterprises through SMEs to dynamic starters. Some good examples are listed below (based on Ref. n):

- Advanced Digital Broadcast Poland Sp. z o.o. (www.adbglobal.com) from Zielona Góra - ADB is a one-stop shop offering innovative and high-quality full system solutions (set top box and broadband gateways mostly) for Pay-TV and Telco operators in Europe and USA, content distributors and hospitality property owners, who want to deliver best-in-class video and broadband services to their customers. The company produced more than 50 million pieces of equipment and generated over 200 patents (ICT).
- Advanced Graphene Products Sp. z o.o. (www.advancedgraphenproducts.com) - AGP from Zielona Góra is a nanotechnology company that specializes in the production of high-quality graphene large-HSMG® - High Strength Metallurgical Graphene. On the basis of its work on graphene, the company generated 2 patents (METAL – advanced materials).
- Cinkciarz Sp. z o.o. (Conotoxia – Multi-currency Financial Services – www.cinkciarz.pl) from Zielona Góra is the only company that was in the Forbes Top rated 100 brands that are most recognizable in Poland and are offering their services abroad (ICT: e-financial services industry).
- Eobuwie.pl Sp. z o.o. (www.eobuwie.com.pl) from Zielona Góra is a leading retailer of footwear and leather goods through the e-commerce market in Poland (ICT: eCommerce).
- LfC Sp. z o.o. (www.lfc.com.pl) from Czerwieńsk, producing implants, designed a new method of surgical treatment which improves the effectiveness of the therapy and protection against disability. The work has generated 15 patents. It is the first Polish company able to sell patent in medical equipment area to the United States (MEDICINE).
- LUMEL (divided into LUMEL S.A. – www.lumel.com.pl) and LUMEL ALUCAST Sp. z o.o. – spin-off, part of EMIS International Group) is the most popular brand in Poland in 2017 in a sector of producers of meters, regulators, and controllers as rated by APA. LUMEL has generated 23 patents (ADVANCED MEASURING DEVICES).
- MB Pneumatics Sp. z o.o. (www.mb-pneumatyka.pl) from Sulechów specializes in the production of fittings for pneumatic brake systems for commercial vehicles (trucks, buses and trailers). The company is among the 5 leading manufacturers of connectors of this type in Europe. Work on further innovative solutions have enabled the company to generate 7 patents (AUTOMOTIVE).
- SECO / WARWICK Group factory in Świebodzin (www.secowarwick.com/pl) is innovative technology leader for the heat treatment of metals in five regions (in vacuum, aluminum and atmospheres and brazing heat exchangers and vacuum metallurgy). SECO / WARWICK Group has 11 companies on 3 continents, with customers in 70 countries. The Group provides standard or dedicated, state of the art equipment and technologies for heat treatment to the leading companies in the automotive, aerospace electronic, machine, tool, medical, recycling, energy including

nuclear, wind, fuel and solar energy and steel, titanium and aluminum production. SECOWARWICK has developed and is implementing the use of augmented reality glasses of Microsoft - HoloLens. Application SECO / LENS is the first in Poland and one of the world's first industrial use. The Group generated 17 patents (METAL).

- RELPOL S.A. (www.relpol.pl) from Żary is the largest Polish manufacturer of relays, which are used in the areas of industrial automation, energy, power electronics, industrial and consumer electronics, telecommunications, household appliances and others (INDUSTRIAL AND ENERGY AUTOMATION).
- Ovopol Sp. z o.o. (www.ovopol.pl) from Nowa Sól is a leading manufacturer of egg products (egg powders mostly). The active compounds, isolated from the egg yolk are used as food additives, feed and for the production of medicines and cosmetics. The Company generated 7 patents (FOOD PROCESSING).

The Evaluation Report summarizes cluster activity in the region. It states, that nominally, about 30 cluster organizations are registered in Lubuskie, but only one – Lubuski Cluster Metal Association from Gorzów Wlkp. has been verified by the Polish Agency for Enterprise Development in periodic research entitled "Benchmarking of clusters in Poland". Additionally, in 2018, three other cluster initiatives: Gorzowski Klaster Energii, energyREGION Rzepin and energyREGION Słońsk, received a Certificate of Pilot Energy Cluster awarded by the Ministry of Energy. On the other hand, as part of cross-border cooperation, international cluster initiatives were established under the project "EuRegioNet - Internacjonalizacja Sieci i Klastrow": Historical Tourism Cluster and the Cluster for Combating Invasive Plants.

Last but not least, an important role in the regional innovation ecosystem is played by the public administration. According to the Evaluation Report, the activity of the administration of the Lubuskie Voivodeship in this respect is visible. In particular this role is well documented by Marshal Office activity in development and implementation of regional innovation policy, including smart specialisation. Its leading role in the EDP is also visible and appreciated by business community.

However, as it is stated in the Evaluation Report on the basis of interviews with stakeholders, **there is a significant fragmentation of the regional authorities' activities and a lack of a uniform regional innovation policy** which may impact all actors of the innovation system in the region. A serious problem, in the opinion of the participants of the workshops for the preparation of the Evaluation Report, is the **lack or insufficient orientation of the development strategy on universities and secondary schools in the region to support activities in the field of educating specialists in the most dynamically developing industries in the voivodeship, generating also innovative solutions.**

Weak innovation performance of Lubuskie voivodeship is also confirmed in the European Regional Innovation Scoreboard (Ref. o). Lubuskie, together with Podlaskie, Zachodniopomorskie, Opolskie and Warmińsko-Mazurskie, is one of the least innovative regions in Poland. Lubuskie belongs to a group of modest innovators. In 2019, the region was classified at 223rd position. Comparing the results to 2011, an increase by 0.9 percentage points was recorded to 41.0%. The lowest results amongst all Polish regions were achieved by Lubuskie in the following categories: public sector expenditure on research and development (B + R), private sector R&D expenditure and joint publications of the private and public sectors.

3.4 Strategic framework for post-2020

The work on renewing the strategic framework for post-2020 was initiated in 2019. Whilst the preparation process was led by the Management Board of the Voivodship, the main body responsible for preparation was a Working Group for the Development Strategy of Lubuskie Voivodship (WG DS). Members of the WG DS were directors and other representatives from the Marshal Office, Voivodship Labour Office, Voivodship Roads Authority, Regional Centre for Social Policy, the Statistical Office in Zielona Góra and external experts. Members of the Lubuskie Voivodship Development Council participated also in that work, while the Department for Regional Development of the Marshal's Office was responsible for drafting the document. As a result of work of the WG DS, in December 2019 a draft Development Strategy for Lubuskie Voivodship for 2030 (Ref. b – Strategia 2030) was adopted by the Management Board of the Voivodship and released for public consultation, ex-ante evaluation and strategic environmental impact assessment. This document defines a renewed strategic framework for the next financial perspective from 2021 to 2027.

It is worth noting, that in the diagnosis of the socio-economic environment in Lubuskie, several development challenges are identified. Among others, **Challenge 4 is about “Building an economy based on knowledge and innovation and development of regional specializations”**. It identifies the following areas for intervention and more detailed, specific challenges or bottlenecks:

- **development and strengthening of the area of innovation within regional smart specializations;**
- development of pro-innovation services as well as creating and supporting regional innovation centres;
- networking of cooperation between the R&D sector and industry, and increased commercialization of research;
- support for the academic sector, in particular in the thematic areas of regional smart specializations;
- internationalization of business entities, including clusters, BEI, research and development institutions, support for internationalization potential and international activity;
- development of education corresponding to the needs of the labour market;
- increasing participation in lifelong learning;
- actions to increase the quality and attractiveness of vocational education;
- improving the number of jobs and increasing professional activity, ensuring qualified staff;
- development of tourist infrastructure, especially of high standards;
- development of organic farms and regional products (including wine, honey, fish, cheese);
- support and development of local markets for high-quality food;
- creating and implementing innovative solutions in agriculture.

The vision of the Strategy 2030 is Lubuskie as a **“green land of smart (intelligent) specialisation”** characterized by a high quality of life for citizens, which means:

- **a region with an innovative, green economy, based on the cooperation of entrepreneurs with science for the development of smart specializations,**

- a region with an open and multicultural society, ensuring accessibility and high quality of public services to all residents, including health care, education, culture and sport, with numerous programmes for children, youth, seniors and other social groups,
- a spatially coherent region, benefiting from a convenient location at the western border of Poland, internally and externally well connected in terms of transport and ICT networks,
- the Odra and Warta river basin regions, beautiful lakes and forests, responsibly using the rich resources of the environment, providing excellent conditions for tourism, recreation, production of healthy food and Lubuskie wine,
- a region in which the two largest cities: Zielona Góra and Gorzów Wielkopolski, together with their functional areas, cooperate with each other, develop dynamically and evenly, and in which medium and smaller cities strengthen their role as local and supra-local development centres, including urban-rural partnerships and the cultivation of rural traditions, while ensuring high living standards,
- an efficiently managed region, effectively using external funds, supporting the activity and cooperation of citizens, local government, entrepreneurs and non-governmental organizations.

