INTERREG EUROPE PEER REVIEW

To promote University-Industry Collaboration

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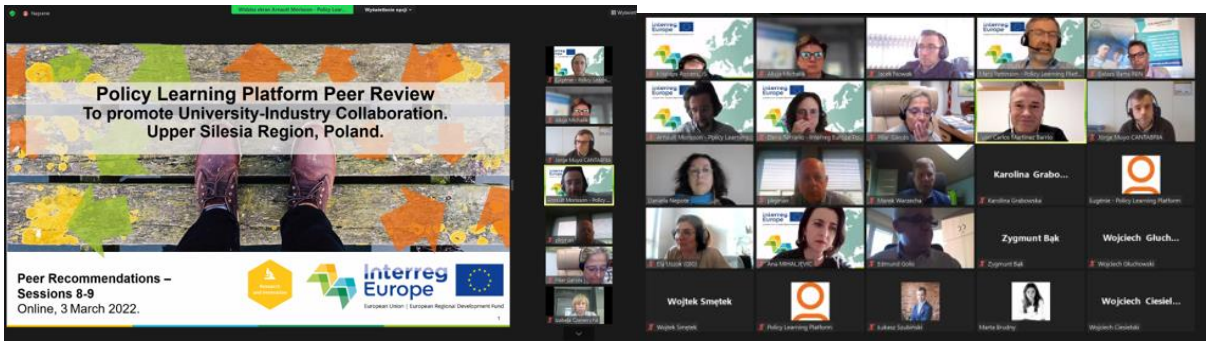

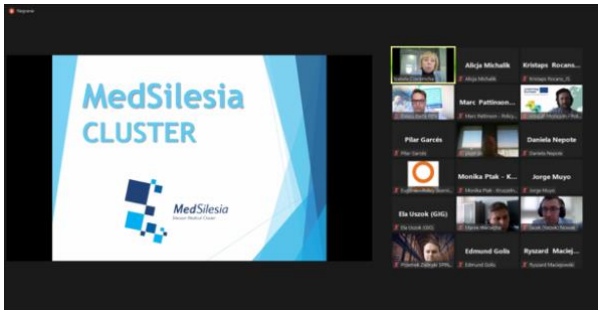

Final Report

Gliwice, April 2022

Presentation of the beneficiary and the motivation for conducting the Peer Review

The Silesian Voivodeship is the most urbanised and industrialised region of Poland, with a well-developed transport network and energy infrastructure. Its economic and scientific potential results from the concentration of enterprises from various sectors of the economy, including those belonging to the group of high and medium-high technologies or knowledge-intensive services. The region's advantage is created by many scientific centres with diversified educational, research and development competences. The Silesian Voivodeship is characterised by a high share in the creation of the Gross Domestic Product (GDP), second only to the Mazowieckie Voivodeship

The Silesian Voivodeship is among moderately innovative[1] regions and is in 202nd place among European regions. In 2016-2018, 28% of industrial enterprises and 16.3% of service enterprises were innovatively active.

Silesian ecosystem for innovation

The Silesian ecosystem for innovation has been consistently developed since 2002 by the Marshal's Office of the Silesian Voivodeship and partner institutions such as: higher education and science entities, business environment institutions, clusters, the Network of Regional Specialised Observatories, institutions financing business development and creating other financial support instruments, as well as local government units and their subsidiaries.

Specialised Regional Observatories

Creating opportunities for cooperation between enterprises and scientific entities within the framework of regional specialisations determined in the Technology Development Programme of the Silesian Voivodeship is the subject of activities of the Network of Regional Specialised Observatories (SO RIS) conducted since 2013. SO RIS currently constitutes a partner platform for managing the innovation ecosystem in the region and conducting the process of entrepreneurial discovery. The leader of the entire Network is the Marshal's Office of the Silesian Voivodeship, while the Observatories which form it currently include:

- SO RIS Medicine (leader: Górnośląska Agencja Przedsiębiorczości i Rozwoju Sp. z o.o.),
- SO RIS Energy (leader: Park Naukowo-Technologiczny "Euro-Centrum" Sp. z o.o.),
- SO RIS ICT (leader: Park Naukowo-Technologiczny "Technopark Gliwice" Sp. z o.o.),
- SO RIS Environment (leader: Central Mining Institute)
- SO RIS Materials (leader: Silesian University of Technology),
- SO RIS Machines (leader: Silesian Science and Technology Centre of Aerospace Industry Ltd.)
- SO RIS Nano (leader: University of Silesia, Katowice),
- SO RIS Transport (leader: Silesian University of Technology).

