REGIONAL INNOVATION STRATEGY
for the Warmińsko-Mazurskie Voivodship
up to the Year 2020

RIS+ Warmia Mazury
Regional Innovation Strategy
for the Warmińsko-Mazurskie Voivodship up to the Year 2020
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Abstract
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1. Introduction

This document is an abstract of the Regional Innovation Strategy for the Warmińsko-Mazurskie Voivodship up to the Year 2020. The Warmińsko-Mazurskie voivodship was one of the first regions in Poland to work out its innovation strategy, back in the year 2004. The changing economic situation, Poland’s membership in the European Union and the resulting accessibility of the structural funds have made it necessary to update the document. Also, the research and analyses conducted since the year 2004 indicated the need for readdressing the questions formulated at the earlier stages of RIS and redefining the objectives of the Strategy, so that they correspond to the current needs and abilities of the developing region.

The work on updating the Innovation Strategy started in the year 2009. An inventory and a review of previous research and analyses were made, as well as the strengths and weaknesses of the region were identified in search of areas which the voivodship could use as the foundations for its innovation-based development. The process continued with active involvement of representatives of the local authorities as well as social and business partners, working within the Working Groups and the RIS Regional Steering Committee. Their efforts concluded in the formulation of the vision and mission, as well as the strategic and operational objectives. The Regional Innovation Strategy for the Warmińsko-Mazurskie Voivodship assumes that the objectives will have been achieved by the year 2020. The RIS is also coherent with the Socio-Economic Development Strategy for the Warmińsko-Mazurskie Voivodship up to the Year 2020, the former being elaboration on the latter’s vision and objectives in respect of innovation in the region. The RIS authors’ new approach to the issues of the development of innovation in the region also corresponds to European trends – the European Commission Strategy “Europe 2020”, which emphasizes the need for intelligent specialization of regions, as well as the OECD innovation strategy, indicating non-technological determinants of innovation, primarily the human and social capital.

The Regional Innovation Strategy assumes that economic growth will be achieved due to services and products of high added value, accompanied by the development of social capital, human capital and innovation culture. The Warmińsko-Mazurskie voivodship has potential to meet the new challenges. The present abstract of the Regional Innovation Strategy for the Warmińsko-Mazurskie Voivodship up to the Year 2020 includes but a brief account on the assessment of the region’s situation in respect of innovation, the Strategy implementation rules, as well as the guidelines on monitoring and evaluation. The SWOT analysis, vision and mission, as well as the strategic and operational objectives have been presented in full, though.

“The Regional Innovation Strategy assumes that economic growth will be achieved due to services and products of high added value, accompanied by the development of social capital, human capital and innovation culture.”
2. Synthesis of Assessment of Region’s Situation in Area of Innovation

The Warmińsko-Mazurskie voivodeship is one of the least economically developed regions in Poland. However, the region has unique features which may constitute the foundations for the development of economic competitiveness based on innovation.

The low position of the voivodeship in rankings concerning entrepreneurship and innovation, as well as attractiveness to investors, is a derivative of such primary indices as: communications accessibility, economic activity of individuals and companies, quality of human resources, research and development activities.

2.1. Social Capital and Innovation Culture

Social capital can be understood as norms and values conditioning social interactions. Its primary element is trust and willingness to cooperate. From the economic and social perspectives, social capital reduces corruption, increases contracting parties reliability, creates favourable conditions for long-term investments and diffusion of knowledge, prevents the abuse of common good and reinforces intergroup solidarity. Moreover, by developing the social capital and its primary indices as: communications accessibility, economic activity of individuals and companies, quality of human resources, research and development activities. The level of educational background in the population of the Warmińsko-Mazurskie voivodeship, just as the rest of Poland, ranks among the weakest regions in Europe in this respect.

The region of Warmia and Mazury is characterized by a low level of entrepreneurship. In 2007, companies in the region constituted just over 3% of all the enterprises registered in Poland, which was one of the lowest results among all the regions. The regional companies are reluctant to establish cooperation with other participants of the innovation system. In respect of the percentage of enterprises which cooperated in innovative activity over the years 2004-2006, the region ranked last but one (services) and last (industry) in Poland. This phenomenon constitutes a major barrier to the creation of economic relations and clusters, though examples of this type of initiative can be found in the economic landscape of the voivodeship.

2.2. Social Capital

Human capital of the region presents potential in the form of its relative youthfulness (the proportion of youngest people – up to 15 years of age, and the proportion of people at working age – 15-64 years) are each larger by approximately 2 percentage points than the national average. A certain obstacle on the path to the development of the potential is the poor quality of the vocational education. Against the background of this, it is worth considering the role of the Internet in their contacts with customers and economic partners. The insufficient use of the Internet in business would enable them to manage their processes and procedures more rationally and in a longer-term perspective. However, making it possible to position into new markets. Companies in the region fail to make sufficient use of the Internet in their contacts with customers and economic partners. The outstanding lines of business in the region are industries of large potential for development, such as agricultural and food-processing as well as furniture production and carpentry – indicated in the Socio-Economic Development Strategy for the Warmińsko-Mazurskie Voivodeship (SRSGWWM) as “areas of strong potential for innovation”. Considering the value of expenditure on innovation activity and the value of sales of new and modernized products per business entity, the most innovative industries (using the Polish Classification of Activities (PKD)) are: production, processing and preservation of meat and meat products, dairy products, manufacture of plastic products and other non-metal products, manufacture of finished metal products (excluding machinery and equipment), manufacture of special-purpose machinery, building and repair of ships and boats, as well as furniture production. Additionally, a very specific type of economic resources of the Warmińsko-Mazurskie voivodeship, which is not addressed in SRSGWWM, is tourism and in particular qualified tourism, combining recreation with culture. The share of tourism in Gross Value Added produced by the regional economy is one of the highest in Poland.

