

Feedback Paper Document – the Lubelskie Voivodship.

1. Introduction

The main purpose of this document is to present a set of recommendations aimed at improving the implementation of the Regional Innovation Strategy of the Lubelskie Voivodship up to the year 2020. The main objectives of the strategy include: development of territorial capital (especially in the area of smart specializations), strengthening the regional research and innovation system and basing it on a quadruple helix, including the region in the national and international innovation and cooperation chain, developing effective instruments for supporting innovation and competitiveness of the voivodeship's economy and strengthening business environment institutions.

The main recipient of the recommendation is the Marshal's Office of the Lubelskie Voivodship; however, the document is also a collection of valuable information also for regional stakeholders who actively participate in creating an innovative ecosystem in the region. The solutions presented here have been worked out, among others, as part of the EmpInno project, but also borrowed from the experience of other regions, not involved in the project. The activities in the EmpInno project focus on two areas included in the smart specializations of the Lublin province - high quality food and energy.

The Lubelskie Voivodship in the scale of the whole country is one of somewhat less developed regions. In the context of macroeconomic indicators, the value of GDP per capita is lower than the national average. In addition, its dynamics in recent years has been less intense compared to other voivodeships. A distinctive feature of the Lubelskie Voivodship is the high percentage of agricultural land - 70% in 2016, which gives it the first place in the country. The region also has a large number of organic farms (the fifth place in the country in 2016).

The economy of the Lubelskie Voivodship in the last few years has noted an increase in the potential for innovative development. The number of enterprises (both of service and industrial type) that incurred expenditure on innovative activity (although the amount of expenditure incurred is still significantly lower than the national average) has increased very dynamically (especially in the years 2015/2016). The percentage of innovative enterprises in the total number of enterprises has also increased significantly (from 16.1% in 2015 to 22.9% in 2016). The R&D expenditure is also constantly increasing. Up to 71% of R&D expenditure is incurred by entities from the sector of higher education. The Lubelskie Voivodship is characterized by a high share of R & D expenditure in the field of agricultural and veterinary sciences in the total R & D expenditure in 2016 - 19,7%. The strong point of the province is the R & D activity in the area of biotechnology (smart specialization of the Lublin Voivodship) - there are 7 academic units in the Lubelskie voivodeship which undertake R & D work in this area and these units incur high R & D expenditures on the national scale. Against the national average, in the Lubelskie Voivodship there is a low percentage of people employed in R & D, but the region can boast high intellectual capital. In the voivodeship, compared to other regions, there is a high number of academic teachers and the number of university graduates per number of inhabitants of the voivodeship.

2. Description of problems and proposed solutions

2.1 Description of problems that require an innovative approach in the region.

The key to success in all activities are people, their experience, knowledge and commitment, as well as building mutual relationships with each other. Therefore, the role of public administration as well as business environment institutions should consist in creating as many opportunities as possible for interdisciplinary meetings and cooperation of various partners and entities involved in the processes of creating innovation and their use in the economic sphere. Such meetings, organized among others as part of the EmpInno project, have become the foundation for identifying the current problems of the region. The problems specified there were supplemented with issues addressed in RIS3 and those stemming from the local context.

Problems present in the region have been divided into four thematic groups that correspond to the priorities of RIS3. They are aimed at four groups of stakeholders.

1. Increasing the ability of business entities to create and absorb knowledge and implement innovations.

Within this area, one of the main problems of enterprises is the difficulty associated with entering new international markets with innovative products. It is the result of the fact that the costs of researching/evaluating the offered products in terms of the requirements of foreign markets are extremely huge. Entrepreneurs are not able to pay such funds out of their own pockets. Also, ROP (Regional Operational Programme of the Lubelskie Voivodship) does not yet provide for measures that would allow quickly obtaining funds to finance research / quality evaluations of local products (including for example food products). In the near future (October 2019) it is planned to launch support for consultancy services in the form of a "voucher for consultancy". In addition, a serious obstacle to conducting such research is the fact that local R & D units do not have accreditations or certifications required on the European markets to allow the product to be sold on a foreign market. The expansion into foreign and domestic markets is also hindered by the fact that Lublin enterprises (especially those operating in the high quality sector) have a poorly developed promotional strategy, which consequently affects the recognition of the brand. Being poorly recognizable (especially in the organic food sector) generates lower consumer confidence in the products offered and reduces the propensity to buy them, thus making it difficult to reach specific distribution networks with the product. Entrepreneurs at the moment lack activities in the area of strengthening developing brands of local enterprises, e.g. through the possibility of co-financing services provided by professional agencies in the field of branding or rebranding, which should be one of the supported areas. Promotional and educational strategies do not concern only the products themselves, but also research and/or technological areas. A good example here are photonic technologies, developed by a highly respected academic community, but unknown to a wider group of recipients who may become their potential future users.