[1] Hugo Hollanders, Nordine Es-Sadki and Iris Merkelbach, Maastricht University (Maastricht Economic and Social Research Institute on Innovation and Technology –MERIT)Regional Innovation Scoreboard 2019, European Union, 2019

An important element of the Network's activities is to develop an integrated model for networking specialised observatories with both local authorities and the business and science sectors. The main objective of the Network is to develop the technological and innovative potential of the region by building a competitive advantage of the voivodeship.

For many years, the region has been implementing the process of entrepreneurial discovery, managed it is managed and coordinated by the regional authorities, i.e. the Marshal's Office of the Silesian Voivodeship.

IMPLEMENTING INNOVATION POLICY IN ŚLĄSKIE VOIVODSHIP BY 2030 - key stages:

- 2003 - first Regional Innovation Strategy in Poland
- 2008 - first regional project implementing the strategic goal Regional Innovation Ecosystem
- 2013 - first Network of Regional Specialised Observatories (SO RIS) - cooperation networks between local authorities, business environment organisations, R&D sector and business based on technological specialisations diagnosed in the Technology Development Programme,
- 2021 - New generation of Regional Innovation Strategy: "Regional Innovation Strategy for the Silesia Voivodeship 2030" is a strategy of INTELLIGENT TRANSFORMATION. In the area of management and implementation of the innovation ecosystem of the Silesia Voivodeship it refers to all smart and regional specialisations of the region. The strategy responds to challenges related to global processes, negative effects of stagnation, issues related to ageing society or climate change. Taking into account the complexity of problems related to industrial transformation that the Silesia Voivodeship has to carry out, the strategy focuses on activating those environments which, thanks to innovations, can initiate new economic processes, strengthen their position in the international area and provide new workplaces.

Strategic challenges for innovation policy in the Silesia Voivodeship dedicated to smart transformation of the region implemented on the foundations of the regional innovation ecosystem:

Challenge I - improving the innovation level of the region's economy compared to Europe.

Challenge II - digital transformation of the economy and society, minimizing the risk of digital exclusion.

Challenge III - reducing the atomisation of the economic structure, under increasing pressure from international competition and legal requirements for the operation of small businesses.

Challenge IV - increasing integration of the innovation ecosystem supporting competence development in the Silesian economy.

Górnośląski Akcelerator Przedsiębiorczości Rynkowej Sp. z o.o. (GAPR)

GAPR, as a dynamically operating Business Environment Institution, constitutes a platform for dialogue. It is also an ideal place for those looking for innovative solutions. Cooperation with scientists makes it an excellent partner in the process of commercialisation of scientific and technological research results in the economy and technological research results in the economy. GAPR sp. z o.o. focuses on high-tech services, which combined with new transport routes, modern facilities and available land for development, makes the company an exceptionally attractive investment. Moreover, the company makes effective use of EU funds by implementing innovative projects that have a chance to genuinely improve the competitiveness of the region and significantly support entrepreneurial attitudes, paving the way for the creation and implementation of innovations. GAPR is the coordinator of the MedSilesia Cluster - Silesian Network of Medical Devices, which was granted the status of National Key Cluster by the Ministry of Economy in 2016. The cluster currently associates 110 entities, 85% of which are enterprises operating or offering services in the sector of technology, equipment and medical devices, the remaining Partners are research and development units, universities from the region.

GAPR sp. z o.o. implements its priorities using a number of high-quality services, among which are:

- training services
- business consulting, including revitalisation, audit of marketing needs, marketing audit of a young company, strategic company audit, innovation audit
- energy audits, group purchases of electricity,
- comprehensive investor services including investor supervision
- comprehensive substantive support services for external financing, including national funds and Horizon 2020,
- financial support through the Loan Fund which is an attractive alternative to external financing for SMEs,
- assistance in finding foreign business and scientific partners,
- organisation of conferences, study visits, promotional trips, trade missions and other meetings,
- lease of comfortable office, storage and production space in modern facilities located in Gliwice, Żory and Bytom
- investment areas in Gliwice, Żory and Bytom as an attractive location for business.

