

## **Smart Specialization and Innovation Priorities in the West Pomeranian Voivodeship**

### **Summary:**

A concept of Smart Specialisation in different countries has been playing a key role in the terms of economic development. Creation of innovation at the regional and state levels is an important tool for formulating a strategy for the creation of innovation with a combination of identification and building economy, which based on knowledge. In light of this information, it was considered important to research the process through which regional administrations identify activities to focus their investments in order to ensure knowledge-intensive growth. In order to ensure that this work remains as specific as possible, it will use the West Pomeranian Voivodeship as its reference and comparison will be made to the Pomeranian Voivodeship regarding how these two regions identify activities to focus their investments in order to ensure knowledge-intensive growth. The West Pomeranian Voivodeship uses a two-step, evolutionary approach to Smart Specialisation. Identification of regional specialization is the first step achieving Smart Specialisation used in the West Pomeranian Voivodeship. Stage two is related to identifying Smart Specialisation. In the Pomeranian Voivodeship, the regional administrators have been using a bottom-up approach for its Smart Specialisation whereby key stakeholders from the field of academia and business are identified and selected to push the agenda for regional specialization based on what they feel has the greatest potential for growth in the region. These approaches have enabled the regions to effectively invest in such fields as IT, R&D, education, sea transport and logistics, medicine, etc.

### **Keywords:**

Smart Specialisation, RIS3, Activities, the West Pomeranian Voivodeship, the Pomeranian Voivodeship

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### **Introduction**

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Smart Specialisation as a concept has been playing a key role in the development of different countries. It is an important tool for formulating a strategy for the creation of innovation at the regional and state level along with identifying and building a knowledge-based economy. It is essentially a strategic approach to economic development through directed support to research and development (R&D), which involves the process of creating a vision, identifying competitive advantage, defining strategic priorities, and using smart policies to maximize the knowledge-based development potential of regions or states<sup>1</sup>. Smart Specialization precedes routinised innovation. Such researchers as Soltys and Kamrowska-Zaluska<sup>2</sup> consider it as a decisive link, which allows regions or systems running the regions to re-orient and re-new themselves.

In the European Union (EU), regional strategies for Smart Specialization are guided by the Regulation (EU) No. 1301/2013 of the European Parliament and of the Council. Its main aim is to help in attaining a competitive edge over other regions and states through the development and combination of strengths in areas relating to scientific research and innovation so as to meet new opportunities and lead to market development, but also, at the same time, avoid any fragmentation or doubling of efforts<sup>3</sup>. Regulation (EU) No. 1301/2013 of the European Parliament and of the Council recognizes that each region and state has unique resources that, if integrated into global processes, are the key factors to achieving smart specializa-

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<sup>1</sup> M. Sychevskiy, et al, Implementation of Smart Specialisation for Regional Industrial Development, *III International Scientific Congress Society of Ambient Intelligence 2020 (ISC-SAI 2020)*. Atlantis Press, 2020, p. 4.

<sup>2</sup> J. Soltys, D. Kamrowska-Zaluska, The assessment of smart specialization emergence process. The study of coastal regions in Poland, *Studia Regionalia* 2016, p. 41-58.

tion. Considering the endogenous capabilities of each region, their key competences, resources, and competitive advantages when trying to identify priority area can guarantee a better growth and development of the regions' competitiveness. According to Regulation (EU) No. 1301/2013 of the European Parliament and of the Council, regional specializations should echo the nature, economic originality and uniqueness of a region, which will aid in the development of areas and niches that support sustainable development, reducing copying of investments and improving inter-regional co-operation, at the same time<sup>4</sup>.

On this basis, all voivodeships in Poland have a regional innovation strategy known as Regional Innovation and Smart Strategies (RIS3), whereby they define and outline the ways of achieving smart specializations within each voivodeship. Even though the RIS3 have tough and challenging requirements, they offer actual possibility of improvement of the management of resources and capabilities within a given region<sup>5</sup>. Before the introduction of RIS3 in Poland's voivodeships, innovations in Poland centered mainly on the field of academia and those derived from R&D, overlooking the fact that innovation at times can include local and social factors, which require involvement of the society, private sector entities, and civil society entities<sup>6</sup>. The purpose of this paper is to research the process through, which regional administrations in Poland identify activities to focus their investments in order to ensure knowledge-intensive growth. In order to ensure that this work remained as specific as possible, it used the West Pomeranian Voivodeship as its reference point and compared the activities to the Pomeranian Voivodeship. The paper employed a literature review approach in collecting and analysing its data. The paper reviewed already published studies on its topic in order to come up with its findings. Peer-reviewed studies and government publications were sought from such databases as Worldwide Political Science Abstracts, PAIS International, CIAO, International Bibliography of Social Sciences, etc. This paper chose the abovementioned databases because of their focus on politics and management plus they offer free, full access to their studies. The literature search was limited to studies published as from 1<sup>st</sup> January 2010 to ensure that the findings are applicable in contemporary times. Such keywords as smart specialization, West Pomeranian Voivodeship, and Pomeranian Voivodeship were used in searching the databases mentioned above.