2.3. Innovation Needs of Enterprises

The Warmińsko-Mazurskie voivodeship enterprises are characterized by a relatively low degree of innovation. In 2008, the regional companies expenditure on that purpose constituted 1.28% of the monies spent on innovation activities nationwide (only the Dolnośląskie voivodeship noting lower expenditure in this respect). Moreover, merely 2.3% of that amount was allocated to research and development (in comparison to the national average of 8.16%). Apart from lack of own capital and difficulty in obtaining a bank loan for the implementation of an innovation undertaking, regional companies face the problem of inaccessibility of risk-sharing financial tools of the venture capital type. Entrepreneurs in the region are also characterized by a low proportion of EU funds utilization in comparison to the rest of the country.

Companies fail to see the advantages of and lack the skills necessary for exploiting the knowledge and potential of other institutions. The enterprises are characterized by a low level of innovative activities, with the enterprises in the Warmińsko-Mazurskie voivodeship being only 1.27% more active in this respect than the national average. This results from the difficulties related to the creation of the conditions needed for upgrading the qualifications and change their job.

The level of educational background in the population of the Warmińsko-Mazurskie voivodeship is high. There are evident shortcomings of the educational process, wherein work and entrepreneurship do not constitute priority values. At the same time, the region has substantial potential in respect of the proportion of natural-science and engineering/technical students and graduates to the overall number of students and graduates.

Another barrier to the introduction of innovation in the voivodeship is the Warmińsko-Mazurskie enterprises development strategies. The development of conditions necessary for and to a limited extent cooperate with institutions providing specialist innovation-support services.

“Social capital can be understood as norms and values conditioning social interactions. Its primary element is trust and willingness to cooperate.”
2.4. Scientific and Research Potential of Region

Expenditure on R&D activities in the Warmińsko-Mazurskie voivodship is considerably lower than the domestic average (0.29% of GDP as opposed to 0.57% GDP in the year 2007). In addition, the structure of that outlay is unfavorable, as in the year 2008, for instance, only 2.11% of the total amount concerned the sector of enterprises (the nationwide average figure in this respect exceeding 30%). These data prove the R&D sphere to be completely dominated by the public sector, especially higher education institutions, as well as scarce activity of the regional enterprises in that respect. A weakness of the voivodship is its insufficient human resources active in the field of research and development – the index of R&D-employed individuals per 1000 of the economically active has not changed since 2004 and does not even reach half the value of the domestic average. Moreover, the structure of employment in R&D confirms the imbalance between the public sphere and business: nearly 80% of the employees in question work in the higher education sector and just under 5% represent industry. To make things worse, public R&D units in the region face the same problems as their counterparts elsewhere in Poland: no systemic support to entrepreneurial attitudes among the research personnel, a strongly formalized scientific career path, as well as lack of internal regulations concerning intellectual property management. The Warmińsko-Mazurskie voivodship is characterized by low activity in respect of industrial property protection, expressed in the number of patents and registered utility models granted. Moreover, access to services provided by specialists such as patent attorneys is severely limited (in the territory of the voivodship there are as few as 9 out of the 526 patent attorneys entered in the Patent Attorney Register kept by the Patent Office of the Republic of Poland).

A positive feature of the regional R&D sphere is its clear specialization, partly corresponding to the economic profile of the voivodship. The majority of R&D expenditure in 2008 was allocated to research in the field of agricultural sciences (over 10% of the domestic R&D expenditure in that field), which corresponds to the structure of the local economy and the trends towards the development of the agricultural and food products industry in the region.

The academic and research leader in the region is the University of Warmia and Mazury (UWM). Apart from its scientific and educational activity, the UWM also acts for the development of innovation in the region. The structure of the University includes the Innovation and Technology Transfer Centre which, along with the Warmia and Mazury Regional Development Agency, Joint Stock Company (WMARR S.A.), is a member of the European network providing specialist services in respect of technology transfer (Enterprise Europe Network). At the same time, the cooperation between the UWM and the remaining players on the innovation scene – companies, business support institutions and local authorities – is still insufficient and consequently the University has not become the regional driving force behind the development of innovation. Smaller yet significant scientific and research units and higher education schools in the region include: the Polish Academy of Sciences (PAN) Institute of Animal Reproduction and Food Research in Olsztyn, the Inland Fisheries Institute, the State School of Higher Professional Education in Elbląg, the J. Rusiecki Olsztyn School of Higher Education in Olsztyn, the Wojciech Kętrzyński Scientific Research Centre, the Żuławski Research Centre of the Institute for Land Reclamation and Grassland Farming and the Higher Police School in Szczytno.

2.5. Innovation Support System

A nationally unique element of the Warmińsko-Mazurskie innovation support system is its network of 21 Poviat Contact Points which give local stakeholders first direct contact with the issues of innovation. The Points are primarily aimed at assisting entrepreneurs in a given poviat by providing them with information and consultancy. The network was created as a result of the implementation of the Regional Innovation Strategy for the Warmińsko-Mazurskie Voivodship and is coordinated by the Warmia and Mazury Regional Development Agency, Joint Stock Company in Olsztyn.

The supply of specialist innovation-oriented services is very low in the Warmińsko-Mazurskie voivodship (it is basically limited to one entity, i.e. the Innovation and Technology Transfer Centre at the University of Warmia and Mazury). Initiatives such as technology parks and business incubators have been in operation or are being initiated in the region.
3. SWOT Analysis

The most crucial conclusions of the assessment of the region’s situation are presented in the following SWOT (i.e. Strengths, Weaknesses, Opportunities, Threats) analysis.