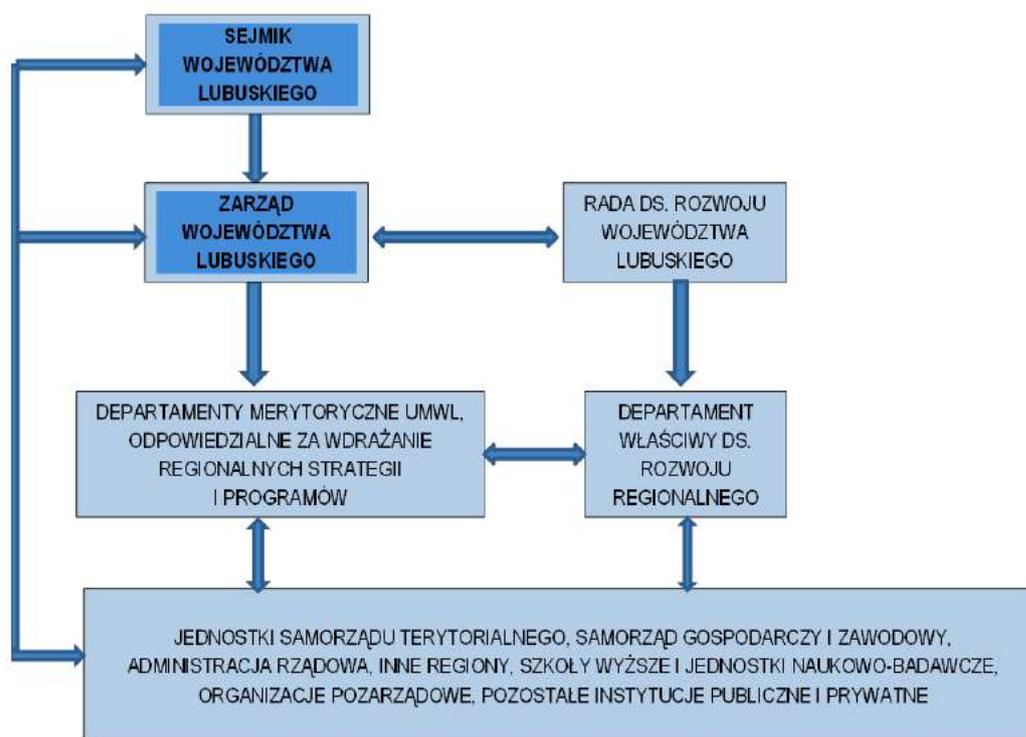
The vision is followed by the **main goal of the Strategia 2030: Smart management of the region's potentials to achieve sustainable development, social and spatial cohesion and a high quality of life for the inhabitants**. The main goal is going to be achieved as a result of the implementation of **four strategic goals**, which constitute a modified and verified continuation of the strategic goals of the Strategia 2020:

1. Smart, green regional economy.
2. A region that is socially strong and close to the citizen.
3. Spatial integration of the region.
4. An attractive region, effectively managed and open to cooperation.

As it is stated in Strategia 2030, Strategic goal 1 is based on the development of innovative solutions in the green economy and supporting the regions potential in this area. "The condition for improving the economic competitiveness of the region is the **appropriate implementation of innovation policy**, including support for research and development activities and strengthening the mechanisms of innovation transfer. **The development of regional smart specializations**, re-industrialization, support for the enterprise sector and strengthening of attractiveness for investment will create good conditions for the development for companies and will improve their competitiveness in not only local, but also domestic and foreign markets. Another important factor in creating an environment conducive to economic competitiveness is an appropriate education system and a high-quality educational offer from higher and vocational education, adapted to the changing needs of the labour market." **It is clear, that smart specialisation, in comparison to the Strategia 2020, is placed significantly higher in strategic hierarchy.**

For more details on operational goals and proposed actions see Chapters 4.5 – 4.7 of this Report.

Figure 2. Basic framework for implementation of the Strategia 2030 (source: Strategia 2030)



3.5 Summary and recommendations for further actions

The analysis of all referenced documents and discussions with the Marshall Office representatives led to the following set of general conclusions and recommendations:

- As the draft of the Strategia 2030 was adopted in December 2019, there is an urgent need to start the renewal process of the PRIWL as an equivalent of RIS3. Although, Strategia 2030 strengthens its link with the smart specialization concept (in comparison to Strategia 2020), **there is a need to review and/or update the choice of smart specializations and actions for its implementation.**
- The vision and tree of goals from Strategia 2030 has to be translated into an effective set of actions that clearly relate to revised/up-dated smart specialisation areas. There is a **clear need for more concentration and strategic orientation in choice of smart specialisations**, based on more in-depth, sector specific analysis that incorporates a balance between quantitative and qualitative data and builds on the Entrepreneurial Discovery Process.
- From the review of available official documents and reports presented above, there is a clear conclusion that a strong statistical base exists on which a RIS3 renewal process could be based. There is a large pool of high-quality statistical data and other relevant quantitative data and contextual information available in referenced sources. However, **there is a need for more qualitative information to be collected and analysed.** This should be at the heart of a re-started Entrepreneurial Discovery Process implemented for the update of the PRIWL.
- Analysis of all available sources confirms that there is a **common understanding of the Lubuskie innovation ecosystem and its strengths, weaknesses, barriers and steps for**

improvement. This provides a strong basis and starting point for further activities under the EDP to identify relevant instruments and activities to face challenges and overcome bottlenecks in the innovation system of Lubuskie.

- To develop the renewed RIS3 for Lubuskie Voivodship (a new PRIWL), **the EDP must be reinvented. Whilst** strong leadership at the level of the Marshal Office's must be in place to take responsibility and to drive a re-started EDP activity, **strong and continuous engagement and ownership from all types of relevant stakeholders must be secured.** The membership of the Working Group should be extended and representatives of all major groups of interest should be incorporated as regular, full members, in particular from smart specialisation sectors.
- **The monitoring system for RIS3 (PRIWL) needs an overhaul.** The number of indicators should be rationalised and adapted to smart specialisation sectors (less aggregated, more sector specific indicators). More quantitative data and qualitative assessment should be collected closer to the ground and to stakeholders. Target values are necessary to monitor progress and evaluate the effectiveness of the portfolio of implemented instruments. Monitoring and evaluation activity should be at the heart of a continuous EDP throughout the implementation of the PRIWL.

More detailed conclusions and recommendations are present under the relevant headings in the following chapters on specific fulfilment criteria for the 2021 – 2027 financial perspective.

4. Preparation in relation to the varying fulfilment criteria for 2021-2027

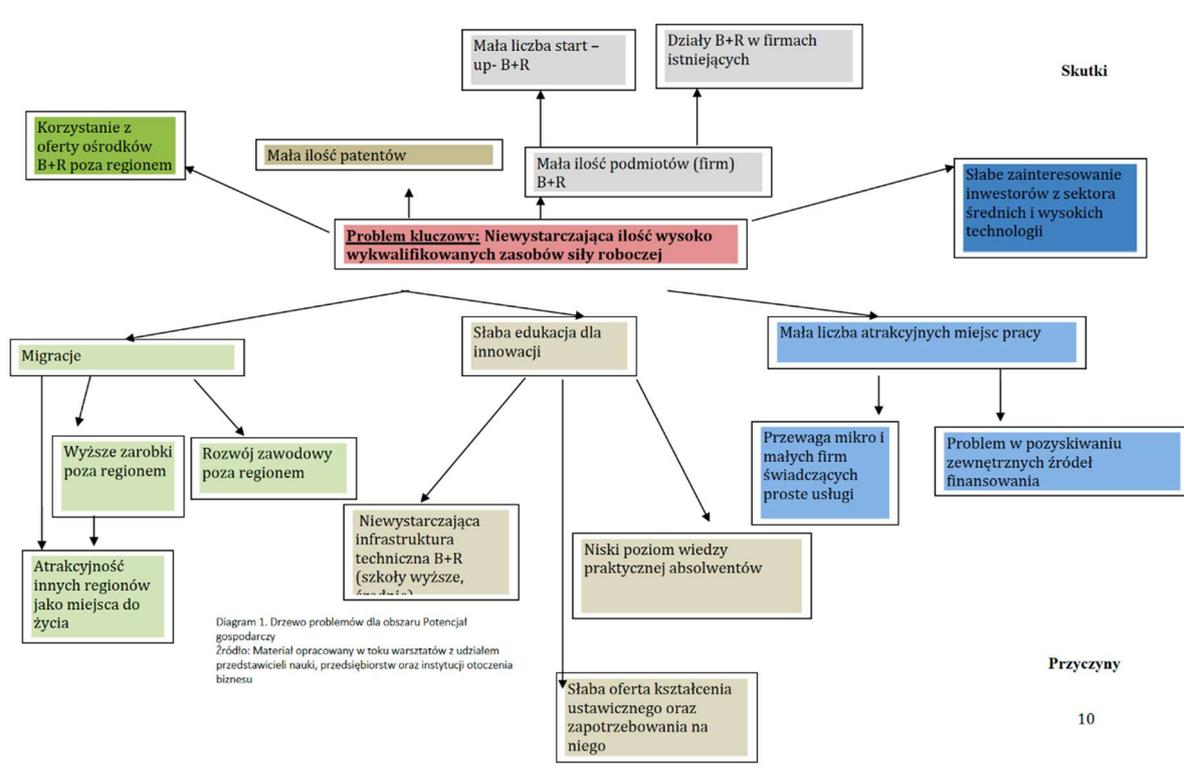
For each criteria the following aspects should be covered: relevant reports and documents in existence as well as data gaps; strengths and weaknesses; challenges / barriers / obstacles; lessons learned and opportunities.

4.1 Up-to-date analysis of bottlenecks/challenges for innovation diffusion and digitalisation

Elements of analysis of bottlenecks for innovation diffusion and digitalisation in Lubuskie Voivodship are rooted in the preparatory work for the Strategia 2020 (Ref. a), and concluded in Chapter 2, where "building knowledge and innovation-based economy" in the region is identified as Challenge no 1.

More in-depth analysis of bottlenecks for innovation diffusion and digitalisation based on broad statistical data sets and intensive Entrepreneurial Discovery Process was prepared in the course of the PRIWL 2016 development. As already presented in this Report in Chapter 3.2 the EDP was implemented through a number of meetings, workshops, surveys and consultations with a wide audience and meetings of the Lubuskie Innovation Council to identify main problems, challenges and expectations of public policy in the field of innovation and entrepreneurship. This extensive work is broadly presented in PRIWL 2016 (Ref. c) and the updated PRIWL 2018 (Ref. d) and its Diagnosis (Ref. e). It is concluded in a form of key

development challenges and relevant “problem trees” (as an example from Ref. d see Figure below)



As already stated in Chapter 3.2 of this Report, the analysis of bottlenecks and challenges for innovation diffusion in the region is a strong element of the Evaluation Report (Ref. f). The starting point for determining the barriers to diffusion of innovation was the verification and updating of the four key development problems identified in the PRIWL. On the basis of the analysis of the PRIWL, literature on the subject and the current data of public statistics, sixteen bottlenecks and barriers to diffusion of innovation were determined for six areas:

1. Development differences and low quality of economic environment for creating innovation:

- low economic and innovative potential of the region in relation to European regions,
- large differences in economic development and the level of innovation in relation to other regions in the country.