A serious obstacle for innovative entrepreneurs of the Lublin province is also the lack of laboratory facilities adapted to their needs. First and foremost, entrepreneurs need interdisciplinary laboratories that would offer, for example, many laboratory techniques allowing food testing ("Lab on a chip"). The currently available university laboratory facilities are not fully used by entrepreneurs due to high costs and difficult access. Entrepreneurs also have problems in finding scientists (both within universities and research institutes) who would be able to solve their problem. In their opinion, the problem is the lack of transparent access to information and procedures. Rare contacts result in poorly developed cooperation between scientists and business people. According to entrepreneurs, universities and academics themselves are to blame for this state of affairs. Current student education programs are not well adapted to the needs of entrepreneurs operating within Smart Specializations. Above all, the student placement program requires changing, so that it could positively influence the practical skills of graduates, and interdisciplinary student teams should be created in order to solve the problems and needs reported by enterprises. In addition, scientists do not consult their research areas with the entrepreneurs, which is why the research hardly ever answers the needs of business. There is therefore a need to develop applied and industrial research as well as development work, taking into account the market context. There are hardly any bottom-up initiatives, and the top-down approach is much less effective. This approach allows obtaining specific qualitative information and strengthening relationships with stakeholders and is also the starting point for specific ideas and design solutions, including innovative ones.

In the Lubelskie Voivodeship as well as in the whole country, low innovation level of the SME sector is a serious problem. Enterprises in this sector are struggling with a number of barriers related to conducting innovative activity: the entry barrier associated with the very concept of innovation and its launching (entrepreneur's psychological barriers related to making a decision to undertake a decision-making process, limited capital resources for innovation, no access to qualified staff, limited knowledge of and ambiguity of regulations related to supporting innovation, failing to notice certain market opportunities) and development barriers regarding the implementation of further stages of innovation in the company (various needs for human, financial and material capital in individual phases of the innovation process). One of the manifestations of these problems is the lack of knowledge of the RIS3 concept among entrepreneurs - they lack knowledge about the benefits that may be associated with the concept in the region, which may indirectly be related to the perception of ROP support instruments as poorly suited to the development needs of enterprises. Entrepreneurs do not have sufficient knowledge regarding the portfolio of activities aimed at them to support them in developing and running an innovative business. Additionally, in the mutual contacts between entrepreneurs, the culture of mistrust and reluctance to undertake joint initiatives is present far too often. Entrepreneurs do not develop adequate networks - they do not have a well-developed network of contacts and knowledge about other entities that could be their potential partners. All this means that cooperation between companies in the field of innovation is also rare.

A serious obstacle to innovative activity, both in the country and in the region, is the low demand for innovative products (especially in the area of the so-called premium food or sustainable energy). Consumers are not open to innovative solutions. Inhabitants of the Lubelskie Voivodeship believe that the quality of their lives is worse in relation to the inhabitants of other Polish regions, mainly due to financial concerns. Low financial resources available to households in the region make the price the

main purchase criterion (especially as regards food), which significantly limits the market for innovative products. Greater support for the internationalization of business is therefore necessary

2. Increase in the capacity of scientific and research entities to create and commercialize knowledge in regional areas of smart specialization.

Academics are hardly interested in cooperation with entrepreneurs. This is partly connected with the system of evaluating academics - putting scientific achievements first, which does not encourage scientists to cooperate. Many, especially older academics do not see the need to establish contacts with entrepreneurs, and when such contacts do exist, they have problems with running such cooperation. Some scientists, especially those working within humanities, lack soft skills and insight into business (especially related to the transfer of knowledge), and technology transfer centres operating at universities do not provide comprehensive support in this field. Cooperating with scientists is associated with many formalities at universities or research units, which has a discouraging effect on both sides.

Research units operating at universities and scientific institutes are poorly connected - there is a low level of cooperation. The effect is the lack of comprehensive / interdisciplinary solutions to existing problems in the R & D area, which is a serious obstacle for entrepreneurs. Entrepreneurs looking for a solution to a given problem, often of an interdisciplinary nature, are not able to use the services of one centre offering a comprehensive solution. They have to seek help in various centres, which significantly extends the time and increases the costs of research. Once they start cooperation there is a problem with the issue of ownership which results, among others, from the lack of mutual trust on the business-science line. First of all, the issue which is problematic is who owns the intellectual property rights to the solution developed within the project. Secondly, research units and universities do not have sufficient financial resources to actively protect intellectual property rights.