3.1. Social Capital and Innovation Culture

<table>
<thead>
<tr>
<th>STRENGTHS</th>
<th>WEAKNESSES</th>
</tr>
</thead>
<tbody>
<tr>
<td>The society and the regional and local government’s increasing willingness to act for the region and the local communities</td>
<td>Low level of social capital – general lack of trust, cooperativeness, care for the common good, inclination to complain</td>
</tr>
<tr>
<td>Cultural diversity combined with lack of ethnic conflicts</td>
<td>Underdevelopment of innovation culture, low level of entrepreneurship and enterprises attitudes in the society of the region</td>
</tr>
<tr>
<td>The local governments’ growing willingness to cooperate with each other</td>
<td>Too few good innovation culture models presented by public administration</td>
</tr>
<tr>
<td>The local governments’ growing awareness of the significance of innovation for the development of the community, the region and the region, expressed in e.g. their involvement in cluster initiatives and the development of human capital</td>
<td>Excessively strong influence of political conditions on innovation-oriented activity</td>
</tr>
<tr>
<td>The growing culture of strategic planning in local governments</td>
<td>Distort: lack willingness and abilities to establish cooperation between enterprises, science, and business support institutions</td>
</tr>
<tr>
<td>The growing tradition of family enterprises</td>
<td>Stereotypes in relations between enterprises and the administration, restricting cooperation in the introduction of innovation</td>
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3.2. Human Capital

<table>
<thead>
<tr>
<th>STRENGTHS</th>
<th>WEAKNESSES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Growing human capital, desire for self-education and individual ambitions as well as the resulting development of competences</td>
<td>System of education failing to build up creative and enterprising attitudes</td>
</tr>
<tr>
<td>Significant resources of well-educated specialists and the growing number of young well-educated people in the region</td>
<td>The quality of staff and their skills being unadjusted and to the needs of enterprises and regional and local governments</td>
</tr>
<tr>
<td>Advantageous age structure of human capital – positive birth rate and large percentage of people at working age</td>
<td>Insufficient number of specialists trained in the region in the types of business with potential for innovation and development</td>
</tr>
<tr>
<td>Increasing tendency in enterprises to invest in staff’s qualifications</td>
<td>Insufficient practical training offered within the system of education</td>
</tr>
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“Advantageous age structure of human capital – positive birth rate and large percentage of people at working age”
3.3. Enterprises

- Strengths
  - Strong branches lines of business with large potential for development, such as agricultural and food industry, furniture production and tourism being competitive nationwide
  - The furniture, agricultural and food, as well as machine-building industries having modern machinery
  - Innovation leaders’ activities providing a model and driving force for other companies
  - The Elbląg area being specialized in ICT
  - Well developing medical and tourist services

- Weaknesses
  - Capital gap in respect of innovation investments in companies
  - Hardly any cooperation between enterprises
  - Hardly any cooperation with the R&D sector
  - Shortage of specialists in enterprises
  - Low level of innovation culture in enterprises – orientation at maintaining the status quo averse to changes
  - Unfavorable model of enterprise management, domination of operational management over strategic management
  - Little utilization of the Internet in companies
  - Low patent activity of enterprises
  - Insufficient R&D facilities in companies

- Opportunities
  - Accessibility of EU funds for human capital development
  - Progress in the process of reforming the Polish education system so that it develops skills and competences
  - The region’s human capital becoming enriched with the experience and competences brought home by individuals who have returned to Poland after working abroad

- Threats
  - The image of a peripheral region, backward in terms of technology and civilization; driving ambitious individuals to migrate to stronger regions
  - Unfavorable demographic trends towards an ageing society
  - External investors being uninterested in locating innovation and knowledge-based businesses in the region

3.4. Support system – R&D

- Strengths
  - The region’s university of high research and teaching potential, enabling cooperation with domestic and foreign partners
  - The University’s and the research units partly formulated offer for enterprises
  - The operation of the Centre for Innovation and Technology Transfer at the University of Warmia and Mazury (UWM)
  - UWM’s nationally highest proportion of patents put into practice to the number of patents registered
  - Continuing development of the didactic and research facilities of the regional higher education schools and research units

- Weaknesses
  - Shortage of R&D units in the region
  - Lack of regulations concerning commercialization of research conducted in research units
  - The conducted research being inadequate for the market needs
  - Insufficient number of patent attorneys in the region
  - Lack of entreprenurial attitudes among researchers
  - Lack of development strategies of scientific units

- Opportunities
  - EU and national policy targeted at supporting enterprise-oriented innovation – current and anticipated public programmes in that respect
  - The necessity to care for the natural environment of the region, hence promotion of pro-ecology innovation solutions
  - The borderland location as an opportunity for the development of economic cooperation
  - EU and national policy targeted at supporting enterprise-oriented innovation – current and anticipated public programmes in that respect
  - Creation of the region „brand” through promotion campaigns
  - Growing demand for products manufactured from natural raw materials
  - Creation of attractive investment areas and development of special economic zones – attracting new investors

- Threats
  - Poor communication infrastructure
  - Instability of legal regulations
  - Overregulated fiscal system
  - Outflow of well-educated staff from the region
  - Lack of investment in the future, particularly in respect of innovation activities
  - Competition from companies in other regions
  - Unforeseeable changes in the economic situation
3.5. Innovation Support System – Support Programmes and Business Support Institutions

**STRENGTHS**
- The operational Regional Innovation Support System at WMARR S.A.
- The regional business support institutions’ readiness to cooperate
- The existing leaders among the business support institutions

**WEAKNESSES**
- Inefficient organization of work of regional and local governments, lack of sufficient cooperation between the particular regional and local government units
- Insufficient coordination of innovation-oriented activities in the region
- Incoherent system of innovation support

**OPPORTUNITIES**
- Establishment of science and technology parks in Olsztyn, Elbląg and Elk
- Creation of the Regional Services System developing the offer of innovation-oriented services in the region
- Opportunity for using the funds under the new Financial Perspective 2014-2020
- Ability to draw on the good practices (know-how) of other regions