2. Insufficient social and human capital in the region:

- insufficient interest of entrepreneurs in creating an innovation culture,
- inadequacies of the local labour market and educational services in the region, leading to an insufficient supply of skilled workers capable of developing and introducing new technologies.

3. Insufficient functioning of cooperation networks of entities capable of transferring innovation in the region:

- insufficient potential of business support institutions in the region,

- insufficient cooperation between business support institutions and enterprises,
- insufficient interest of entrepreneurs in creating a cooperation network,
- insufficient potential of universities to conduct research and transform findings into innovative solutions for the economy.

4. Ineffective communication between participants of the regional innovation system:

- lack of coherence of development priorities across innovation system entities represented by the science sector, entrepreneurs, business support institutions and local authorities,
- no uniform policy of supporting the development of innovation at various stages of implementation of innovative projects,
- limited self-perception of various entities as an actor in the innovation system.

5. Low level of knowledge transfer to the economy:

- insufficient level of implementation of innovative solutions in companies,
- insufficient level of cooperation with other enterprises or institutions operating in the region,
- limited perception of universities in the region as a partner in the process of creating innovation for companies.

6. Permanent emigration of secondary school graduates and highly qualified employees to other regions in the country and abroad:

- lack of sufficient and high-quality jobs for qualified staff,
- proximity to the more attractive German labour market.

The expert assessment of the relative impact of bottlenecks/challenges on further development of the region is provided below

Bottlenecks/challenges for diffusion of innovation	Impact on future development of the Region		
	low	medium	high
1. Development differences and low quality of economic environment for creating innovation:			
➤ • low economic and innovative potential of the region in relation to European regions			+
➤ • large differences in economic development and the level of innovation in relation to other regions in the country			+
2. Insufficient social and human capital in the region			
➤ • insufficient interest of entrepreneurs in creating an innovation culture			+
➤ • inadequacies of the local labour market and educational services in the region, leading to an insufficient supply of skilled workers capable of developing and introducing new technologies			+
3. Insufficient functioning of cooperation networks of entities capable of transferring innovation in the region			

➤ • insufficient potential of business support institutions in the region			+
➤ • insufficient cooperation between business support institutions and enterprises		+	
➤ • insufficient interest of entrepreneurs in creating a cooperation network		+	
➤ • insufficient potential of universities to conduct research and transform findings into innovative solutions for the economy			+
4. Ineffective communication between participants of the regional innovation system:			
➤ lack of coherence of development priorities across innovation system entities represented by the science sector, entrepreneurs, business support institutions and local authorities,			+
➤ • no uniform policy of supporting the development of innovation at various stages of implementation of innovative projects			+
➤ • limited self-perception of various entities as an actor in the innovation system		+	
5. Low level of knowledge transfer to the economy:			
➤ • insufficient level of implementation of innovative solutions in companies		+	
➤ • insufficient level of cooperation with other enterprises or institutions operating in the region		+	
➤ • limited perception of universities in the region as a partner in the process of creating innovation for companies			+
6. Permanent emigration of secondary school graduates and highly qualified employees to other regions in the country and abroad:			
➤ • lack of sufficient and high-quality jobs for qualified staff		+	
➤ • proximity to the more attractive German labour market		+	

The most recent assessment of bottlenecks and challenges for innovation diffusion is presented in draft Strategia 2030 and its Appendixes (Ref. b). Extensive analysis of quantitative data is concluded in Chapter 2, where “building knowledge and innovation-based economy and development of smart specialisation’ in the region is identified as Challenge no 4. However, it is not clear to what extent an EDP and analysis of qualitative data formed part of the preparation of the draft Strategia 2030. As preparation of a renewed PRIWLS has not started yet, the EDP should be in a heart of that activity to review, update or identify new bottlenecks and challenges for innovation diffusion in the Lubuskie region.

4.1.1. Summary and recommendations for further actions

The analysis of all referenced documents and discussions with the Marshall Office representatives led to a following set of conclusions and recommendations:

- As it was already mentioned in general conclusions and recommendations in Chapter 3.5 there is a strong evidence base present in the referenced documents. **All recent strategic documents and monitoring reports provide more than enough quantitative data and observations about the innovation ecosystem in Lubuskie Voievodship.** There is also a lot of benchmark analysis based on different indicators, which compares Lubuskie with other Polish and EU regions. The moderate innovation capacity, relatively low position in many rankings, as well as obstacles and barriers for R&D&I activity in the Lubuskie region are well identified and documented. Many of them are presented as elements of SWOT analysis in different source documents.
- In particular Ref. b, Ref. e, Ref. f and Ref. i provide the most recent and rich pool of data, directly and indirectly (but interesting as contextual data) related to innovation. **Without any delay and additional work all these materials could be an initial input for work on the update of the PRIWL.**
- However, the **strong quantitative analytical base should be supplemented with more qualitative data and information.** The Marshal's Office, with the Regional Territorial Observatory are well prepared for the collection and analysis of this type of data, e.g. through regular surveys, interviews with focus groups, as well as regular and close cooperation with the Working Group.
- The barriers and bottlenecks for R&D&I activity in the region and bottlenecks/challenges for innovation diffusion and digitalization were identified and documented appropriately for the present RIS3 (PRIWL) in the previous EDP process. Due to the early phase in the preparation of the updated PRIWL, detailed barriers for R&D&I activity in the region and bottlenecks/challenges for innovation diffusion and digitalization have not yet been reviewed. Although, there is an extensive analysis present in the Evaluation Report (Ref. f) it is quite clear, that a **more participative process is necessary.** Otherwise, there is a serious risk, that the renewal of the RIS will be based on general observations that are not well grounded in the present situation of the region.
- **Social and economic partners in the region have strong potential for the collection and communication of more qualitative data and information,** as well as in the identification of practical barriers/obstacles for R&D&I activity in the region. This has been evidenced by the success of the EDP in the preparatory phase of PRIWL 2016, and in the activity of the Lubuskie Innovation Council. A number of active clusters in the region also provide a promising environment for this process.

4.2 Existence of competent regional / national institution or body, responsible for the management of the smart specialisation strategy

The management of the smart specialisation strategy in Lubuskie region was already described on the basis of the Ref. a and Ref. d in Chapter 3.1 and Chapter 3.2 of the present report. The Board of the Region, as **managing body, receives** all strategic documents like PRIWL updates and changes and approves them through special resolutions. The Innovation Development Programme 2020 Working Group (PRI Working Group) is a **support committee** coordinating activities requiring different competences and consists of heads (or delegated persons) of 5 Marshal's Office departments:

- Department for Management of Regional Operational Programme

- Department of Regional Programmes
- Department of European Social Fund
- Department of Regional Development
- Department of Entrepreneurship and Brand Strategy

The main tasks of the PRI Working Group as **supporting body** are as follows:

- Exchange of information between the departments involved in the PRIWL implementation.
- Taking initiatives in the area of implementing and updating the PRI and the Operational Programme.
- Reviewing reports on the implementation of PRIWL.
- Evaluation of selection / call criteria in the area of smart specializations.
- Recommending the launch of new competitions, including projects resulting from the entrepreneurial discovery process and pilot projects emerging from potential new areas of specialization.

The Department for Management of Regional Operational Programme (DMROP) competences as an **executive body** are as follows:

- Coordination of the work of the PRI Working Group.
- Management, implementation and monitoring of the PRI.
- Coordination of entrepreneurial discovery process and organizing meetings of the PRI Working Group.
- Ongoing acquisition of comments on the implementation of PRI and Regional Operational Programme (ROP-Lubuskie 2020), both from stakeholders as well as a part of the entrepreneurial discovery process.
- Development of selection criteria in ROP-Lubuskie 2020 in the smart specialization areas.
- Analysis of the use of regional (financial and other) resources by enterprises in the smart specializations and using this information to introduce improvements and modifications in the scope of implementing and updating PRI and ROP-Lubuskie 2020.
- Monitoring the implementation of PRI indicators.
- Monitoring the implementation of PRI objectives in cooperation with support departments meeting the operational objectives of the PRI.

The Department of Regional Development competencies are:

- Cooperation with the departments involved in implementing the PRI in the implementation of the ROP-Lubuskie 2020.
- Monitoring of National Operational Programmes and exchange of information on the implementation of indicators.
- Supporting monitoring of the use of National Operational Programmes funds by enterprises from smart specialization areas and using this information to make improvements and modifications in the implementation and updating of PRI.
- Supporting monitoring of the implementation of PRI objectives in the area of higher education institutions, research and development.
- Supporting monitoring and reporting of the Entrepreneurial Discovery Process in the area of higher education, research and development.

The competencies of the Department of Entrepreneurship and Brand Strategy are:

- Cooperation with the departments involved in implementing the PRI in the implementation of the ROP-Lubuskie 2020 and monitoring of entrepreneurship
- Animating activities as part of the Entrepreneurial Discovery Process in the area of entrepreneurship and business environment.
- Supporting monitoring of the implementation of PRI objectives in the area of entrepreneurship and the business ecosystem.
- Supporting monitoring and reporting of the Entrepreneurial Discovery Process in the area of entrepreneurship and the business environment.

Additionally, For the Department of Regional Programmes and the Department of European Social Fund, relevant, supporting competencies are:

- Cooperation with the departments involved in implementing the PRI in the implementation of the ROP-Lubuskie 2020.
- Monitoring and exchange of information on the implementation of indicators.