3. Strengthening business environment entities.

The currently operating BEI in Lubelskie is characterized by activities poorly adapted to the needs of entrepreneurs. First of all, the number of pro-innovative services is small, and the ones that are currently offered are not always of the highest quality. Entrepreneurs would expect the offer to be more diversified and better adapted to the needs of a given company (the current offer is too broad). It primarily lacks services consisting of: providing legal assistance, certification of services and products, searching for business and academic partners (including by creating platforms for networking) and support in project management. Entrepreneurs also want BEIs to play an active role in representing the interests of the sector in contacts with public administration, to promote the internationalization of enterprises and networking to a greater extent, and to have an educational function (by creating reports on new market trends and technological innovations). These expectations are very important, because BEIs are not fully active in reducing the burdens related to running innovative activity (by, for example, offering the opportunity to verify the business model or providing access to specialists who could critically evaluate the innovation developed). In addition, the number of activities carried out is insufficient, which results in overall too low efficiency of BEIs in the transfer of knowledge and commercialization of R & D results. Although the number of BEIs has

recently increased, their weaknesses include limited human resources and their competences, financial resources as well as a limited portfolio of clients for services. The operating BEIs in practice do not conduct joint activities and exchange knowledge not frequently enough. Future-oriented thinking and treating the region as a common good would certainly strengthen their potential. This results in the fact that entrepreneurs feel overwhelmed by the excess of information provided independently by BEIs (e.g. concerning various conferences or publications), which means that they have to put a lot of effort into their selection in terms of their own needs. In addition, too low coordination in the field of activities aimed at entrepreneurs means that the offer is fragmentary, and it takes a lot of time for them to "knock" at one door after another.

In the region there is no developed network of innovation brokers, or professional experts acting as intermediaries in building relations between science and business who would be able to animate such cooperation. In addition, another institutional weakness of BEIs is the lack of a well-developed system that would finance innovation from non-budget funds. All this means that entrepreneurs from the Lublin region can count on the support of BEIs in conducting innovative activities only in a limited scope.

4. Increasing the openness of administration to innovation.

Due to the general economic characteristics, the implementation of RIS is a challenge for the Lubelskie Voivodeship. Implementation of the concept of smart specializations on the one hand means the need to build the region's advantages basing on selected specializations, and on the other hand, it must take into account the local conditions. For this reason, it is necessary to specify the specializations, so that the majority of innovative enterprises have a chance to develop. This requires creating of a flexible and effective system of entrepreneurial discovery, involving the widest possible range of stakeholders. This creates the need to go beyond the quadruple helix model, so as to ensure the flow of diverse knowledge and perceptions of these issues. It is also necessary to create a more effective system of gathering information from entrepreneurs, as standard research methods based on surveys are currently not very effective. Entrepreneurs are tired of participating in surveys, have very limited time and expect some benefits for sharing the required information.

The challenge which the administration must face is also the RPO implementation system. At the ROP implementation level, the burden is a large number of projects that do not have real implementation capabilities, but which must go down the full assessment path. This is a serious limitation that reduces the efficiency of the assessment system. On the other hand, overtly complicated, unclear procedures, lack of knowledge of beneficiaries about the possibility to get support, but also lack of willingness to submit applications (which may result from a lack of conviction that public support in the field of innovation is actually the best form of strengthening the competitive position of the company) limits the number of applications for available funds, which reduces their spending.

In summary: The Lubelskie Voivodeship increases its innovative potential from year to year, which is demonstrated by the promotion of various national innovation rankings. The strength of the region is the high potential of human capital and a well-developed research and scientific base. The development of innovation limits the lack of a developed innovation culture in the region, which is manifested by limited trust, low level of cooperation and big competition.