**THREATS**
- Possibility of business support institutions losing external funding
- The lack of system solutions for business support institutions for the whole country
- Low level of enterprises’ trust in the quality of business support institutions services and safety of information passed on to them
- Lack of funds allocation to financing high-risk undertakings in the future
4. RIS Vision and Mission

The Warmińsko-Mazurskie voivodship is an exceptional region in terms of wildlife assets and has been declared one of the most beautiful places on Earth. Currently, the state of its economy and the conditions in which its inhabitants are to live and develop are below the voivodship’s ambitions. The local authorities, as well as their socio-economic partners, wish to preserve the unique assets of the local natural environment, but at the same time, increase the economic and social competitiveness of the region. Hence, the voivodship opts for sustainable and efficient development, including an innovation-based and environment-friendly economy, utilizing the potential of green energy and clean low-emission technologies. Therefore, our development vision reads:

**VISION**
The Warmińsko-Mazurskie voivodship – an attractive environment for creativity and a region with an economy based on specialised services and products of high added value.

**MISSION**
The mission of the Regional Innovation Strategy is to inspire and coordinate measures aimed at activating the social, economic, and scientific-research capital for the creation of innovative specialization of the economy of Warmia and Mazury.

5. Strategic and Operational Objectives

With the aforesaid vision and mission in mind, a number of strategic and operational objectives have been set, their logic being as follows:

- **Vision:** The Warmińsko-Mazurskie voivodship – an attractive environment for creativity and a region with an economy based on specialised services and products of high added value.
- **Mission:** The mission of the Regional Innovation Strategy is to inspire and coordinate measures aimed at activating the social, economic, and scientific-research capital for the creation of innovative specialization of the economy of Warmia and Mazury.
- **Strategic Objectives**
  - Development of strong social capital and innovation culture
  - Development of creative human capital
  - Improvement of institutional innovation system
  - Transformation of economy towards knowledge-based specialised products and services

- **Operational Objectives**
  - The Warmińsko-Mazurskie voivodship – an attractive environment for creativity and a region with an economy based on specialised services and products of high added value.
5.1. Strategic objective 1: Development of strong social capital and innovation culture

Innovation comes to life neither in a void nor in a single individual’s mind, but it results from interaction between people and institutions. The frequency of the occurrence of innovation in a particular area depends on the values, models of behaviour and attitudes shared by the local people. The primary factor in the innovation development of a region is its social capital. That, in turn, consists in the standards and values determining social interactions. The basic elements of social capital are trust and willingness to cooperate. From the economic and social perspectives, social capital reduces corruption, increases contracting parties’ reliability, creates favourable conditions for long-term investments and diffusion of knowledge, prevents the abuse of common good and reinforces intergroup solidarity. Moreover, by developing non-government institutions, it facilitates public control over authorities’ activity. Social capital is also expressed in partnership-based manner of applying the policies of and coordinating the activities between particular tiers of public administration on national, regional and local levels, i.e. the so-called good governance. The emergence and development of innovation is also enhanced by strong social capital and innovation culture, which will be pursued through the implementation of the following operational objectives.

Promotion of innovative attitudes among the managers and employees of enterprises, local and regional governments, intermediaries and among the society

An innovative region is one where enterprises’ and support institutions’ managerial personnel is aware of the mutual benefits for both parties involved in cooperation, and is able to establish such cooperation with other entities, including companies, support institutions and administration bodies. A region where those managerial positions are open to learning, adaptable to the changing situation around them, and capable of encouraging and utilizing their employees’ creativity. Employees, in turn, are able to initiate and implement new solutions for the development of the companies or institutions they work for. Such behaviour is reinforced by innovation-oriented attitudes of the public administration; its various bodies demonstrating significant activity, taking the initiative, showing their openness to cooperation with the regional partners and readiness to take risk. Those employed in administration first of all aim to pursue the common goal of innovation development in the region, and not merely put all their effort in assuring their authority, as well as undertakings based on active without cooperation which contributes to gain-giving local initiatives which can be taken up by the local administration bodies within the scope of their authority, as well as undertakings based on cooperation between institutions and individuals. The measures under this objective will be aimed at:

- Development of strategic planning skills and put them into practice.

Encouraging Local Initiatives for Innovation

The European experience shows that the most effective action for innovation actions take place at local level. It is here that individuals and institutions make use of the opportunities resulting from proximity which facilitates communication, mutual trust, awareness of the needs of enterprises. It is necessary to utilize the existing natural motivation of individuals “to do something” for their local community. That is why the Regional Innovation Strategy puts emphasis on local initiatives for innovation taken up by the local administration bodies within the scope of their authority, as well as undertakings based on cooperation between institutions and individuals. The measures under this objective will be aimed at:

- Promotion of grass-roots initiatives

The greatest potential for developing the ability to cooperate and act effectively lies in specific ideas for local initiatives which can be taken up by entrepreneurs, NGOs and administration bodies. The Region counts on supporting those initiatives which contribute to the development of innovativeness at local level.

Promoting cooperation among all the participants of the regional innovation system

The activity of the institutions constituting the regional innovation system will not be fully effective without cooperation which contributes to gaining greater benefits than those obtained when acting on one’s own. Cooperation makes it possible to share experience, learn from others’ mistakes and get inspired by the activity of a partner which can be an enterprise, a self-government body, a intermediary institution, or an R&D unit. In cooperation, enterprises may obtain more attractive prices from suppliers, arrange joint, more effective promotion of their products, jointly order a service of a research unit or work together on the development of innovations. The Warmińsko-Mazurskie Voivodeship and Mazury region aims for continuous promotion of cooperation among all the participants of the regional innovation system, particularly among enterprises.
Enhancing social capital in the process of RIS development and implementation and promoting that process as a good practice of cooperation for innovation in the region

Enhancing social capital begins with understanding what it is and showing how it works in practice. The manner of creating and implementing the Regional Innovation Strategy – by getting various actors in the region involved, assigning them roles to play and getting them to cooperate – will provide an example for further regions to follow. The success of the Strategy will always be very limited. The region is not fully autonomous in administering EU funds, either. Hence, it is necessary to actively shape regional operational programmes, so as to enable implementation of all the Strategy objectives and, moreover, obtain funding from sources outside the region. The Warmińsko-Mazurskie voivodship counts on motivating the entities involved in RIS implementation to actively seek funds for pro-innovation actions in cooperation and competition with Polish and European regions.