In the Evaluation Report (Ref. f) the assessment of the effectiveness of the implementation system of the PRIWL is based mostly on a deliberation of the provisions of the PRIWL. In particular progress in implementation is assessed through an analysis of the implementation of activities listed in the Road Map of PRIWL implementation. In conclusion, the Evaluation Report states, that all activities planned at the stage of PRIWL preparation are implemented. Their implementation is primarily the responsibility of the Regional Operational Programme Management Department of the Marshal Office, with support of the Working Group since 2018. However, the assessment focuses upon timely delivery of implementation steps, but not upon the efficiency or effectiveness of the system, specifically in relation to stakeholder engagement in a continuous EDP.

The basic framework for the implementation of the Strategia 2030 (Ref. b) is sketched in Chapter 3.4 of this Report. In principle it follows on from the management system for Strategia 2020. The system for the management and implementation of the updated PRIWL is not defined yet, due to the early stage of preparation. However, taking into account the rather complicated framework for the division of competencies and activities of the different Marshall Office departments in the management of present PRIWL, it seems rational to review the system and introduce some simplification and optimisation. In particular, the role of the renewed Working Group, with a strengthened role for stakeholders, should be properly considered.

4.2.1. Summary and recommendations for further actions

The analysis of all referenced documents and discussions with the Marshall Office representatives led to the following set of conclusions and recommendations:

- **A competent regional institution responsible for the management of the smart specialization strategy exists in the Lubuskie Voivodship and plays an adequate role.** Namely, the Department for Management of the Regional Operational Programme (DMROP) with the support of a number of other departments of the Marshal's Office are dedicated to the management of the preparation, implementation, monitoring and evaluation of the RIS3 (PRIWL).

- **Available reports and interviews confirm the overall positive assessment in particular of the activity of the Regional Development Department and in general the broader activity of the Marshal's Office.** However, some reservations and critical opinions (in particular related to monitoring process – see Chapter 4.3 for more details), as well as recommendations for improvement were reported in the mid-term evaluation of RIS3 implementation (see Ref. d).
- In the Evaluation Report (Ref. f) the **focus of assessment of the management system for implementation of PRIWL is on timely delivery of implementation steps, but not efficiency and effectiveness of the system.** There is no element of stakeholder engagement or continuous EDP evidenced in the approach. **Renewal of the PRIWL and the recommended relaunch of the EDP create a timely opportunity to perform proper assessment of the management system and ensure necessary improvements.**
- An important task of the DMROP, with the support of the Working Group, is the management, implementation and monitoring of the PRIWL, but no **evaluation of the institutional system has been undertaken.** The **analysis of documents does not confirm sufficient activity and full engagement in the realization of tasks across the different actors and organisations, and so a process evaluation with a view to informing the future programming period would be a useful exercise.**

4.3 Monitoring and evaluation tools to measure performance towards the objectives of the strategy

The monitoring and evaluation system for PRIWL was already outlined and commented on, on the basis of the Ref. a, Ref. d and Evaluation Report Ref. f, in Chapter 3.1 and Chapter 3.2 of present Report. More detailed evaluation and recommendations are provided below.

As it is stated in Chapter 6 of PRIWL (Ref. d), the monitoring and evaluation system of the PRIWL is based on several principles:

- For regular monitoring and benchmarking of the competitive position of Lubuskie region and an assessment of its innovation potential: annual reports from the national central administration (relevant ministries) based on so-called “list of common indicators”, which identifies almost 100 indicators that are comparable at voivodeship level. These are divided into general indicators of competitiveness and innovation of the region, indicators related to smart specialization and product (output), result, strategic result and expenditure indicators for the categories of interventions such as increasing the innovation of enterprises, increased use of results of R&D work by enterprises, increasing internationalization of enterprises and increasing cooperation in the innovation system, including within clusters and enterprise networks.
- Selection of specific indicators for interventions under the PRIWL broken down into context indicators, illustrating the general situation in a given area, and product and result indicators selected for operational goals and strategic activities. Input indicators will also be measured at the level of operational objectives.
- Close linkages of the monitoring and evaluation system with the EDP and the process of constant updating of the PRIWL - the results of monitoring and evaluation will be

presented each time to the PRI Working Group and will be the basis for discussions on introducing improvements in the implementation of PRIWL or updating it.

- Close linkages of the PRIWL monitoring and evaluation system with the monitoring system of RPO - Lubuskie 2020.
- Complementing the results of monitoring and evaluation with additional studies and expert opinions explaining the detailed aspects of the various observed phenomena. Some of them will be commissioned by the Ministry of Economy based upon the list of common indicators, others will be implemented by the Marshal's Office of the Lubuskie Voivodeship depending on the emerging needs.

A fairly **large number (21) of indicators specific for interventions under the PRIWL** were broken down into context indicators (one to monitor implementation of the main goal - Percentage of SMEs introducing product or process innovations), product or output indicators (sixteen to monitor the implementation of strategic activities) and four result indicators selected for three operational goals (number of graduates of faculties related to smart specialization areas, expenditures on innovative activities in enterprises in relation to GDP, internal expenditure on R&D of the enterprise sector in relation to GDP and number of patents per 1 million inhabitants). Three input indicators were also selected at the level of operational objectives. Surprisingly, the **PRIWL does not propose a numerical value – targets – for selected indicators, so measurement of progress and deviation from expected targets is impossible to measure and identify.**

Annual implementation reports from the PRIWL provide a very elaborative analysis of the RDI environment based on public statistics and a broad description of implemented activities under the four strategic objectives, including **reports on listed indicators**. The latest available PRIWL implementation report for 2018 (see Ref. m) published in November 2019, provides the following numbers for years 2014 – 2017 (with some missing numbers explained as not available).

Indicator	2014	2015	2016	2017	2018
number of graduates of faculties related to smart specialization areas	-	1 186	958	928	800
	-	which constitutes 24.60 % of the total number of graduates of universities in Lubuskie	which constitutes 22,53 % of the total number of graduates of universities in Lubuskie	which constitutes 23,53 % of the total number of graduates of universities in Lubuskie	which constitutes 25,19 % of the total number of graduates of universities in Lubuskie
expenditures on innovative activities in enterprises in relation to GDP	0,74%	1,92%	1,50%	1,60%*	-
internal expenditure on R&D of the enterprise sector in relation to GDP	0,18%	0,20%	0,20%	-	-

number of patents per 1 million inhabitants	-	23	24	21	-
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*estimated value

For unknown reasons, **values for the one context indicator, which monitors the main goal, are not listed in the document, nor is there any reference made to expected target values.** Therefore, despite the fact that reports on the state of the Lubuskie Voivodship (see Ref. j and Ref. k), present very detailed information regarding implementation of actions under the Strategia 2020, **they do not provide the necessary information to enable progress of implementation of PRIWL and its effectiveness to be suitably assessed.**

As already mentioned in the Chapter 3.2 of present Report, beside the annual reporting, at least once during the implementation and at the end of its implementation, an evaluation should be carried out – including an assessment of the progress and recommendations for a possible update. The mid-term evaluation report (see Ref. f) was divided into two stages. The main objective of the first stage was to assess the timeliness of the objectives of the PRIWL and the relevance of the selection of smart specialization areas in the Lubuskie Voivodeship. As a part of the second stage, an analysis of the impact of smart specializations on the economic development of the region was carried out. The evaluation study took into account three main evaluation criteria:

1. **Effectiveness.** Understood as an assessment of whether the assumed goals defined in the document (PRI WL) are achieved as a result of the implemented projects under RPO - L2020.
2. **Relevance.** Understood as the degree of adequacy of the actions taken, intervention objectives and implementation of RPO - L2020 in relation to the identified regional smart specializations.
3. **Efficiency,** understood as the ratio of effects (results of support) to expenditures (financial resources).

The evaluation report is based upon a large evidence base from public statistics, reviews of regional strategic and implementation documents, monitoring reports, additional studies and surveys, as well as prognostic analysis, interactive workshops and individual in-depth interviews etc., and provides a general picture of different aspects of socio-economic development of the region. However, the report **fails to provide a clear picture of the results of implementation of the PRIWL** as it does not provide in-depth analysis of smart specialisation sectors, nor the relationship between the strategy, its implementation and results in the smart specialisation sectors. The report is over-reliant upon data relating to the implementation of the ROP at the project level and in relation to budget and tends to justify the current state of play.

For example, the report could make reference to missing target values for indicators used for monitoring main and operational objectives of the PRIWL and the lack of reporting against the contextual indicator. Instead, the report is rather contradictory in its approach, suggesting in one section that indicators selected for monitoring the progress in the implementation of PRIWL allow for monitoring the effectiveness of the implementation, and in another section that the lack of monitoring against indicators could be justified for less developed regions,

and even that additional indicators could be introduced. There does not seem to be an adequate justification for the lack of measurement or reporting against the selected indicators and neither for the introduction of new indicators. Whilst there is the suggestion that the monitoring system, instead of measuring progress against target values, could identify and visualise trends in performance

According to draft Strategia 2030 (Ref. b) monitoring and evaluation systems follow on from those structures developed for Strategia 2020. The entities responsible for monitoring the Strategia 2030 are the Sejmik of the Lubuskie Voivodeship and the Board of the Lubuskie Voivodeship. The Sejmik evaluates the implementation of the Strategy and introduces the necessary changes. The Management Board is responsible for the implementation and monitoring by periodically assessing the degree of implementation of Strategia 2030.

In the structures of the Marshal's Office, the unit responsible for monitoring is the department responsible for regional development and the Lubuskie Regional Territorial Observatory (LROT) operating within it. LROT is a research and analytical base that provides information for the purposes of shaping development policy in the voivodship. The main partner in the Strategia 2030 monitoring system is the Statistical Office in Zielona Góra and the Lubuski Regional Research Centre operating within its structures.