2.2 Presentation of key lessons / solutions identified during the implementation of the project.

The problems specified in the first and second thematic areas have a common denominator - **the low level of cooperation between enterprises and the world of science**. During the project, many activities have been indicated that aim to strengthen cooperation between entrepreneurs and scientists by facilitating the possibility of establishing mutual contacts. Above all, the organization of **Innovation Forums in the Lublin province** deserves attention. To date, two innovation forums have been organized, which were devoted to topics related to bioeconomy, personalized medicine and healthy food. The meetings were attended by representatives of a wide range of IS stakeholders (including foreign guests) - researchers, entrepreneurs, BEI representatives and administration. There were lectures and discussion sessions devoted to the following issues: programs and activities carried out by various institutions aimed at supporting entrepreneurship in the area of healthy food, the impact of food on the quality of life, opportunities for cooperation between science and business. The forums were a great opportunity not only to establish relations within the Smart Specializations, but also to some extent influenced the change of the pro-consumer attitudes through participation in the forum itself, as well as parallel promotional activities. The effect of the forum may be an increase in the demand for health-related products. The crowning of the forums were **networking lunches**, which enabled establishing a network of contacts that could lead to future cooperation. It is worth considering organizing regular networking lunches in a similar form as in Germany - **Techno Lunches** (organized by Rostock Business), **innovative breakfasts** (organized by Kaunas Science and Technology Park), or **Mobile Monday** (organized in Tartu) - where networking meetings are focused on ICT. Setting a fixed date for lunch meetings can provide a great space for mutual discussions, also within Smart Specializations, which can lead to adapting research carried out by scientists to the needs of business.

Support for increasing the level of cooperation between scientists and entrepreneurs is also provided by other activities carried out in the Lublin region. **A good case in point is the operation of the Center of Innovation and Technology Transfer at the Lublin University of Technology**. CIiTT is responsible for university's activities related to cooperation with business. It has developed an offer of the Lublin University of Technology addressed to entrepreneurs - in the form of a book, but also an internet search engine. It describes in detail the research that can be conducted on behalf of entrepreneurs, technologies for implementation by enterprises, expert opinions and projects that can be ordered by entrepreneurs and trainings that can be conducted by university staff. For each item, contact details have been provided for employees who may perform the service. Such activities facilitate entrepreneurs' access to scientists and enable their better orientation in the offer of the university unit dedicated to entrepreneurs. In addition, CIiTT is implementing the second edition of the programme *Incubator for Innovation* - financed from national funds, the purpose of which is to support the process of managing the results of scientific research and development work, especially in the field of commercialization. The project implemented by CIiTT supports the financing of pre-implementation tests. University employees may apply for research funding for the benefit of the enterprise. As part of both editions of the project, 28 pre-implementation work cycles have been carried out to date. In addition, the Lublin University of Technology is implementing a didactic project *Manager - Designer* whose aim is to support innovative competences - teaching students creative

thinking based on the method of *Design thinking*. As the activities carried out by other partners in the EmplInno project show, design thinking method is particularly recommended in order to develop new business ideas for entrepreneurs - creating and improving new products and services. This method has been successfully implemented by **D2i - Design to Innovate (Denmark) and Kaunas Science and Technology Park (Lithuania)** in enterprises operating in the field of ICT. It is worth encouraging BEIs operating in the Lublin province to apply this methodology in their work with entrepreneurs. However, this will not be possible until the BEI's personnel potential is strengthened.

The answer to **increasing the innovativeness of enterprises in the SME sector** might be other activities included in the project. First and foremost, entrepreneurs lack the reinforcement in the form of expert knowledge, which can be remedied by organizing mentoring meetings in a similar formula that is conducted by **Tartu Biotechnology Park (Estonia) - Mentor Club Afternoon**. Free meetings (with minor refreshments provided) are dedicated primarily to entrepreneurs and their employees operating in the field of life science, but also welcome the representatives of start-ups, scientists and employees of other entities operating in this area. Such meetings usually take a few hours. Their effect is primarily supporting enterprises operating in the field of life science by providing access to expert knowledge, clarifying issues related to the development of technologies in life sciences and facilitating the process of technology transfer. Similar support, but even more focused on solving specific problems are provided by hackathons (**MI - Lab**) organized by the Finnish company Prizztech Ltd. - here, interdisciplinary teams aim to develop a solution, and the entrepreneur chooses the one that he thinks will best meet his needs. A certain development of these meetings, but involving even a wider group of stakeholders such as residents and public administration are meetings organized under **OPI Living Design Lab** in Denmark (Kolding). Entrepreneurs, residents and public administration work on a specific problem under the guidance of a designer / facilitator. The originators of these ideas are private entrepreneurs who have a concept of developing a given product or service as a response to certain social challenges. The end result is building a prototype that is tested by residents.

From the point of view of ensuring support for enterprises in increasing their competitive advantage by conquering new markets (e.g. by building their own brand), financial support provided under the **Growth Catalyst** (Region of Southern Denmark) initiative provides interesting solutions. The support is addressed to the needs of selected enterprises and takes various forms depending on the development needs of a given company - for example, they can explore the possibilities of using new technologies or identify potential directions of export and expansion into new markets.