The creation and implementation of the Regional Innovation Strategy is a process involving representatives of local authorities, enterprises, business-related institutions, R&D organizations and all other entities interested in the development of the region on the basis of innovation. Those stakeholders should be the authors, participants and advocates of the Strategy as an action for the common good which will be contributed to by everybody, regardless of any political divisions. The joint work which leads to the consensus on the Strategy’s objectives, resting on dialogue and cooperation, must be continued in the process of the implementation of the Strategy. The region counts on continuing the process based on the principle of collaboration and joint responsibility of the numerous participants of the regional innovation system. That is because the success of the Strategy requires long-time consistency in action, independent from the term of office of a particular authority.

- Improvement in the ability to raise funds from various sources for RIS implementation purposes

The implementation of the Regional Innovation Strategy depends on funds which the region will be able to raise for this purpose. The local authorities’ own resources for the implementation of the Strategy will always be very limited. The region is not fully autonomous in administering EU funds, either. Hence, it is necessary to actively shape regional operational programmes, so as to enable implementation of all the Strategy objectives and, moreover, obtain funding from sources outside the region. The Warmińsko-Mazurskie voivodship counts on motivating the entities involved in RIS implementation to actively seek funds for pro-innovation actions in cooperation and competition with Polish and European regions.

Creating the image of Warmia and Mazury as a region open to innovation

Successful development of the region depends on formulating an appropriate vision and the manner of its presentation to external recipients and the locals, but also on how the region will be perceived by them. It is important that they are sent a clear signal of what the region’s development will take, so that they are able to build their own plans on that basis. The Warmińsko-Mazurskie voivodship aims for the region to be perceived as a region open to innovation, favourable to the further development of their professional careers and as a friendly environment to live in.

5.2. Strategic Objective 2: Transformation of economy towards knowledge-based specialised products and services

European regions, including the Warmińsko-Mazurskie voivodship, must build their competitive advantage by promoting specialized products and services, which requires people to have specific skills and competences. The voivodship may not see its chances of development only in external investments, whereby enterprises locate their simple activities in the region because of its cheap labour supply, but they do not transfer or generate knowledge or know-how over here. The Warmińsko-Mazurskie voivodship, therefore, counts on:

- modernizing the existing enterprises by gradually introducing their own solutions based on the employees’ knowledge and cooperation with R&D units, thus building up their competitiveness on specialization,
- seeking external investments to be located in the region because of its human capital’s specialist knowledge.

The Warmińsko-Mazurskie voivodship voivodship aims for transforming its economy towards knowledge-based specialised products. This strategic objective will be implemented through the following operational objectives:

Enhancing the innovative specialization of the region

The Warmińsko-Mazurskie voivodship wants to build up its brand through specialization niches. In the quickly changing global economy, the region may not plan a success in any line of business, and particularly it must not single out winners in the market of the future by discriminating against the others. The region may, however, support those industries which stand a good chance of development. The Warmińsko-Mazurskie region has an evident potential to work out regional specialization in the lines of business: tourism, ICT, furniture and food industries. With that in mind, the measures taken will be aimed particularly at:

- Development of the tourism sector towards new services based on knowledge, e.g. health promotion, rehabilitation and sports services

The Warmińsko-Mazurskie voivodship, with its great tourist assets, is considered one of the most beautiful places in the world and the Masurian Lake District became a finalist in the New 7 Wonders of Nature campaign organized by the Swiss New7Wonders foundation. If, however, the development of but also on how the region will be perceived by them. It is important that they are sent a clear signal of what the region’s development will take, so that they are able to build their own plans on that basis. The Warmińsko-Mazurskie voivodship aims for the region to be perceived as a region open to innovation, favourable to the further development of their professional careers and as a friendly environment to live in.

5.2. Strategic Objective 2: Transformation of economy towards knowledge-based specialised products and services

European regions, including the Warmińsko-Mazurskie voivodship, must build their competitive advantage by promoting specialized products and services, which requires people to have specific skills and competences. The voivodship may not see its chances of development only in external investments, whereby enterprises locate their simple activities in the region because of its cheap labour supply, but they do not transfer or generate knowledge or know-how over here. The Warmińsko-Mazurskie voivodship, therefore, counts on:

- modernizing the existing enterprises by gradually introducing their own solutions based on the employees’ knowledge and cooperation with R&D units, thus building up their competitiveness on specialization,
- seeking external investments to be located in the region because of its human capital’s specialist knowledge.

The Warmińsko-Mazurskie voivodship voivodship aims for transforming its economy towards knowledge-based specialised products. This strategic objective will be implemented through the following operational objectives:

Enhancing the innovative specialization of the region

The Warmińsko-Mazurskie voivodship wants to build up its brand through specialization niches. In the quickly changing global economy, the region may not plan a success in any line of business, and particularly it must not single out winners in the market of the future by discriminating against the others. The region may, however, support those industries which stand a good chance of development. The Warmińsko-Mazurskie region has an evident potential to work out regional specialization in the lines of business: tourism, ICT, furniture and food industries. With that in mind, the measures taken will be aimed particularly at:

- Development of the tourism sector towards new services based on knowledge, e.g. health promotion, rehabilitation and sports services

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problem of seasonality in this sector of economy, while making its development more sustainable.