Monitoring of the Strategia 2030 will be carried out on the basis of monitoring and evaluation reports, in particular the annual "Reports on the state of the Lubuskie Voivodeship". As part of the monitoring system, monitoring indicators were adopted for each of the objectives of the Strategy. Baseline values were defined for the indicators and target values were estimated, taking into account spatial and territorial differences. To monitor Strategia 2030 in the areas relevant to smart specialisation and the future, updated PRIWL, the following indicators are listed: Gross expenditures on R&D (GERD), R&D personnel per 1000 active persons and Share of net revenues from the sale of products of high and medium-high technology in the revenues from the sale of products of industrial processing enterprises. **It sets solid ground for the definition of a renewed monitoring system for future PRIWL.**

4.3.1. Summary and recommendations for further actions

The analysis of all referenced documents and discussions with the Marshall Office representatives led to a following set of conclusions and recommendations:

- **The present and future monitoring system of the Strategia 2020 and Strategia 2030 sets a relevant framework for the definition of the monitoring system for PRIWL.** However, in both documents the relationship between monitoring of the regional development strategies and the various sector strategies are not identified. **A more coherent approach and closer relationship would strengthen the monitoring and evaluation efforts and help to avoid overleaping activity.**
- As already mentioned in general conclusions and recommendations in Chapter 3.5 **the monitoring system for PRIWL needs an overhaul.** The number of indicators should be rationalised and adapted to smart specialisation sectors (less aggregated, more sector specific indicators). More quantitative data and qualitative assessment should be collected closer to the ground and to stakeholders. Target values are necessary to monitor progress and evaluate the effectiveness of the portfolio of implemented instruments.

- The present, and probably to large extent the future monitoring and reporting system relies upon highly aggregated statistical data, which allows for limited differentiation between national and regional policy impact. Highly aggregated statistical indicators are also not sensitive enough to identify sectoral impact of the RIS3. **From the analysis of available reports and based on recommendations from the mid-term evaluation of RIS3 implementation it is strongly recommended that monitoring and evaluation tools which allow for more detailed, sector specific monitoring of progress and results of implementation of the RIS3 are implemented.**
- **The Marshal's Office, with the Lubuskie Regional Territorial Observatory have the capability to design and implement an appropriate set of monitoring tools and a more effective monitoring system.** In the design process, it is important to take into account the specificity of different smart specialisation areas to capture relevant effects.
- **Modification of the monitoring and evaluation system must be reflected in the structure and activity of the Working Group. The monitoring and evaluation activity should be in a heart of a continuous EDP throughout the implementation of the PRIWL.**
- **The monitoring and evaluation system measuring performance towards the objectives of the RIS should equally take into account quantitative and qualitative indicators and data.**
- Although, some elements of assessment of the monitoring and evaluation system are present in the mid-term evaluation of the RIS3 implementation, it has to be pointed out, that during the implementation period of the RIS3, **formal evaluation of the monitoring and evaluation system has not happened.** Renewal of the RIS3 and recommended restart of the EDP provide a timely opportunity to perform a fuller assessment or evaluation of the system.

4.4 Effective functioning of entrepreneurial discovery process

The Entrepreneurial Discovery Process (EDP) is defined as an inclusive and interactive bottom-up process in which participants from different environments (policy, business, academia, etc.) discover and produce information about potential new activities, identifying potential opportunities that emerge through this interaction, while policymakers assess outcomes and ways to facilitate the realization of this potential⁶. This definition was very well reflected in the process which led to the present PRIWL, but it is not referred to in the draft Strategia 2030. However, according to available documents, even without naming it, the preparation of the draft strategy contained elements of an EDP.

According to PRIWL, the process of entrepreneurial discovery will continue throughout the lifecycle of the PRIWL. It will be carried out through regular analysis of the context/environment of each specialization - researching the scientific potential and through open surveys for entrepreneurs. This will allow a diagnosis of the needs of stakeholders in relation to support and development of innovative solutions. In addition, bottom-up discoveries / impulses that could indicate new areas of smart specialization and potential areas for support from European funds.

⁶ <https://s3platform.jrc.ec.europa.eu/entrepreneurial-discovery-edp>

In 2016 the World Bank conducted a project in the Lubuskie region with elements of the Entrepreneurial Discovery Process, where part of the activities involved the sharing of best practice (see Ref. h). At the request of the Marshal's Office of the Lubuskie Voivodeship, the World Bank organized 24 interviews with innovative companies. The Bank also transferred know-how for independent intelligent interviews to representatives of local business support institutions who participated in the project as observers. The results of the interviews were used in the work on the PRIWL. The World Bank experts proposed also the implementation of several activities as forms of the EDP. There were in particular:

- Interviews: continuing to conduct interviews, building a more representative database and formulating more detailed recommendations for actions for individual specializations,
- Smart Labs: working with the best entrepreneurs in the area of individual specializations in the form of moderated meetings, preparing a Business and Technology Map as a public good for entrepreneurs and political decision-makers,
- Club of Champions: inspirational and informational meetings for the best entrepreneurs in the region, improving networking and management practices,
- Maps of innovation: ongoing monitoring of submitted applications and the results of calls in individual programmes, allowing for collation, analysis and data visualization in relation to market trends and the effectiveness of public policy.
- Crowdsourcing: a cheap and fast method that allows for the simultaneous involvement of many entrepreneurs in the creation of a modern innovation policy by obtaining entrepreneurs' opinions and ideas regarding the support of innovation. It also allows for the initial identification of entrepreneurs to whom it would be worth offering specific public support.

These recommendations seem to be still valid and should be taken into account in the EDP leading to the renewal of the PRIWL.

The EDP was assessed in the Evaluation Report (Ref. f). It was assumed in the PRIWL that this process would be continued throughout the entire period of the implementation. As part of that process, activities aimed at diagnosing the needs of stakeholders implementing innovative solutions, monitoring bottom-up discoveries / impulses on potential new areas of smart specialization and, if necessary, updating information on the region's development potential in terms of smart specializations were expected to be performed. The Evaluation Report assesses the EDP positively, as systematically implemented. As a positive example of functioning EDP in the region, a survey conducted 2017/2018 among entrepreneurs regarding the R&D potential and willingness to apply for EU funds in the R&D area in the current perspective is referred to, which resulted in the addition of smart specializations –related to the space sector⁷. The participants of the meetings organised as part of the evaluation did not make any negative observation about the entrepreneurial discovery process during the implementation of PRIWL. According to their opinions, the method of selecting smart

⁷ In 2017, the Territorial Contract was extended to include the undertaking "Development of space technologies in Lubuskie Voivodeship". On this basis, the concept of building the Space Technology Park was developed. The facility will be established on the basis of a partnership, the aim of which is to undertake joint activities related to the preparation and implementation of the project in such a way as to enable efficient and effective achievement of the objective, which is to create a modern industrial and research centre in the area of space technologies and industrial innovation in Lubuskie Voivodeship.

specializations, preparing PRIWL and the currently ongoing process of updating the programme is in line with their expectations.

A self-assessment of the Marshall's Office engagement in the EDP is less positive and for example reflects a low level of participation of stakeholders in continued monitoring activity. In that context, it is important to note, that the regional government created a platform for the exchange of thoughts and opinions for innovation, establishing the Lubuskie Innovation Council (LRI) by the Resolution of the Board of the Lubuskie Voivodeship No. 18/230/2011 of 1 March 2011. The Council was acted as a consultative and advisory body for the Management Board of the Lubuskie Voivodeship in the field of strategic and current activities in the area of innovation, initiating projects for the development of innovation and supporting the local government in this regard. Members of the LRI were representatives of local government administration, universities and research and development units, non-governmental organizations and entrepreneurs from Lubuskie. The last traces of its activity on the Internet are dated 2016. As it was explained by the representatives of the Marshal Office, after work on the PRIWL 2016 was completed, the activity of the LRI was no longer animated /facilitated by regional authorities and part of its tasks were carried out on the level of the Lubuskie Development Council. Whilst formally there was no change, the activity of the LRI was, in practice, discontinued.

It is worth noting that activities relevant to the Entrepreneurial Discovery Process and different forms of strengthening stakeholder engagement are listed under the operational goal 4.3 "High efficiency of public administration and regional institutions as well as cooperation for the development of the region" of the draft Strategia 2030. In particular "Strengthening dialogue and partnership cooperation of representatives of various environments in the region, in particular through: functioning of advisory and opinion-making bodies, strengthening the process of public consultations, exchange of information and experiences and organizing meeting spaces for representatives of entrepreneurs, science, non-governmental organizations and public administration are proposed.

4.4.1. Summary and recommendations for further actions

The analysis of all referenced documents and discussions with the Marshall Office representatives led to the following set of conclusions and recommendations:

- **From the analysis of all available sources, it is clear that the EDP was very seriously and very successfully introduced in the preparation of the present PRIWL.** This process is well documented.
- **However, that same analysis confirms that the EDP has slowed down, and was carried out at the minimum level during the implementation period of the RIS3.** Elements of the EDP were practiced in relations between the Marshall Office and stakeholders, but **EDP in an institutionalized, structured form was not exercised.**
- As it was already stated in general conclusions and recommendations in Chapter 3.5 to develop the renewed RIS3 for Lubuskie Voivodship (a new PRIWL), **the EDP must be reinvented.** Whilst strong leadership at the level of the Marshal Office's must be in place to take responsibility and to drive a re-started EDP activity, **strong and continuous engagement and ownership from all types of relevant stakeholders must be secured.** The importance of Strategia 2030 and proposed activities under operation goal 4.3 should be used for that purpose.

- **The membership of the Working Group should be extended and representatives of all major groups of interest should be recruited as full regular members**, in particular those from smart specialisation sectors. Stronger engagement of stakeholders could be secured by **revitalisation of the Lubuskie Innovation Council or another forum in the field of innovation**.
- **The structure and work modality of the Working Group must be reviewed and reinvented**. Beside extension of the membership, other possible options for further discussion include enlarging the Working Group and creating sector specific or thematic (e.g. internationalisation, industrial transition etc.) sub-groups as a platform for more in-depth discussion. For the same purpose, the number of stakeholders representing a specific sector but from different types of organisations (SMEs, big companies, intermediary organisations, business support organizations, etc.) should be adopted to ensure the balanced structure of sub-groups and the whole Working Group.
- **Different forms of activities recommended by the World Bank experts in 2016 should be seriously taken into consideration** when the EDP will be restarted and modalities of work for the Working Group planned.
- In order to overcome organisational and functional weaknesses of some groups of stakeholders, **different activities including capacity building or project pipeline development could be implemented as important elements of the EDP**.