Valuable lessons on how business environment institutions can conduct activities personalised to the needs of entrepreneurs provide the functioning of **Spark Demo Center (southern Estonia, Tartu Science Park)**. The Centre operates within the biotechnology, food, wood, metal and ICT sectors. Companies that have their offices in this centre have undergone a thorough selection process (including the evaluation of export potential and trade volume). These centers offer a number of solutions, such as exhibitions, economic missions, and a developed network of exporters. First of all, they focus on spreading good practices by creating demonstration centers in which companies have been carefully selected. The centers are also treated as meeting places for various stakeholder groups, which is to encourage mutual learning and create new solutions. An opportunity for the development of similarly operating centers is the Smart Watch project in the Lublin Province. Smart Watch is a joint

action of 12 institutions from seven countries (Germany, Hungary, Italy, Slovenia, Austria, the Czech Republic and Poland). The aim of the project is to create a network of industry observatories of intelligent markets, supporting knowledge management in the regional innovation ecosystem. This aim is implemented by identifying outstanding institutions in the Lubelskie Voivodeship that could play the role of Regional Observatories of Intelligent Specializations. The network will enable quick and easy access to specialist knowledge and a database of experts in selected, strategic areas for technology. This network is to act as a "contact point" for actors of the innovation ecosystem, facilitating communication and cooperation between them.

The issue of improving the openness of public administration to innovation is related to the issue of improving the implementation and monitoring of RIS3. Here, valuable lessons are provided by solutions used in the regions of other partners, related precisely to regional innovation strategies. Some RIS3, such as these in southern Savonia (Finland), date back to the 1970s. Most of them focus on building a network of connections between various actors of the innovation system. Within these experiences, the inspiration to improve the implementation of the RIS3 of the Lublin Voivodeship may be provided by the solutions that have been identified in the following categories: a) implementation based on people, b) monitoring, c) approaches to selecting smart specializations and d) networking.

- a) **Implementation based on people** - its best example is Rejgion Östergötland (Sweden). First of all, the implementation process of RIS3 is based on people (*key person*), and not on organizations or positions. The implementation of RIS3 has been entrusted to stakeholders representing various environments and organizations, who receive remuneration for their work. Within each smart specialization the following were selected: an administration coordinator, work coordinator, broker, stock broker and business and science representatives. These people have become real actors of the regional innovation system. Acting in their local environments, they also allow the spread of the notion of RIS3, which, as also the experience of other partners shows, is hardly understood by most entrepreneurs.
- b) **Monitoring** - the issue of monitoring approach is taken very differently. Some regions have not yet developed a way to conduct monitoring, but they are systematically developing it basin on various types of projects (e.g. Gävleborg region in Sweden). Many of RIS3 are monitored systematically based on quantitative indicators (e.g. Mecklenburg-Vorpommern (Germany), the Kuyavian-Pomeranian Voivodeship (Poland), i.e. similarly to the Lubelskie Voivodeship. However, as shown by the practices used by other partners, also qualitative information (obtained e.g. by RIS3 consultants - as in the Östergötland area in Sweden or the Satakunta area) is also very valuable from the point of view of the quality of acquired information and building a network of links in the RIS3 area. In the Southern Finland region (Savonia), RIS3 strategy was also evaluated based on individual in-depth interviews - 68 interviews were carried out, which allowed for the assessment of RIS3 with different perspectives and a broad context.
- c) **Approaches for the emergence of smart specializations**, which on the one hand focuses on a method involving a wide range of stakeholders, and on the other hand on a cross-sectoral (interdisciplinary) approach to smart specializations. Here, valuable lessons in the field of consulting the RIS3 strategy based on a wide range of stakeholders are provided by the region of South Ostrobothnia (Finland). First of all, at the first stage of the process of selecting

the RIS3 strategy, an analysis of the existing data (also basing on statistical methods) was conducted, which also drew international sources (along with the analysis of the possibility of receiving funding from foreign support programs). The next step was to generate additional data (by means of reactive testing). An electronic survey was sent to entrepreneurs (employing more than 10 employees), followed by in-depth interviews. Interviews were conducted with selected representatives of companies from the region as well as with managers from outside of the province, who were asked about views on the strengths of the sectors of the South Ostrobothnia region. Such an "outside view" is extremely valuable - it has enabled a better grasp of competitive advantages of the region and facilitated the identification of development opportunities outside traditional sectors. The effect of engaging a wide range of stakeholders, including those from the domain of science, has resulted in broad acceptance of the RIS3 strategy.