GAPR participates in the Silesian Innovation Council as an active member shaping pro-innovation policy in the Silesian Voivodeship, responsible for the implementation and monitoring of RIS in the area of health, life science and medicine. It also takes part in the works of the Working Group of National Intelligent Specialisations KIS 1 - Healthy Society.

GAPR is the key Business Support Organisation in Silesia and one of the largest in Poland; it also takes part in projects carried out by the regional authorities - the Marshal's Office - concerning the implementation of RIS, therefore GAPR will be able to provide policy recommendations to local authorities and implement project results directly into regional strategies.

Challenges for national and regional policies

Poland is one of the countries with the lowest level of innovativeness in the European Union.

In 2010-2016 it was ranked 25-26 among 28 European countries. Among the voivodeships, Silesia, together with Mazovia and Lesser Poland, belongs to the national leaders, but within the European classification it is only a group of moderate innovators.

Upper Silesia (NUTS 2: Śląskie, PL22) is the most urbanised and most industrialised region of Poland. It is a key player in the Polish economy, ranking second in GDP generation. However, in terms of GDP per capita, Silesia is the fourth region in Poland. The region's economic potential stems from its high concentration of businesses in various sectors, including manufacturing, advanced manufacturing, medium- and high-tech, and knowledge-intensive and business services. Over the past 30 years, many new economic activities have emerged as a result of industrial transformation. Nevertheless, Silesia remains the leading coal mining region in Europe and an important producer of coal-based energy.

In the 21st century, Upper Silesia embarked on a transformation from heavy industry to new technologies, an open, knowledge-based economy with Poland's second-largest scientific and research potential. The reform of the economy, the system of science and higher education and, at the same time, the lack of a coherent, long-term state strategy in this area, are not conducive to cooperation between science and business. This is particularly important if we bear in mind that this cooperation should be forward-looking and the constant changes in regulations should not come as a surprise to either scientific entities or businesses. However, we have been dealing with such situations in Poland for many years.

A key challenge for regional policy is a fair transformation of the region (moving away from coal). In 2019, the Regional Action Plan for Transformation was adopted. It contains a diagnosis of challenges and problems. It also sets out 3 operational objectives:

I. High quality of life in the region:

- reducing low emissions and the consumption of environmental and energy resources in businesses, households, public facilities and spaces;
- Improving the quality and attractiveness of degraded buildings;
- support of educational offer and infrastructure, development of qualifications and competences necessary for the economy;
- improving the quality of prevention and health care.

II. Competitiveness of the economy based on modern environmental technologies:

- support for increasing the ability of enterprises in the region to implement innovations and modern technological solutions;
- strengthening the innovative potential of universities and R&D sector units;
- increasing the effectiveness and use of modern technologies in the processes of restructuring traditional sectors;
- counteracting the effects and limiting the negative impact of mining on the environment and urban space.

III. Development of creative and leisure industries.

Summary:

The transformation of the region requires bold actions that will translate into an increase in the level of innovation. A challenge in the area of regional policy is to build instruments to support knowledge transfer and commercialisation processes.

How, by using the potential of many institutions operating in the Silesia Voivodeship, to create an efficient implementation team which will fulfil the function of coordinating the commercialisation process in a way similar to that carried out by the Helsinki Innovation Service? Recognising that the creation of such a team within each research and development unit does not make sense, and moreover knowing that each unit has different experiences and different competence potential, it is necessary to find a flexible solution that will support both large projects of large research teams and innovative initiatives coming from small teams (students, SMEs, individuals - employees of universities, institutes).

Another challenge in the area of support for commercialisation processes is the management of key R&D infrastructure in the region, including preparation of human resources for cooperation with business.

The challenge in the region in the case of dispersed infrastructure will be the ability to effectively provide services required by business.