4.5 Actions necessary to improve regional research and innovation systems

The review of the most recent EU documents related to the European Semester from 2019 and 2020 (Ref. p – Ref. u) provides a high-level policy framework for the proposal of actions necessary to improve regional research and innovation system. Due to the nature of these documents observations and recommendations address mostly the national level, but some of them could and should be reflected upon also at the regional level in an appropriate way. Some specific, regional and in particularly Lubuskie Voivodship relevant observations are reviewed below.

The Country Report Poland 2019 (Ref. p) indicates the fast growth of all Polish regions, but also recognizes significant differences. In a context of research and innovation, it is worth recalling an assessment of implementation of the country-specific recommendations of 2018 for Poland, which points out limited progress in strengthening the innovative capacity of the economy despite the extension of the R&D tax incentives and limited progress in supporting closer collaboration between business and research institutions. Despite the adoption of the “Constitution for Business” and work on a new public procurement law, limited progress in improving the regulatory environment and no progress in ensuring effective public and social consultations in the legislative process were reported. Whilst these recommendations address national weaknesses, they are also relevant at the regional level.

Ref. p provides also an assessment of the innovation capacity of Poland. Poland’s innovation performance remains modest and is uneven across regions (e.g. in 2015 five regions spent well above 1 % of regional GDP on R&D, but in four regions this ratio was below 0.35 %). It is observed that although under national and regional Smart Specialisation Strategies considerable efforts were made to strengthen knowledge transfer, Poland scores low in science-business links, which are underdeveloped, and this impacts upon productivity and

competitiveness. An additional observation is that the innovative activity of business is hampered by some barriers. In particular, progress in digitalization of businesses is hampered by limited access to highly qualified specialists, as indicated by one third of ICT sector companies. A more elaborate description of the above-mentioned barriers, which hampers innovative activity of business in Poland are presented in Ref. q. All these characteristics are also valid for Lubuskie Voivodship.

As a consequence, the Council Recommendation on the 2020 National Reform Programme (Ref. r) proposes in its third recommendation to “strengthen the innovative capacity of the economy, including by supporting research institutions and their closer collaboration with business. Focus investment-related economic policy on innovation, transport, notably on its sustainability, digital and energy infrastructure, healthcare and cleaner energy, taking into account regional disparities. Improve the regulatory environment, in particular by strengthening the role of consultations of social partners and public consultations in the legislative process.”

In the most recent Country Report Poland 2020 (Ref. s) progress in implementation of 2019 country specific recommendations is assessed. Progress in implementation of the third recommendation cited above is assessed as limited. In particular, some progress is noticed in strengthening the innovative capacity of the economy with the implementation of the Act on Higher Education and the launch of the Łukasiewicz Scientific Network⁸. Overall, there has been limited progress in focusing investment-related economic policy on innovation despite various measures in innovation, transport, digital and energy infrastructure, healthcare and cleaner energy, and no progress in improving the regulatory environment through strengthening the role of consultations of social partners and public consultations in the legislative process.

As in the previous Country Report, there is also an assessment of Poland’s current innovation capacity. It is stated that Poland is taking measures to enhance the economy’s innovative capacity, but a significant rise in innovative outputs is yet to materialize. It is observed that despite the fact that business expenditure on R&D has more than quadrupled in the past ten years, it remains below the EU average with regional disparities persisting. It is also noticed that Polish companies, particularly small ones, show a slow uptake of digital technologies. To a certain extent, the limited take-up of digital technologies may be driven by firms’ difficulties in hiring specialists, despite a high share of graduates in science, engineering and computing. Micro and small companies also have limited access to specialised ICT training due to personnel availability and cost and wage-related concerns. Another comment, particularly relevant for Lubuskie Voivodship is about the unexploited potential of cooperation between science and business.

Despite this rather critical assessment of Polish innovativeness, there is no recommendation in the Country Specific Recommendations 2020 (Ref. t) directly addressing innovation activity. However, there is a reference to further promote the digital transformation of companies and public administration, investments in digital infrastructure, as well as ensure effective public consultations and involvement of social partners in the policy-making process.

⁸ The Łukasiewicz Research Network is a network of 32 public industrial research institutes located in 12 cities across Poland. ŁRN is the third largest research network in Europe. They provide comprehensive and competitive business solutions in the fields of automation, chemicals, biomedicine, ICT, materials, and advanced manufacturing.

Analysis of the Strategia 2030 (Ref. b) leads to the conclusion, that above mentioned country specific, high-level recommendations are adequately reflected and adopted to regional context. For that purpose, it is worth noting (see also Chapter 3.4 of this report), that in the diagnosis of the socio-economic environment in Lubuskie, among other challenges, **Challenge 4 is about “Building an economy based on knowledge and innovation and development of regional specializations”**. It identifies the following areas for intervention and more detailed, specific challenges or bottlenecks:

- **development and strengthening of the area of innovation within regional smart specializations;**
- development of pro-innovation services as well as creating and supporting regional innovation centres;
- cooperative networking between the R&D sector and industry, and increased commercialization of research;
- support for the academic sector, in particular in the thematic areas of regional smart specializations;
- internationalization of business entities, including clusters, BEI, research and development institutions, systemic support for services for the internationalization potential and international activity;
- development of education corresponding to the needs of the labour market;
- increasing participation in lifelong learning;
- actions to increase the quality and attractiveness of vocational education;
- improving the number of jobs and increasing professional activity, ensuring qualified staff;
- development of tourist infrastructure, especially of high standards;
- development of organic farms and regional products (including wine, honey, fish, cheese);
- support and development of local markets for high-quality food;
- creating and implementing innovative solutions in agriculture.

The above-mentioned Challenge 4 is reflected at the level of strategic and operational goals. As it is stated in Strategia 2030, “strategic goal 1 is based primarily on the development of innovative economic solutions in the Lubuskie Voivodeship and supporting the area utilising its potential in accordance with the principles of the green economy. The condition for improving the economic competitive position of the region is the **appropriate implementation of innovation policy**, including support for research and development activities and strengthening the mechanisms of innovation transfer. **The development of regional smart specializations**, re-industrialization, support for the enterprise sector and strengthening of attractiveness for investment will create good conditions for the development of companies and will improve their competitiveness in not only local, but also domestic and foreign markets. Another important factor in creating an environment conducive to the competitiveness of the economy is an appropriate education system and the high-quality educational offer of higher and vocational education, adapted to the changing needs of the labour market.” This strategic goal 1 is disaggregated in the following **seven operation goals**:

1.1 Strengthening the R&D sector and innovation transfer mechanisms, **especially in the areas of regional smart specializations**

- 1.2 Development of green economy, including environmentally friendly energy
- 1.3 High quality of education and its connection with the regional labour market
- 1.4 Strengthening investment attractiveness and economic ties of the region
- 1.5 Development of a competitive enterprise sector and support for reindustrialization
- 1.6 Development of tourist potential
- 1.7 Competitive and ecological agriculture and development of regional products

For each operational goal, there is a list of “intervention directions” (actions) presented in Strategia 2030. In the **context of strengthening research and innovation potential, as well as smart specialisations** of the region under operational goal 1.1 the proposed list of actions is the following:

- a. Development of regional smart specializations.
- b. Support for R&D activities and support for implementation of innovations and striving to ensure and diversify sources of their financing.
- c. Creating conditions for network cooperation between science and business favouring commercialization of knowledge.
- d. Strengthening and development of infrastructure for R&D&I.
- e. Internationalization of scientific and research centres and development of international cooperation.
- f. Support for science and technology parks, technology transfer centres and other R&D centres in the region.
- g. Development of innovative technologies in industry, including the space sector.
- h. Strengthening the research staff in the R&D sector.
- i. Building a system of technical advisory support and knowledge transfer in the innovative industry, construction, agriculture and services sectors.

Another relevant example are activities under Operational goal 1.3:

- a. Support for study programmes at the higher education level that are attractive and compatible with the regional labour market, including:
 - development of academic research and teaching staff,
 - modernization of material base of the university,
 - supporting and initiating activities in the areas of cooperation between business, science and education,
 - promoting studying at universities in Lubuskie (for the local population and more widely).
- b. Adjusting the vocational education offer to the changing needs of the labour market:
 - providing vocational education courses appropriate to the needs of the labour market
 - creating a network of vocational schools, responding to the challenges of developing smart specializations in the region, etc.

For **promotion of ICT, information society and e-commerce**, actions related to infrastructure are planned under operational goal 3.2 Strengthening access to ICT infrastructure:

- a. Development of a fiber-optic network in order to popularize access to broadband Internet.
- b. Access of all households to broadband Internet with a capacity exceeding 100 Mb/s.
- c. Modernization of the existing ICT infrastructure.
- d. Construction of new fiber optic routes in areas not yet covered by cable installations.
- e. Continuation of the expansion of broadband networks and access infrastructure.

Another aspect of **promotion of ICT, information society and e-commerce** is covered by activities under operation goal 4.5 Development of e-services and digital competencies of the society, in particular:

- a. Development of e-government and digital accessibility.
- b. Increasing the availability of more sophisticated public e-services.
- c. Development of existing e-services and implementation of new information society services in public administration.
- d. Promotion information on the availability of e-services in the field of information society.
- e. Building digital competences in society.
- f. Supporting digital education of children and youth, in particular in the field of programming.

It is not clearly stated in the draft Strategia 2030, but proposed activities under different operation goals adequately reflect most of challenges and bottlenecks for knowledge transfer and innovation elaborated in Evaluation Report (Ref. f).