The cross-sectoral approach to emerging RIS3 is particularly visible in the region of Gävleborg (Sweden), where the following smart specialization has been selected: *smart sustainable cities and societies; sustainable and inclusive organization of work*, or in the area of Sakartuna (Finland). Such an interdisciplinary approach to shaping smart specializations seems particularly justified from the point of view of the changes taking place in connection with the development of industry 4.0. The application of such an approach in the context of the RIS3 update of the Lublin Voivodeship should bring many benefits to the region.

- d) **Networking** within RIS3 is understood in two ways. First of all, it is establishing cooperation with other regions in the RIS3 field - as, for example, in Gävleborg (Sweden). Cooperation for common smart specializations can bring many benefits, which is shown by the bulk of activities carried out within the EmpInno project. With regard to the Lubelskie Voivodeship, it is worth considering initiating similar actions with respect to other Polish voivodeships. Secondly, good practices in building a broad network within RIS3 are provided by strong clusters (as is the case for the Gävleborg region (Sweden), for example. Building regional policy together with a strong partner on the part of BEI guarantees at the same time a better implementation of the RIS3 strategy. Taking into account local and national conditions, it is necessary to increase BEI's competences so that they may provide more support than before in shaping the region's innovativeness.

2.3 Recommended solutions that can improve RIS3.

During the EmpInno project, many useful solutions have been developed that can improve the implementation of RIS3. In order for the chosen solutions to actually improve the implementation of RIS3, it is necessary to select them and then adapt them to: a) the local context, because the introduction of any strategies imitating "economic solutions of Western countries are doomed to failure because they hang in socio-cultural vacuum"¹(Hence it is often impossible for a given practice to be implemented in 100%) and b) to the specifics of the implementing institution (in the case of the Lubelskie Voivodeship it is the Marshal's Office, which has other resources and communication channels than e.g. clusters). Taking into account these issues and the problems indicated in the first

¹ Bukowski A, Rudnicki S. (2017), *Cultural barriers to the development of innovation in Poland*, Zarządzanie Publiczne 3 (41) / 2017

part, the following practices / ideas may have a positive impact on the improvement of the Lublin region's RIS3:

a. The Seven Innovation Gaps Model

The implementation of good practice will directly contribute to the strengthening of the entire innovation ecosystem and will enable the solution of some of the problems listed in virtually all thematic areas, and to the greatest extent in the third thematic area. The long-term application of this model will contribute to strengthening the regional culture of innovation. This model is an attempt to go beyond the triple helix model and its goal is that individual actors of the entire innovation system interact with each other. In its centre there is a cluster, as the main player responsible for the proper course of the entire communication process, and various dedicated people are responsible for communication with individual partners. The role of the cluster is to shape the ecosystem (also by creating appropriate conditions) so that its individual players can talk to each other freely and that these interactions are continuous. In order to better manage the course of interactions within individual stakeholders, they were divided into seven categories. The first step to implement this model, which could support contacts, joint activities and activities as well as dialogue between particular entities in the Lublin province, will be creating the map of the ecosystem: highlighting and describing key stakeholder groups (going beyond the quadruple helix). The next step will be choosing appropriate forms of communication adapted to the capabilities and specificity of the Marshal's Office of the Lublin Voivodeship and, above all, to the specificity of individual groups. It is also necessary to appoint people who will be responsible for managing and conducting the communication process with selected groups. The most effective will be messages formulated basing on the language of benefits, which should be differentiated within individual groups, so that they correspond to their individual needs. For the most part, communication should be based on direct contacts, because it is the most conducive to building trust. A big challenge for the Marshal's office (in the initial phase located at the centre of interaction) will be to ensure an adequate level of interaction in the system and to ensure that in a broader perspective interactions between individual players are initiated spontaneously (without agency).

The effect of implementing the model to RIS3 will be:

1. creation of a flexible and effective system of entrepreneurial discovery process involving a wide range of stakeholders, e.g. based on joint work within individual smart specializations,
2. gathering in-depth information from entrepreneurs, e.g. in the form of short surveys, but also in the form of qualitative information (also collected on the basis of a tool ensuring a certain level of standardization)
3. building an innovative culture in the region, e.g. by creating a space for joint meetings, which will enable a better understanding of mutual needs of individual groups, transfer of knowledge and stimulation of socio-cultural features that "have enabled the most developed countries in the world to achieve the highest innovation rates²", and above all:
 - a. promoting curiosity of the world and lifestyle based on cognitive openness to the world and people;

² Bukowski A, Rudnicki S. (2017), *Cultural barriers to the development of innovation in Poland*, Zarządzanie Publiczne 3 (41) / 2017

- b. promoting original, unconventional ways of thinking and individual discovery that go beyond the narrow technological framework;
- c. propagating personal virtues in the form of diligence, perseverance, and taking precautions; caring for simplicity, transparency and stability of legal regulations in the sphere of innovation and innovativeness;
- d. promoting horizontal and cross-sectoral links in the economy and vocational education at all levels, but also in the administrative and public spheres where social innovations are generated, which are as important as those from the domain of technology or business;
- e. promoting open, democratized and task-oriented organizational structures in all spheres of life and activity, including the economy (low power distance)³.