In addition, several challenges that will affect the region's economy need to be taken into account: an ageing population, a reduction in the number of people of working age, climate change, difficult living, business and food conditions, limited access to raw materials, stringent regulations to reduce greenhouse gas and particulate emissions, the transition to a low-carbon economy and the far-reaching digitalisation of social or economic life and the associated information and digital warfare.

List of Participants

Peers		
Balázs Barta	Pannon Business Network	Managing Director
Daniela Nepote	IRES PIEMONTE	Senior Researcher
Jorge Muyo	Regional Government of Cantabria	Regional Innovation Manager
Juan Carlos Martinez	CEEI-Burgos	Director of Project Development
Pilar Garces	Castilla y León Region	Commissioner

Upper Silesia		
Monika Ptak-Kruszelnicka	Marshal's Office of the Silesian Voivodeship	Regional Development Department, Coordinator of the Unit Regional Innovation Strategy
Agnieszka Gieroszka	Marshal's Office of the Silesian Voivodeship	Regional Development Department, Senior Specialist in the Unit Regional Innovation Strategy
Magdalena Urbańczyk	Marshal's Office of the Silesian Voivodeship	Regional Development Department, Senior Specialist in the Unit Regional Innovation Strategy

GAPR		
Bogdan Traczyk	Upper Silesian Accelarator for Commercial Enerprises Ltd.	President of the Board
Magdalena Ilnicka-Majchrzak	Upper Silesian Accelarator for Commercial Enerprises Ltd.	Director of the Consulting, Training and Marketing Department – Regional Centre of Innovation and Technology Transfer
Paweł Lejman	Upper Silesian Accelarator for Commercial Enerprises Ltd.	Consultant in Consulting, Training and Marketing Department – Regional Centre of Innovation and Technology Transfer
Alicja Michalik	Upper Silesian Accelarator for Commercial Enerprises Ltd.	Consultant in Consulting, Training and Marketing Department – Regional Centre of Innovation and Technology Transfer

Stakeholders		
Izabela Czeremcha	MedSilesia Cluster – National Key Cluster	Cluster Manager, Specialist in Consulting, Training and Marketing Department – Regional

		Centre of Innovation and Technology Transfer in GAPR KeyStakeholder
Jacek Nowak	Silesian University in Katowice	Deputy Head of Industry Cooperation Office - KeyStakeholder
Marek Warzecha	University of Technology in Częstochowa	Professor - KeyStakeholder
Marcin Głodniok	The Central Mining Institute in Katowice, GIG Research Institute	Specialist- KeyStakeholder
Magdalena Letun-Łątka	Silesian University of Technology in Gliwice	Head of CITT
Grzegorz Studziński	Silesian University of Technology in Gliwice	Specialist in CITT
Przemysław Postawa	University of Technology in Częstochowa	Innovation broker
Marcin Więcek	University of Technology in Częstochowa	Specialist in CITT
Katarzyna Papież-Pawełczak	SPIN-US Sp. z o.o. (SPV of Silesian University in Katowice)	President of the Board
Przemysław Ziemski	SPIN-US Sp. z o.o. (SPV of Silesian University in Katowice)	Innovation broker
Anna Tilszer	Silesian University of Medicine in Katowice	Director of CTT
Elżbieta Uszok	The Central Mining Institute in Katowice, GIG Research Institute	Specialist
Mariusz Nowak	CLO (Burnt Treatment Central Hospital)	CEO
Wojciech Smętek	CLO (Burnt Treatment Central Hospital)	Head of Department
Przemysław Strzelec	CLO (Burnt Treatment Central Hospital)	Head of Department
Marcin Ludyga	CLO (Burnt Treatment Central Hospital)	Head of Department
Ryszard Maciejowski	CLO (Burnt Treatment Central Hospital)	Head of Department
Wojciech Głuchowski	Institute of Non-Ferrous Metals in Gliwice	Head of Department
Hanna Skrzypiec	Institute of Non-Ferrous Metals in Gliwice	Specialist
Andrzej Płonka	Institute of Non-Ferrous Metals in Gliwice	Senior Specialist, Sales and Commercialization Department
Anna Wypych-Gawrońska	Jan Długosz University in Częstochowa	Rector
Zygmunt Bąk	Jan Długosz University in Częstochowa	Vice Chancellor
Edmund Golis	Jan Długosz University in Częstochowa	Head of Knowledge Transfer Center
Karolina Grabowska	Jan Długosz University in Częstochowa	Specialist
Anna Wróbel-Knysak	Jan Długosz University in Częstochowa	Specialist