The proposed broad set of activities under different operational goals, but in particular under operational goal 1.1 of the draft Startegia 2030, provides a framework for further development and operationalization under an updated PRIWL. There is a risk, that the proposed framework might limit the scope of action proposed by stakeholders within the EDP leading to renewed PRIWL, but it should not limit types of measures and instruments to be implemented within the proposed framework. PRIWL, which has a hybrid format as a smart specialization strategy and implementation programme creates the relevant environment for the creative interpretation of the draft Strategy 2030 and the development of an optimal set of policy instruments.

4.5.1. Summary and recommendations for further actions

The analysis of all referenced documents and discussions with the Marshall Office representatives led to a following set of conclusions and recommendations:

- Analysis of the EU documents (Ref. p – Ref. u) provides high-level recommendations relevant more for the national, rather than regional level. **However, a careful review**

of the draft **Strategia 2030 (Ref. b)** suggests, that these high-level recommendations are adequately addressed at regional level.

- **Strategia 2030, in particular operational objective 1.1 adequately addresses the improvement needs of Lubuskie regional innovation ecosystem.** However, the quite prescriptive nature of detailed actions under the relevant operational objectives might limit the development of an optimal policy mix of instruments within the renewed PRIWL.
- **More in-depth discussion on specific regional challenges and the needs of the innovation ecosystem is necessary, in particular in the context of smart specialisation areas.** The reintroduced Entrepreneurial Discovery Process, and relaunched activity of the Working Group creates the right framework conditions for that discussion.
- **From the presented documents, in particular the Evaluation Report (Ref. f) there is no clear conclusion about the effectiveness of the present set of instruments implementing the PRIWL.** There is a clear need for in-depth analysis, including discussion with stakeholders about the effectiveness of the present portfolio of instruments and for a better tailored, specific new portfolio of instruments. A renewed EDP should create an opportunity for such a discussion and assessment.

4.6 Actions to manage industrial transition

Industrial transition, understood as globalization, new technologies and the transition to a climate neutral, circular economy, is radically changing societies and economies. On the one hand, the process of industrial transition provides enormous opportunities, but on the other it requires substantial investment in advanced manufacturing, people's skills, as well as research and innovation. The European Commission, in the country report for Poland 2020, outlines the opportunity of the transition to a climate neutral economy to modernise the Polish economy, address developmental challenges and citizens' needs. Future growth should depend on innovative technology that incorporates circular economy and decarbonisation aims and relies on alternative jobs, businesses and skills.

As it is stated in the recent OECD report *Regions in Industrial Transition* (Ref. v) "Industrial transition is a transformative, yet complex process. **The success of industrial transition depends inherently on the ability of regions to harness the opportunities arising from industrial modernisation while at the same time limiting the costs for affected communities and workers.** Regions in industrial transition typically face challenges in modernising their industrial base, upgrading the skills of the workforce, compensating for job losses in key sectors and raising low productivity that limits income growth. Overall, regions will benefit from technological progress and related developments, yet some places and certain population groups risk being left behind."

The OECD report might be summarized in several **key messages** (present in the Executive summary of the report):

1. Regions in industrial transition need to help workers to transition to future-oriented jobs and firms to embrace the digital economy.
2. Broadening and diffusing innovation supports productivity growth in regions in industrial transition.

3. Innovative entrepreneurship can support new industrial growth paths.
4. Industrial transition should aim to be just and inclusive.
5. Ensuring an effective multi-level governance policy framework is key.
6. Managing policy complexity requires active policy learning and adaptation.

These key messages could be taken as a set of guidelines, but also provide a conceptual framework for a readiness assessment of national or regional policy to tackle industrial transition. Within that framework, present and post 2020 strategic documents will be assessed in this chapter.

In the draft Strategia 2030 (Ref. b) the concepts of reindustrialisation and industrial transition are not fully elaborated, but specific relevant actions are proposed under different operational goals. **In the context of reindustrialisation** the number of activities under operation goal 1.5 “Development of a competitive sector enterprises and support for reindustrialization” reflect topics recommended in the OECD key messages above, like:

- a. Strengthening the regional system of financial support for Lubuskie SMEs.
- b. Creating an integrated system of consulting, training and financial support for start-ups.
- c. Professionalization of services provided by business support institutions.
- d. Raising competences and adjusting the qualifications of business employees to changes taking place in the economy.
- e. Support for people starting business activity and promoting self-employment.
- f. Creating conditions for intelligent re-industrialization, digital transformation of companies and the development of industry 4.0.
- g. The use of local resources / raw materials for economic purposes, in particular copper.
- h. Support for crafts, family businesses and small arms.
- i. Conducting an effective migration policy adapted to the needs of the Lubuskie labour market.
- j. Rational use of forest resources for economic purposes.
- k. Creating conditions for the development of the silver economy.
- l. Supporting the national and international position of Lubuskie companies, in particular in the e-economy sector.

There are also other relevant activities related to human resource development for future industries under operational goal 1.3 “High quality of education and its connection with the regional labour market” (see Chapter 4.5 above for more details), as well as related to managing policy complexity, which requires active policy learning and adaptation in the operational goal 4.3 “High efficiency of public administration and regional institutions as well as cooperation for the development of the region”.

Adequate implementation of the industrial transition concept could be achieved if it is well connected to and integrated within regional specific smart specialisation areas and the policy mix of instruments implementing them. Thus, industrial transition should be taken into consideration as an important topic for discussion within a renewed EDP leading to formulation of an updated PRIWL. One option which could bring together discussion on

industrial transition, internationalisation and review of smart specialisation sectors for Lubuskie could be the concept of sectors related in a value chain⁹, both in terms of leading (large) companies and small but dynamic entities. Economic ties and demonstration of participation in these relations (chains), and not simple classification to one of the present smart specialization sectors could be used to determine whether support could be received from the PRIWL.

4.6.1. Summary and recommendations for further actions

The analysis of all referenced documents and discussions with the Marshall Office representatives led to the following set of conclusions and recommendations:

- **Although, the draft Strategia 2030 does not elaborate industrial transformation, in particular the Industry 4.0 concept, elements of these concepts are present on the level of proposed activities under different operational goals.**
- **Industrial transition should be an important element of the work on renewal of the PRIWL**, which should look to address the specific challenges of territorial transformation or transition in Lubuskie. Adequate implementation of the industrial transition concept could be achieved when it is well connected or integrated into regional specific smart specialisation areas and policy mix of instruments implementing them.
- **Alongside integration into a continuous EDP process and the future PRIWL, proper long-term operationalisation will be a key factor.** This operationalisation should involve broad stakeholder engagement, multi-level coordination and address social, environmental and economic consequences of the transition. A choice of relevant support instruments, with well-defined beneficiary groups and adequate, fair criteria for access should be the focus of further work on the Regional Operational Programme for 2021 – 2027.

4.7 Measures for international collaboration / enhancing collaboration with partners outside a given MS in priority areas supported by the smart specialisation strategy

In the draft Strategia 2030 (Ref. b) the concept of internationalisation is not fully elaborated. However, specific relevant actions related to international or transborder cooperation are proposed under different operational goals. A relevant set of activities is proposed under operational goal 1.4 “Strengthening investment attractiveness and economic ties of the region”, in particular:

- a. Supporting exports of Lubuskie enterprises.
- b. Strengthening the national and European competitiveness of the region.

⁹ Related sectors are sectors participating in the value chain created in a given smart specialization sector e.g. the agri-food sector included in the core specialisation cooperates with the IT or automation industry not included in the core specialisation. However, ICT solutions and automation creating added value in the food sector are understood as innovations in the agri-food smart specialisation sector.

- c. Inventory and development of individual promotion programmes for investment areas and providing infrastructure for new economic activity zones.
- d. Strengthening the investment offer and high-quality investor service at the regional and local level.
- e. Development of international economic cooperation, including, in particular, cross-border cooperation of business entities and business support institutions.
- f. Development and promotion of clusters corresponding to the regional economic specificity.
- g. Development of the conference and training infrastructure in connection with attractions and the tourist offer of the region.

Some other activities relevant for internationalisation are listed under operational goal 4.1 Effective international and cross boarder cooperation:

- a. Development of international cooperation:
 - strengthening interregional cooperation on the basis of existing partnership agreements,
 - initiating cooperation with other regions, especially European ones,
 - implementation of joint European projects,
 - supporting partnership contacts of local governments, institutions and non-governmental organizations.
- b. Strengthening cross-border cooperation with Brandenburg and Saxony through:
 - development of various forms of cooperation in the economic, social and administrative dimensions,
 - effective implementation of projects under Interreg Programmes,
 - joint activities in the field of modernization and expansion of cross-border infrastructure,
 - development and promotion of city twinning cooperation.
- c. Supporting activities of the Spree-Nysa-Bóbr and Pro Europa Viadrina Euroregions as well as other cross-border cooperation organizations and structures, eg EGTC.
- d. Activities for European integration, cooperation with European Union institutions and international organizations with the use of the Regional Office of the Lubuskie Voivodeship in Brussels.
- e. Cooperation with other voivodships, especially from western Poland, and active participation in the work of supra-regional organizations and appropriate bodies.

It is clear from the review of activities above, that internationalisation and cross border cooperation is equally important in economic, social and political (institutional) dimension.

As indicated in Chapter 4.6 above, internationalisation in combination with industrial transition and renewed approach to selection of smart specialisation areas based on concept of sectors related in a value chain might create interesting and refreshing framework for definition of policy mix of instruments implementing PRIWL. Thus, internationalisation together with industrial transition should be taken into consideration as an important topic for discussion within a renewed EDP leading to formulation of an updated PRIWL.