A very important element of building an innovative culture will be the selection of the appropriate language of the message, which will be directed to specific groups of recipients within individual thematic groups. Researchers will be focused on long-term activities, most often within their own research, while, for example, entrepreneurs will expect quick results of actions, specific solutions and a comprehensive approach. The dialogue between a group dealing, for example, with advanced technologies will be different than this between food producers, for example farmers, will be different, where the use of language with complex terminology may be less frequent. As part of creating the message, the age of the participants and their education, the purpose of the meeting and the level of acquaintance are also important, as well as their mutual trust and undertaking joint activities and initiatives. As demonstrated by the practice of the Marshal's Office of the Lubelskie Voivodeship, at the initial meetings or initiatives B2B meetings are more effective in smaller groups, as the interlocutors are more willing to share their knowledge and experience, which can function as an introduction for further activities. When organizing larger events, it is worth conducting an initial economic interview that will identify certain areas that are particularly interesting or innovative. Such meetings should bring added value to participants, inspire and stimulate discussion, thus, finding the right subject, inviting the right speakers with experience and passion for making their goals real is extremely important and valuable.

b. (Riga) as a tool supporting the use of The Seven Innovation Gap Model

Activities carried out as part of EmpInno by the Riga Planning Region (Riga) are a great tool that can be used to support the Seven Innovation Gap Model. They consisted in developing an interactive map of the innovation support ecosystem. This map is used to monitor the state of development of the innovation ecosystem - including number and type of entities, geographical concentration of entities and their potential. This tool can directly strengthen public administration activities related to shaping innovative policies (problem area No. 4) and contribute to building a culture of innovation - thanks to this tool, entrepreneurs and scientists will gain access to knowledge about other entities operating in their area of activity / interest as it will facilitate establishing contacts. Implementation of this practice in the region, however, requires a lot of effort related to the identification of entities, which can be conducted on the basis of surveys (together with the analysis of cooperation networks between individual actors), and further on the basis of direct contacts.

³ Ibidem.

c. **Practices aimed at improving cooperation between entrepreneurs and scientists**

The Innovation Forum organized by the Marshal's Office (as one of the activities carried out within EmpInno) met with considerable interest of entrepreneurs and scientists (it was useful from the point of view of their needs) and has become a part of the regional innovation system. The Innovation Forum may be considered as a tool for education in the field of innovation - different ideas are presented during the event, and the spirit of cooperation is strengthened, which in turn supports innovation culture in the region. It can be said that a brand has been built around it. For this reason, subsequent editions of forum will be organized. At the same time, these fora are a great opportunity to include the activities tested by partners in the EmpInno project. However, one should bear in mind that most of these activities are very engaging and also implemented by BEI, who have employees dedicated for this task. Independent organization of this type of events requires a lot of organizational effort and is not necessarily within the competence of the Marshal's Office. For this reason, the solutions listed below should be considered more in the category of inspiration than ready-made solutions. In the context of the next editions, one could think about the following:

- Organizing sessions presenting research conducted by scientists, similarly to those that were organized in Rostock (Germany) - **Technoforum of Regiopolis**. During these sessions, scientists have the opportunity to present their research in a short (about 5 minutes' long) presentation. The main recipients of these presentations are the entrepreneurs themselves and also scientists. The primary goal is therefore to provide space for networking, the effect of which is to establish cooperation between entrepreneurs and scientists, as well as between scientists themselves. Organizing such sessions may lead to solving the problems identified in the first and second thematic areas. The first step is the selection of the area / main topic, which should correspond directly with the subject of the forum. The next step is gathering an appropriate number of panellists (here reaching and encouraging the right number of scientists may be challenging) and inviting the appropriate group of entrepreneurs.
- Organizing discussions (before), or hackathons (directly after the forum), just like **Mi-Lab - hackathon (Prizztech Ltd)**. The implementation of this solution will enable solving the problems mentioned in the first and second thematic area. A wide range of stakeholders take part in the hackathon, in particular entrepreneurs - the entrepreneurs of the SME sector (formulating the problem / challenge) and scientists (creating solution) will be a preferred choice here. The most effective form of work is group work (also using the design thinking methodology) as it promotes establishing contacts (especially between the creators of the solution - scientists from various scientific units and specializations and representatives of business environment units) and building a network of cooperation. Positive results of the hackathon- finding a solution to a given problem - work in two ways. On the one hand, they remove scientists' reluctance to cooperate with entrepreneurs - scientists become convinced that their knowledge can have a practical application. On the other hand, entrepreneurs have the opportunity to establish contacts with industry specialists, which may facilitate further cooperation. The final result is also the improvement of enterprises' innovativeness, in particular of the SME sector. A certain challenge when organizing a hackathon (in the Lublin province) may be choosing the right topic, so that it is both thematically related to the Forum and interesting for entrepreneurs. The solution to this problem may be probing the thematic