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<sup>3</sup>M. Sychevskiy, et al. "Implementation... op. cit., p. 5.

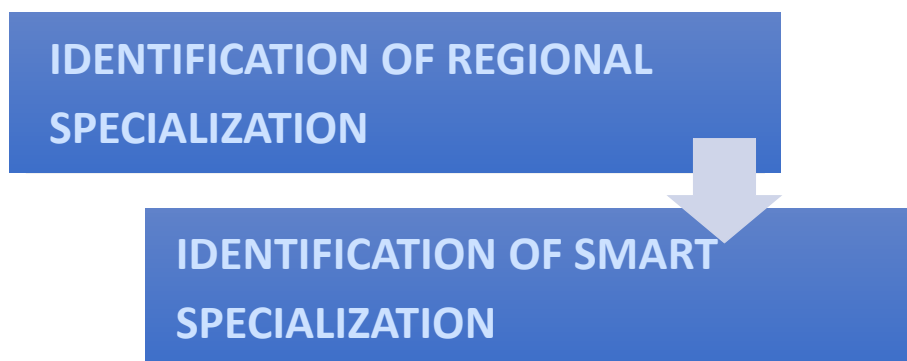
<sup>4</sup>J. Bański, D. Mazurek, Smart specialisation and the internal potential of regions in Poland, *Folia Geographica* 60.1 2018, p. 5.

<sup>5</sup>M. Kogut-Jaworska, E. Ociepa-Kicińska, Smart specialisation as a strategy for implementing the regional innovation development policy—Poland case study, *Sustainability* 12.19 2020, p. 7986.

<sup>6</sup>A. Stępnia-Kucharska, Regional differences in innovation activities of industrial enterprises in Poland, *Equilibrium. Quarterly Journal of Economics and Economic Policy* 9.2 2014, p. 73.

## The Process of Identifying Smart Specialization in the West Pomeranian Voivodeship

The West Pomeranian Voivodeship uses a two-step, evolutionary approach to Smart Specialization. These stages are illustrated in Fig. 1 below.



**Fig.1. Approach to Smart Specialization in West Pomeranian Voivodeship**

Source: Developed by Author

Identification of regional specialisation is the first step to achieving smart specialization used in the West Pomeranian Voivodeship. For instance, in 2014, the West Pomeranian's Marshall Office carried out research with the main aim of identifying economic sectors for regional specialization. The data collected related to the region's number of taxpayers, revenue from exports, net revenues in all tax rates, fixed assets, and other acquisitions. Five unique regional specialisation areas were defined, including (1) maritime activities and logistics, (2) bio-economy and industries, (3) services of the future, (4) metallurgy and mechanical industry, and (5) tourism and health.

Stage two is related to identifying smart specialization. After the 2014 survey was carried out by the Marshall's Office, they identified three key areas of co-operation as listed below:

1. Areas showing highest potential of economic growth
2. Business support institutions, e.g., universities, R&D institutions, key companies in the region, etc.
3. Other support institutions, e.g., businesses, local governments, and those the influence policymaking.

There are eight Smart specialisation areas identified in the West Pomeranian Voivodeship. They include: (1) products based on information technologies, (2) multimodal transport and logistics, (3) modern food processing, (4) chemical and materials engineering products, (5) eco-packaging, (6) wood and furniture products, (7) advanced metallurgy, and (8) large scale water and civic constructions<sup>7</sup>. Some of the most significant actions that were recommended as methods of helping the West Pomeranian Voivodeship to achieve this second stage of Smart Specialisation include:

<sup>7</sup>M. Sychevskiy, et al., Implementation... op. cit., p. 6.

1. Identifying companies with the greatest potential
2. Conducting in-depth interviews of company representatives in order to understand their needs, challenges, and plans for development
3. Identifying persons / operators who co-operate with the identified companies in order to understand the market's value chain, its needs and their challenges for development
4. identifying the main business support institutions and their needs, challenges and plans for development
5. Verifying the Voivodeship's leading institutions of higher learning and their challenges to R&D
6. Consulting the local government in order to understand their needs, challenges and plans for development<sup>8</sup>.

Over the years, the West Pomeranian Voivodeship's regional administrators have been the co-organizers of cooperative fairs and seminars with the intention of bringing players in the business and science worlds on the same platform to help them have bilateral talks<sup>9</sup>. The regional administrators also set up what was referred to as the Regional Government Contract (RGC), whose main aim was to choose key industries that would help the communities within the West Pomeranian Voivodeship achieve Smart Specialisation. This process also involves assessing whether the industries work in line with the West Pomeranian Voivodeship's needs for Smart Specialisation<sup>10</sup>. The administrators have also been commissioning research to understand the process of entrepreneurial discovery in the region. The initiatives for research include:

- Assessing the West Pomeranian Voivodeship's universities potential, i.e., the ability of meeting the business and job market demands
- Identifying and analyzing the potential of business support institutions
- Studying the role of ICT in the realizing of smart specialization in West Pomeranian Voivodeship<sup>11</sup>.