4.7.1. Summary and recommendations for further actions

The analysis of all referenced documents and discussions with the Marshall Office representatives led to a following set of conclusions and recommendations:

- **Although, the draft Strategia 2030 does not fully elaborate international cooperation, elements of these concepts are present on the level of proposed activities under different operational goals.**
- **Different aspects of the internationalisation should be an important element of the work on renewal of the PRIWL**, which should look to address the specific challenges of the Lubuskie region. Adequate implementation of the internationalisation criteria and actions could be achieved if it is well connected to and integrated into the different regional specific smart specialisation areas and the policy mix of instruments implementing it.
- **Internationalisation in combination with industrial transition and renewed approach to selection of smart specialisation areas** based e.g. on concept of sectors related in a value chain or other forms of sectoral concentration **might create interesting and refreshing framework for definition of policy mix of instruments implementing PRIWL.**
- **Alongside integration into a continuous EDP process and the future PRIWL, proper long-term operationalisation will be a key factor.** This operationalisation should involve broad stakeholder engagement, multi-level coordination. A choice of relevant support instruments should be the focus of further work on the Regional Operational Programme for 2021 – 2027.

5. Conclusions

Summarizing all detailed conclusions and recommendations presented in previous chapters, the key recommendations for the Lubuskie region are as follows:

- The first key enabling element concerns a refreshment of the Entrepreneurial Discovery Process and its more systematic organization, which directly addresses fulfilment of the criterion on effective functioning of entrepreneurial discovery process.
 - This should be achieved through restarting the activity and renewal (widening) of the membership of the Working Group and/or restarting of the Lubuskie Innovation Council (or other form of strong engagement of stakeholders to create trust and ownership). It should secure institutionalisation and streamlining of the process.
- The second key enabling element is a need to overhaul the monitoring and evaluation system for PRIWL, which directly addresses fulfilment of the criterion on monitoring and evaluation tools to measure performance towards the objectives of the strategy.
 - This should be achieved through strategic review of all targets, definition of initial and expected values, rationalisation of number of monitoring indicators, and their better adaption to smart specialisation sectors (less aggregated,

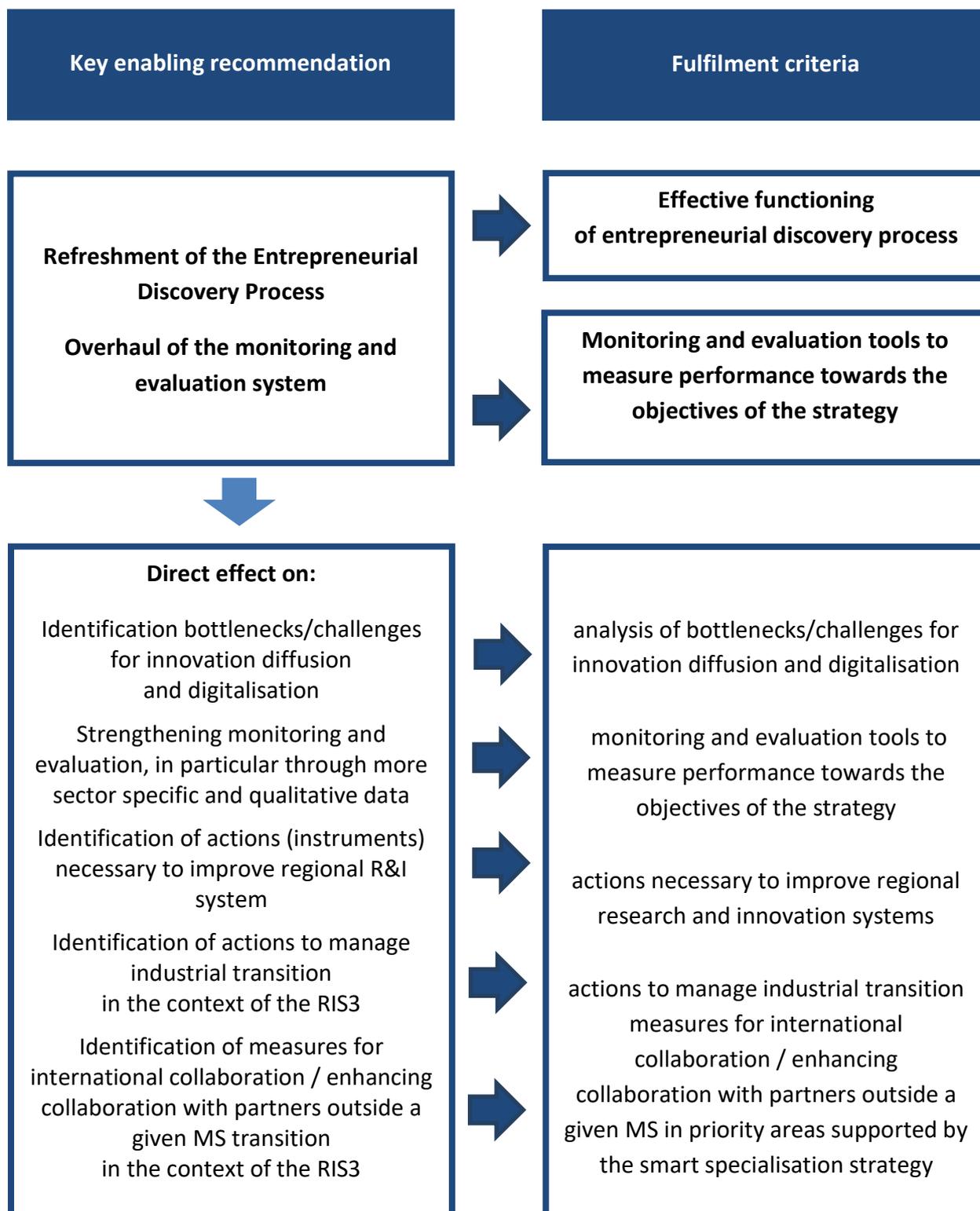
more sector specific indicators). More quantitative data and qualitative assessment should be collected closer to the ground and to stakeholders.

- Monitoring and evaluation activity should have the highest priority and contribute fully to a continuous, reinvented EDP and the implementation of the PRIWL.
- The two above mentioned key enabling elements, supported by implementation of number of detailed recommendations should provide the necessary framework and drive the fulfilment of the following criteria:
 - analysis of bottlenecks/challenges for innovation diffusion and digitalisation.
 - existence of competent regional institution responsible for the management of the RIS3
 - actions necessary to improve regional research and innovation systems.
 - actions to manage industrial transition.
 - measures for international collaboration / enhancing collaboration with partners outside a given MS in priority areas supported by the smart specialisation strategy.

Figure 2 below presents a graphical presentation of the logic of the proposed recommendations and their relevance to criteria fulfilment.

The implementation of the two key recommendations should support effective and efficient implementation of all recommendations and contribute towards addressing all seven fulfilment criteria.

Figure 2. Graphical presentation of the logic of proposed recommendations (prioritisation and sequence) and its relevance to criteria fulfilment.



References (main sources of data):

- a. Strategia Rozwoju Województwa Lubuskiego do roku 2020 (Strategia 2020), Załącznik do Uchwały Nr XXXII/319/12 Sejmiku Województwa Lubuskiego z dnia 19 listopada 2012 r.
- b. Strategia Rozwoju Województwa Lubuskiego do roku 2030 – projekt (Strategia 2030), Załącznik do Uchwały Nr 69/1037/19 Zarządu Województwa Lubuskiego z dnia 10 grudnia 2019 r.
- c. Program Rozwoju Innowacji Województwa Lubuskiego (PRIWL 2016). Załącznik do Uchwały Nr 91/1051/16 Zarządu Województwa Lubuskiego z dnia 23 lutego 2016 r.
- d. Program Rozwoju Innowacji Województwa Lubuskiego (PRIWL 2018). Aktualizacja 2018. Załącznik do Uchwały Nr 279/3968/18 Zarządu Województwa Lubuskiego z dnia 30 sierpnia 2018 r.
- e. Diagnoza stanu innowacyjności w Województwie Lubuskim, Załącznik nr. 1 do PRIWL.
- f. Ewaluacja Programu Rozwoju Innowacji Województwa Lubuskiego w kontekście wsparcia innowacyjności oraz badań i rozwoju w ramach RPO-Lubuskie 2020, Grudzień 2019.
- g. Kalendarium odkrywania specjalizacji (Calendar of discovering specialisations), Marshal Office own elaboration for present project.
- h. Pilotażowy Projekt Banku Światowego: Proces Przedsiębiorczego Odkrywania w województwie lubuskim: podsumowanie działań i rekomendacje. (World Bank pilot project: Entrepreneurial Discovery Process in Lubuskie Voivodship: summary of actions and recommendations). March 2016.
- i. Działalność badawczo-rozwojowa i innowacyjna w województwie lubuskim w 2018 r. na podstawie danych statystycznych statystyki publicznej (Research, development and innovation activity in Lubuskie Voivodship in 2018 based on public statistic). August 2020.
- j. Raport o stanie województwa za rok 2018. Published 2019.
- k. Raport o stanie województwa za rok 2019. Published 2020.
- l. Raport z realizacji Programu Rozwoju Innowacji Województwa Lubuskiego za okres od stycznia do grudnia 2017 r. September 2018.
- m. Raport z realizacji Programu Rozwoju Innowacji Województwa Lubuskiego za okres od stycznia do grudnia 2018 r. November 2019.
- n. Centrum Obsługi Inwestora: Nasze sukcesy; article available at: <http://investinlubuskie.pl/nasze-sukcesy/>
- o. European Innovation Scoreboard https://ec.europa.eu/growth/industry/innovation/facts-figures/regional_en
- p. Country Report Poland 2019, Brussels, 27.2.2019 SWD(2019) 1020 final
- q. Research and Innovation analysis in the European Semester 2019 Country Reports,
- r. COUNCIL RECOMMENDATION on the 2020 National Reform Programme of Poland and delivering a Council opinion on the 2020 Convergence Programme of Poland, Brussels, 5.6.2019 COM(2019) 521 final
- s. Country Report Poland 2020, Brussels, 26.2.2020 SWD(2020) 520 final

- t. COUNCIL RECOMMENDATION on the 2020 National Reform Programme of Poland and delivering a Council opinion on the 2020 Convergence Programme of Poland, Brussels, 20.5.2020 COM(2020) 521 final
- u. Country-specific recommendations 2020 Research and Innovation analysis.
- v. Regions in Industrial Transition: Policies for People and Places, OECD Publishing, Paris 2019.