- Development of the ICT (Information and Communications Technology) sector

In the pivoting of Elbląg, the operation of the State School of Higher Professional Education in Elbląg and the Elbląg Incubator of Modern Information Technologies, gave rise to a rapid development of the ICT sector. In Olszyn, the Innovation and Technology Transfer Centre at the University of Warmia and Mazury is being established – as the largest computer science and IT educational centre in the north-east of Poland. The development of a modern, knowledge-based sector is thus the region’s opportunity for building up its strong specialization.

The furniture sector constitutes a larger proportion of the region’s economy and, over the recent years, has successfully adjusted to the changing market conditions. However, the sector is not characterized by significant technological advancement, yet, and is in need of new design. One of the voivodship’s priorities, therefore, is to support the sector in that respect, so that it may successfully compete against enterprises in other regions of Poland and Europe.

- Support for the furniture sector in implementing new technologies and innovative design

In Poland, Europe and the whole world, there has been a growing demand for traditional food based on natural ingredients. The region of Warmia and Mazury, with its already shaped image of an area of high ecological value, has significant potential for producing such food. With that in mind, measures are taken to build up the voivodship’s brand of a place where high quality and healthy food products are developed.

Attracting external investment in highly-specialised production and knowledge-based services

Filling in the gap in the economic development is impossible without external investment by large enterprises. However, in the long run, reasonable investments are only those in industrial production and provision of services of high added value, utilizing the specialist human potential in the region and cooperating with local small and medium-sized enterprises and research units.

Promotion and support for business undertakings based on cooperation with the R&D sector and creation of research departments in companies

In order to reinforce their competitiveness and profitability, enterprises need to continuously introduce new solutions concerning their products, processes, organization and marketing. In the long term, the biggest advantage may be achieved not through the introduction of imitative innovations, i.e. duplicating models existing in other enterprises, but through the implementation of own original solutions. Therefore, it will be a priority to promote the cooperation with the R&D sector, draw on the knowledge and solutions developed by other institutions, as well as create own R&D units in companies.

Promotion of strategic management and innovative organization in companies

Research indicates that the introduction of technological innovations in enterprises is always interlinked with modern management and organization of work. Unfortunately, in the Warmińsko-Mazurskie voivodship, the predominant mode of management is the operational one, focused on a short-term perspective, very often aimed primarily at maintaining the status quo in face of the changing situation. Enterprise need long-term development strategies, modern forms of organization, triggering off the innovativeness of human resources. Thus, the measures taken to achieve this objective will be aimed at raising the level of implementation of modern innovation management techniques and organizational innovations, e.g. flexible working hours and innovation-friendly organizational structure in enterprises.

Assisting entrepreneurs in the acquisition of external capital for innovative investments

Lack of financial resources constitutes a barrier to the introduction of innovation, a barrier most frequently indicated by companies in the Warmińsko-Mazurskie voivodship. The policy of the European Union, at the expense of existing companies, in introducing innovation and as such promotes and finances a number of measures designed to facilitate the acquisition of resources for investment in new solutions to be developed by companies and, in particular, by small and medium-sized enterprises (SMEs). Enterprises in the region of Warmia and Mazury do not have sufficient competences and skills to effectively acquire financial resources, especially in competition with companies in other voivodships. Many entrepreneurs are unable to match the relevant financial instruments to their needs and depend on assistance in meeting the requirements set by particular financing institutions. Therefore, it is necessary to upgrade the competences and raise the awareness of entrepreneurs in the respect of innovation financing instruments and to expand consultancy and intermediation between enterprises and investors in order to increase the capital engaged in innovation activity in the region.

5.3. Strategic Objective 3: Improvement of institutional innovation system

As the main and most important subject of regional economy, enterprises need an operative and efficient system supporting their innovation-based development. The business support institutions, local authorities, financial institutions, the RDG units should cooperate with enterprises and with each other, too, for innovation development of the region. Innovation-oriented measures are to be carried out in a regular basis, in line with the objectives set in the Regional Innovation Strategy, with adequate management and coordination.

The Warmińsko-Mazurskie voivodship, therefore, aims to improve the institutional innovation system.
This strategic objective will be pursued through the following operational objectives:

**Coordination of innovation-oriented measures taken by local authorities and business support institutions**

- Promotion of innovation on European, national and regional levels, as well as access to the structural funds resulted in numerous institutions in the voivodship intensifying or even starting for the first time their activity in the field of innovation support. The operation of intermediary institutions and local authorities in the region of Warmia and Mazury is not always in line with the previously adopted plan or strategy. It is thus of extraordinary importance to the region that measures for the voivodship innovation development are not overlapping, but rather all of them are complementary to each other. Moreover, this objective is aimed at increasing the recipients' understanding of the scope of competence and activity of each of the institutions offering them support.

**Development of innovation-oriented services**

- Building up the Regional System of Services supporting innovation in enterprises

Business support institutions, despite the improvement in their staff competences, still fail to provide innovation-oriented services of sufficient quality, corresponding to the needs of enterprises. The infrastructure itself, without an adequate management, increases the quality and scope of services oriented at increasing the innovation in companies. The development of business support institutions operating in the Warmińsko-Mazurskie voivodship within the framework of the Regional System of Services (RSS) is an opportunity for increasing both the competitiveness of enterprises and the demand for innovation.

- Increasing the efficiency of the Regional Innovation Support System

In the Warmińsko-Mazurskie voivodship, there is a nationally unique network of contact points constituting the Regional Innovation Support System aimed at enhancing innovation culture among entrepreneurs and inhabitants of the region, as well as providing companies, especially SMEs, with assistance in introducing innovative solutions. Hence, the region strives to continuously improve the efficiency of measures taken by the Regional Innovation Support System in order to build up innovation-based competitiveness and effectively implement the Regional Innovation Strategy for the Warmińsko-Mazurskie Voivodship.