Wojciech Ciesielski	Jan Długosz University in Częstochowa	Specialist
Piotr Rychter	Jan Długosz University in Częstochowa	Head of Lab
Izabella Steinerowska -Streb	University of Economics in Katowice, Department of Entrepreneurship and Innovative Management	Professor in Department of Entrepreneurship and Innovative Management
Ewelina Widerska	University of Business in Dąbrowa Górnicza	Head of Department of Science
Zbigniew Nawrat	Professor Zbigniew Religa Foundation of Cardiac Surgery Development	Creative Director KeyStakeholder
Łukasz Mucha	Professor Zbigniew Religa Foundation of Cardiac Surgery Development	Deputy Director of the Heart Prostheses Institute
Łukasz Górecki	Silesia automotive & advanced manufacturing cluster	Director
Jarosław Bulanda	Silesian Aviation Cluster – National Key Cluster	Vice President | CEO
Jacek Woźnikowski	Górnośląsko-Zagłębiowska Metropolia (Upper Silesia Zaglebie Metropolis)	Director of Socio-Economic Development and Cooperation Department
Janusz Dramski	Regional Chamber of Commerce in Katowice	Vice President

Poland		
Anna Stol	Ministry of Development Funds and Regional Policy	National Contact Point

Interreg Europe		
Kristaps Rocans	Interreg Europe	Policy Officer
Ana Mihaljevic	Interreg Europe	Policy Officer

Policy Learning Platform		
Marc Pattinson	Policy Learning Platform	Thematic Expert in Research and Innovation
Arnault Morisson	Policy Learning Platform	Thematic Expert in Research and Innovation
Elena Ferrario	Policy Learning Platform	Thematic Manager
Eugénie Suplisson	Policy Learning Platform	Communication Team

Recommendations

I. Soft tools to support knowledge transfer science-business

1. **Identify areas where the region has the greatest competitive** advantage and focus on them, while creating a broad network of relationships in this area.
2. The recommendation is to extend the taxonomy of innovation processes to 8 types of innovation - technology, ingenuity, co-creation, open innovation, marketing and branding, entrepreneurship, social innovation and business model innovation - **to be open to innovation not only in technology.**
3. Create a new type of relationship and cooperation between stakeholders - universities, startups, companies, research organisations, entrepreneurs and public administration; so as to favour cooperation between individuals more than institutions or relationships at the highest level.
4. Promote a thematic approach to cooperation :
   1) **exposure of the capabilities** of all institutions and companies, e.g. e-sports, 3-D printing, health prevention, etc,
   2) **cross-sector collaboration**, e.g. e-sports meets healthcare and senior care,
   3) **audience** - medium-sized companies are the most open to innovation, while retaining organisational and decision-making flexibility,
   4) **opening up to (national) financial entities** such as banks, financial investors, venture capital, business angels that can help finance the commercialisation of research,
   5) **cooperation with innovation** foundations or regional funds acting as intermediaries and supporting the innovation ecosystem (training, entrepreneurship, mentoring).
5. **Focus on medium- and long-term solutions**, there is no chance for success in the short term, Open Innovation is the key to success, networks of cooperation between small universities, large universities, institutes, clusters should be created, which will allow for mutual support of commercialisation processes
6. Promote an entrepreneurial culture at universities; **learn to accept failure as something calculated in the processes of innovation implementation**; failure in one project cannot mean "innovation exclusion" in others. In evaluation procedures, value the effects of commercialisation of research results more highly than publications/articles/publications.
7. **Use existing networks** in the voivodeship, such as, for example, the network of observatories for specific innovation commercialisation projects; create teams consisting of employees of different institutions, and ultimately create the possibility of exchanging employees so that they have the opportunity to learn about the specific functioning of other organisations.

II. Recommendations for intermediating, supporting and participating institutions in the commercialisation process .

1. **Formal network -** bring together all identified and commercialization-oriented stakeholders into a formal network; with the aim of sharing experiences and learning; involve students, PhD students, high school students in commercialisation projects, build a culture of innovation, adopt appropriate process performance indicators (KPIs).