areas while organizing one of the Forums, and then selecting the best topic from the perspective of the needs of different groups. The theme of the hackathon may also be the lack of cooperation between scientists and entrepreneurs in the Lublin province. Then, the end result would be the emergence of solutions that can increase the level of cooperation, which will directly contribute to strengthening the culture of innovation.

d. Practices aimed at strengthening the development of institutions / groups that support cooperation within intelligent specializations.

With regard to this group of practices, useful inspirations for the region can be provided by examples from

- **South Ostrobothnia Region - Food Works.** Meetings are focused around food and they aim at increasing the transfer of knowledge and information between entrepreneurs and scientists that may result in the development of innovative products or services. They are also aimed at strengthening cooperation between scientific units and entrepreneurs through the development of new forms of cooperation. A form of such meetings are workshops that also involve scientists and consumers (thanks to which they also gain better knowledge), and their effect is the development of new solutions based on scientific research, which are then presented through social media to provoke a broader discussion. Entrepreneurs participating in such groups experience real benefits - new ideas and methods are tested at the workshop, which are conducive to building knowledge. The organization of such groups could lead to solving the problems indicated in the first and second thematic group and in a direct way strengthen the smart specializations of the region, as well as support the openness of administration for innovation. Organization of such meetings could pose a certain challenge for the Marshal's office because of the organizational effort needed. For this reason, it would be good to cooperate in this area with scientific centres operating in the area of smart specializations. The first groups could be established around the existing specializations, e.g. bioeconomy (smart specialization of the region). In the next step, one could try to organize meetings within interdisciplinary groups, which, as shown by examples of other partners, is also an effective way to specify smart specializations. An opportunity to initiate the work of such groups could be Innovation Fora
- **In South Savo region (Finland) - BioSaimaa Group.** Here the group / cluster's goal is to coordinate the process related to the region's specialization - in the case of Finland it is bioenergy. The cluster is managed by Mikkeli Development Miksei Ltd (development centre of the city of Mikkeli), and its members are representatives of SMEs, scientific centres and public administration. The main goal of the activity is to increase the demand for this specialization among regional and national entities. With regard to Lubelskie Voivodeship, a similar group may be considered, not necessarily in such a formalised form as a cluster (in the area of smart specializations of the region, for example bioeconomy or low-emission energy), composed of representatives of different environments, according to the Seven Innovation Gap Model. The effect of group activities would be wide participation of various stakeholders, which would translate into strengthening cooperation between different environments (which is one of the problems identified in the first and second thematic area). Such activities would also

strengthen the entrepreneurial discovery process in the region, which will have a direct impact on the improvement of RIS3 implementation and may lead to increased trust between different stakeholders. From the point of view of ensuring greater involvement of various groups in the process of entrepreneurial discovery, it would be good to entrust the management of meetings within these groups to representatives of various stakeholders. The Marshall Office may act as the animator of these meetings (which fits well with the referenced concept of The Seven Innovation Gap Model), but should not be the only party responsible for selecting the topics of the meetings. Thanks to this fact, the topics discussed during the meetings will not be limited to one-sided, e.g. administration's perspective, which will allow for more creative discussions and can contribute to strengthening RIS3. A major challenge associated with the functioning of these groups is ensuring the continuity of these meetings and the proper involvement of individual parties. Members of these groups, as representatives of various environments, could in the future perform a function similar to that of "advocates of smart specializations" - **key person in the Östergötland region**. Thanks to this, communication within individual smart specializations could be much more efficient, and in addition, these spokespersons could effectively lobby for smart specializations in their environments.

Illustration 1: Good practices / inspirations that can contribute to strengthening the RIS3 of the Lubelskie Voivodeship.