- Development of services and consultancy on intellectual property management

In the contemporary world, where the transfer of information is extremely quick and an enterprise’s success relies on such intangible assets as brand, trademark, industrial design, human resources or technologies, it is indispensable to have an appropriate strategy for the protection of solutions worked out within a company or a scientific unit.

- Development of risk sharing instruments for financing innovation

Innovative undertakings are burdened with high risk and, as such, fail to fit in with traditional financial instruments. Loan and guarantee funds are helpful and, often grant loans and security for the funding of innovative undertakings. Still, they fail to share the entrepreneur’s risk and offer no support in managing it. It is therefore necessary to initiate new financial instruments of the seed capital or venture capital type, and encourage business angels and the accessibility of intermediary institutions to take the entrepreneur’s risk and offer no support in managing it. It is therefore necessary to initiate new financial instruments of the seed capital or venture capital type, and encourage business angels and venture capital funds already operating in Poland to invest in the Warmińsko-Mazurskie voivodship.

- Motivating intermediary institutions to take pro-market activities

Institutions supporting the development of entrepreneurship and innovation in the region are largely financed by public monies and in particular the EU structural funds. This may lead to inconsistent application of the offer of such an institution, relinquishment of activities for which there are no funding at a given time and their replacement with measures for which there are funds available. Furthermore, the institutions being totally dependent on that sources of funding run the risk of losing financial liquidity when Poland ceases to be an EU funds beneficiary. It is therefore necessary to gradually diversify the sources of finance, develop an offer of services for which entrepreneurs, local and regional authorities or other institutions will be willing to pay.

Creation and efficient use of innovation-oriented infrastructure, including science and technology parks and technology incubators

The infrastructure aimed at supporting innovation activity, including science and technology parks, as well as technology incubators, may constitute a very helpful instrument in establishing and expanding for knowledge-based enterprises. However, the infrastructure itself, without an adequate manage ment policy and a package of specialist services, will not suffice to productively utilize these facilities for innovation development in the region. The task of such institutions should be to achieve a synergy effect resulting from the physical proximity of concepts and ideas, real business and the accessibility of intermediary services. The objective set by the Warmińsko-Mazurskie voivodship is therefore to create a comprehensive offer of innovation-supporting centres, where the accessibility of infrastructure will be combined with services of consultancy, technology transfer as well as incubation and development of new innovative companies.
Improving public administration’s support for innovation

Public authorities, both at regional and local level, is the administrator of a given area and simultaneously one of the main actors of the innovation system. It is public administration that may and should determine the trends in the innovation-based development of a particular area. Hence, the region’s priority is to build up innovative attitudes in local and regional authorities, so that they become an example to be followed by other institutions, companies and the society. The priority for the authorities shall be improved organization and effectiveness of innovation support programmes, with a minimised bureaucracy and focus on the results.

Adjusting activities of the science sector to the needs of the regional economy

In the Warmińsko-Mazurskie voivodship, the science sector is at the stage of evolvement, with one large university and many smaller didactic units. Due to the inflow of structural funds, the research and didactic base of the region is in constant development. The way of financing that sector, based on the number of students taught and the evaluation of scholarly achievement against the number of publications, along with the insufficient degree of co-operation with the business sector and certain mental barriers, do not facilitate correspondence between researchers’ goals and the local entrepreneurs’ needs. It is therefore one of the voivodship’s priorities to ensure that the local research sector operates in line with current requirements of enterprises, R&D staff develop new managerial skills and the research potential is reinforced in the fields of interest of the developing economy.

5.4. Strategic Objective 4: Development of creative human capital

Innovation is not merely technologies and processes but, most of all, people who create them and put them in practice. Human capital, that is people’s knowledge, skills and competences, is the basic factor in the development of both individual enterprises and the economy. Nowadays, national and regional economies, compete by creating, attracting and retaining talents. The Warmińsko-Mazurskie voivodeship needs experts for its economy and administration, i.e. well educated, flexible workforce who will initiate and implement new solutions, as well as adapt their competences to the changing needs of the labour market. There is a shortage of enterprising managers, scientists and administration staff. The priority in respect of innovation development in the region will be the generation of a creativity favourable environment: high quality education of children and youngsters, training of human resources in enterprises, administration, as well as creating opportunities for the development of ambitious individuals. This strategic objective will be achieved through the pursuit of following operational objectives:

Development of skills and qualifications of the human resources of the regional economy and administration

People presently employed by enterprises and administration cannot afford to disregard their employers’ needs for specific competences and the unceasing progress of knowledge in the fields related to their jobs. Employers face shortages of qualified staff available in the labour market. This problem will not be solved merely by providing education to future generations of employees. It is therefore necessary to adjust the qualifications of the already existent workforce so as to meet the needs of innovative enterprises and administration.

Adjusting the system of education to the current and future needs of the economy

Developing skills and competences related to entrepreneurship and creativity

Creativity and entrepreneurship are not only people’s attitudes shaped by their personal predispositions, as well as the values and behaviour models of their social background, but also the skills which can be learnt. The educational system may and should exploit the relevant resources of knowledge so as to provide the region with creative and enterprising human capital.

- Providing education in specializations corresponding to the needs of innovative sectors of the economy

The educational system cannot provide particular training merely in response to the supply of teachers of a particular subject or the fads among prospective students, who then, as graduates very often cannot find their place in the labour market or do not utilize the knowledge gathered at their once trendy schools and faculties. It is essential to foresee the future needs of the region and educate human resources whose skills will contribute to the development of innovative sectors of the economy – such as specialists in the sectors of existing enterprises but also in new ones as well as in the line of business forecast to emerge on the basis of anticipated trends and priorities consistent with the innovation and economic policy of the region.