2. **Individual training of individuals** as part of wider cooperation, collaboration and teamwork; trust between participants in commercialisation projects is important .
3. **Development and improvement of tools to stimulate knowledge transfer:**

- innovation brokers,
- training programmes for personnel involved in commercialisation processes,
- use of results of regional technological audits,
- Internet platforms as an effective element of the implementation network used also to present the offer,
- participation of young scientists in research teams in companies,
- support for regular cooperation between academia and intermediaries (business support organisations) to train doctoral students and researchers from all disciplines.

4. Organisation of the system of financing implementation processes:
   - **early budgeting** of implementation within models based on real cases; cooperation between universities and business is crucial.
   - identification of funding opportunities within the EU interregional programmes EU.
5. Building project linkages .
6. Use existing regional, national and transnational networks; use existing tools - don't reinvent the wheel!
7. Involvement in innovation processes of projects funded by big business (industry funded chairs).
8. To take advantage of continuous learning opportunities in international, including trans-European opportunities (np. Virtual Competency Center US 4.0).
9. Exploiting the potential of clusters, business environment institutions and start-ups .
   - **clusters as knowledge hubs;**
   - creation and implementation of knowledge exchange programmes, student internships, including mapping and identification of areas with commercialisation potential,
   - effective mentoring.
   - **regional brand of innovation** e.g. Innovate in Silesia; in time, such a label may become a distinctive quality or regional identification.
   - SILESIA challenges - regional competition with cash prizes for innovation - supporting the demand-side approach - customer as a source of innovation involved in the innovation process carried out e.g. by an R&D unit/university.

Possible calendar of implementation

Calendar of implementation of the proposed recommendations														
Applicability [1]	**Recommendations**	**month 1 (05.22)**	**month 2**	**month 3**	**month 4**	**month 5**	**month 6**	**month 7**	**month 8**	**month 9**	**month 10**	**month 11**	**month 12**	**Comments**
Very likely to be applied	Adopt a broader Innovation Processes taxonomy	consultations, recommendations, meetings												
Very likely to be applied	Foster a bottom-up approach, led by Regional Authorities	consultations, recommendations, meetings												
Depends on specific political decisions/conditions	Promote a thematic collaboration approach													
Very likely to be applied	Stakeholders network	in action												
Rather seen as not applicable at the moment	Promote entrepreneurial and innovation culture among faculty													
Very likely to be applied	Use existing regional policy tools	in action												
Depends on specific political decisions/conditions	Formal Network of intermediary													
Depends on specific political decisions/conditions	New Tools for boosting TTO													
Very likely to be applied	Upskilling and training	in action												
Rather seen as not applicable at the moment	Exploit results of RTA													
Very likely to be applied	Digital Platforms	in action												
Rather seen as not applicable at the moment	Young Researchers into business													
Very likely to be applied	Foster a regular collaboration between Academian and Intermediaries	in action												
Depends on specific political decisions/conditions	Funding New Tools													
Very likely to be applied	Mobilising Clusters on SME and Start Up Comm.Target	in action												
Very likely to be applied	Regional Labels	in action												
Depends on specific political decisions/conditions	Funding													

Conclusions:

1. **The way to improve the effectiveness** of implementation programmes is to move from highly formalised and institutionalised forms of cooperation to project structures, involving not so much the institutions and their managers, but people at executive level (including creators), who are interested and determined to achieve success - also in financial terms.
2. Openness at every stage of commercialization **(Open Innovation) is crucial for success**; the best environment for Open Innovation is networking and including all stakeholders in cooperation; it is about sharing knowledge, experiences and openness to new contacts; teamwork is the basis for success.
3. It is about a new approach to business, organizational and financial models that will create a culture of innovation also in areas so far considered as not creating innovation.
4. **A medium and long-term approach is important**. Short-term actions must result from a long-term context and not constitute independent and closed undertakings.
5. The first step towards implementation of the recommendations can be creation of a network among the participants of the Peer Review who are interested in participating in the future project with a working name "Innovate in Silesia", the shape of which will be worked out by common agreement.