- Education focusing on practical skills connected to the operation of enterprises

Employers report a demand for employees whose technical knowledge is not necessarily highly specialized but who have a background of reliable general education and, most of all, practical competences demonstrated in understanding the mechanisms of the operation of a company or an institution in the conditions of the market economy, who are skilled at understanding the legal environment and requirements specific to a given line of business (standards, directives), and who have social competences – teamwork skills, knowledge management ability and are capable of communicating with specialists in other fields.

„Innovation is not merely technologies and processes but, most of all, people who create them and put them in practice.”
Attracting talented and qualified human capital and creating opportunities for its development

Well-educated individuals will stay in the region if they are provided with opportunities for career development, for utilization of their skills. It is essential to reverse the migration trend concerning ambitious persons, who generally decide to seek employment or locate their own business outside the voivodship. The region’s ambition is to create an environment favourable to valuable human capital through the initiation of measures attracting and retaining talented individuals for the benefit of the local economy.

Intelligent utilization of the competences and experience of persons aged 50+

As a result of demographic trends, the number of young people in the labour market will gradually diminish, whereas the proportion of older employees in the employment structure will be growing. The tendency to remove those over the age of 50 from the labour market with a view to preparing space for the young must be stopped. The region cannot afford to lose the know-how and experience of this section of human capital and keeping it active does not have to interfere with the development of young and creative individuals. It is necessary to promote alternative ways of exploiting staff at the age of 50+, so that they support the economic processes of innovation with their experience.

6. Rules of Implementation

The implementation of the Regional Innovation Strategy for the Warmińsko-Mazurskie voivodship requires the involvement and commitment of many institutions and individuals, as the process includes both measures of institutional nature and grass-roots initiatives, their results contributing to the implementation of RIS particular strategic and operational objectives. For effective implementation of the Strategy, it is important to ensure uninterrupted course of the whole process and to pursue a long-term approach as it will take a considerably long time for the region to profit from the adopted policy.

“In order to promote alternative ways of exploiting staff at the age of 50+, so that they support the economic processes of innovation with their experience.”
7. Principles of Monitoring and Evaluation

The effectiveness of the Regional Innovation Strategy will depend on skilful management of its implementation, i.e. commitment of and cooperation between the various institutions involved in execution of the Strategy, their ability to learn by analyzing their own accomplishments, but also deficiencies, shortcomings and mistakes. The RIS execution requires systematic collecting of data concerning the expenditure on the RIS implementation, as well as data on the results of that implementation.

An essential element of the Strategy implementation process will be systematic monitoring (annual reports) and evaluation of the manner of the implementation, as well as of the results thereof. The data gathered in the process of monitoring will also be used on an ongoing basis to improve the RIS implementation methods.

The RIS monitoring process will have clearly-cut objectives, including:

• Feedback to the Strategy implementers
• Diagnosis of the need for intervention
• Motivation and stimulation for RIS implementation
• Promotion of the Regional Innovation Strategy

The monitoring process will be focused on measures and initiatives resulting from the RIS Work Plan, as well as projects financed under the national and EU programmes, implemented in the region and contributing to the achievement of the Strategy objectives. Information on the projects will be aggregated according to the structure of the Strategy objectives. Simultaneously, data concerning the situation of the region (its economy, society) will be collected, proving that they are of influence on the purposefulness and accuracy of the Strategy. Measuring the effects of the Strategy goes beyond the scope of monitoring and will have to be faced within the framework of the RIS evaluation.

The evaluation shall satisfy the need for a more in-depth contemplation of quality. Its primary objectives will include an assessment of the Strategy itself and its implementation. The evaluation will concern the accuracy of the strategy in addressing the needs of the region, its efficiency and effectiveness. The evaluation will be useful in the process of taking strategic decisions concerning required modifications to the Strategy and its implementation methods. If necessary, the evaluation of the RIS implementation will be interlinked to the monitoring process and, to a large extent, will be based on it. Contrary to the systematic annual analysis of progress in the implementation of the strategy (to be conducted as part of the monitoring process), the evaluation will be of long-term nature. It will aim at providing an in-depth analysis of the efficiency and purposefulness of the RIS, as well as of the manner of its implementation. Due to the evaluation, the policy decision-makers and the strategy implementers will be able to draw conclusions for a future policy and to improve on their work. On account of the large scale of the undertaking in question, two evaluation analyses are planned: a mid-term analysis 5 years after the adoption of the Strategy, i.e. halfway through the course of the Strategy implementation, and an ex post evaluation analysis, 10 years after the RIS commencement. It cannot be excluded that in some extraordinary circumstances, additional evaluation stages will have to be introduced.

The aim of the evaluation will be for the Voivodeship, the Seymik and the Strategy implementers to obtain feedback on the accuracy, effectiveness, efficiency, usefulness and permanence of the RIS as an important element of the region’s policy.

7.1. Structure of the management of the process

The RIS monitoring and evaluation system will be correlated with the RIS implementation system and coordinated with the already operative system of monitoring the Socio-Economic Development Strategy for the Warmińsko-Mazurskie Voivodship. The structure of the management the process will include the organizational units responsible for data collection and processing, as well as formulation of conclusions from reports, and putting those conclusions into practice when implementing the RIS.

The structure of the management and evaluation of the monitoring process is presented in the next page.
Structure of the management of the RIS monitoring process

Strategy implementers
- University Departments (UMWW)
- Local and poviat self-governments
- Higher education schools and research units
- Business Support Institutions
- Project initiators

Annual report
- Department of Regional Policy – Monitoring Unit

Monitoring Committee – RIS
- Regional Steering Committee

Information and coordination
- Monitoring Committee for execution of the Socio-Economic Development Strategy for the Warmińsko- Mazurskie Voivodship
- Recommendations to the Voivodship Board, Voivodship Seymik and RIS implementers

Discussion
- Data interpretation
- Understanding of methods

Working groups and ad hoc forums
- RIS implementers in particular fields
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