In the West Pomeranian Voivodeship, Smart Specialisation is considered as a significant process of entrepreneurial discovery that can bring about economic transformation. It necessitates the identification of areas and industries with the greatest potential in the region. It also leads to the discovery of value chains and new ideas that can help in the progression of the already existing value chains. Fig. 2 below shows an image of the West Pomeranian Voivodeship and the various municipalities (gminy) within the Voivodeship.

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<sup>8</sup>J. Sołtys, D. Kamrowska-Zaluska, The assessment... op. cit., p. 41.

<sup>9</sup>V. Rodchenko, Y. Prus, The features of implementation of regional innovation policy in the context of the smart specialization strategy, *Development of the innovative environmental and economic system in Ukraine, Prague*, 2019, p. 15.

<sup>10</sup>K. Malik, et al, Specialization integrated strategy of innovations: effective model for emerging regional economy development?, 2020, p. 10.

<sup>11</sup>M. Grochowski, Development Potentials and Smart Specializations of Polish Regions—book review, *MAZOWSZE Studia Regionalne* 17 2015, p. 167.



**Fig. 2. The West Pomeranian Voivodeship**

Source: M. Kogut-Jaworska, E. Ociepa-Kicińska, Smart... op. cit., 2020.

### The Process of Identifying Smart Specialisation in the Pomeranian Voivodeship

The regional administrators of the Pomeranian Voivodeship view Smart Specialisation as a strategy with great potential, relevant to the development of the region because of acknowledges Pomeranian's unique resources and their potential for innovative application. The Voivodeship's administrators presume that the implementation of R&D can contribute to the development of existing economic specialization and positively affect the competitiveness of the Pomeranian Voivodeship on the national and global arena.<sup>12</sup> Pomeranian's 2020 Regional Development Strategy is one the latest and official documents that one can read to understand the process of identifying activities to focus their investments in order to ensure knowledge-intensive growth in the region. This government-published document stresses public intervention should center on launching and using resources relevant to Pomeranian's industries and other emerging Smart Specialisation efforts. The functioning mechanism for identifying and verifying Smart Specialisation in the Pomeranian Voivodeship is rooted in the following principles:

- Continuity of building the systematically emphasized public intervention
- The application of incentives in order to mobilize all grassroots stakeholders
- Also, ensuring the initiatives are open not only to grassroots stakeholders
- Ensuring transparency in the decision-making criteria and processes

<sup>12</sup> D. Kamrowska-Zaluska, J. Soltys, Process of emergence of smart specialisation in Pomeranian Voivodeship in Poland, *Procedia engineering* 161 2016, p. 1988.

- Using a negotiation approach when forging relationships between interested actors and the regional administrators
- Reproducibility
- Following EU recommendations for the realizing of Smart specialisation<sup>13</sup>.

The Pomeranian Voivodeship has been using a bottom-up approach for its Smart specialisation whereby key stakeholders from the field of academia and business are identified and selected to push the agenda for regional specialization based on what they feel has the greatest potential for growth in the region. The process of selecting the stakeholders from the field of academia and business is done through public consultation<sup>14</sup>. Furthermore, the region assumes a six-phase process in identifying activities to focus their investments in order to ensure knowledge-intensive growth (Smart Specialisation). These steps are as follows:

- Determining the economic profile of the Voivodeship in terms of its technological and functional convergence. This process involves reviewing and interpreting existing analyses that have been conducted by external consultants.
- Discussing, consulting, and building partnerships through meetings with stakeholders, workshops, and interviews. These stakeholders include, but are not limited to, businesses, non-governmental organizations, R&D institutions, persons from the field of academia, local governments, and the Pomeranian boards of education.
- Organizing the competition for Pomeranian Smart Specialisation, which is a two-step procedure, including (1) presenting and evaluating the initial concept of smart specialization, and (2) assessing the final concept of Smart specialisation.
- Conducting negotiations between the Pomeranian Voivodeship regional administrators and other partnerships in order to gain support from the creation of smart specialization.
- Documenting and signing agreements between Pomeranian Voivodeship regional administrators and other partnerships for Smart Specialisation
- Monitoring the process of implementation of the chosen initiatives from Smart Specialisation<sup>15</sup>.

Before the process is finalized, all stakeholders and potential partners are required to submit proposal of specializations. The regional administrators for the Pomeranian Voivodeship will rank the proposal based on predetermined ranking process and the highest ranked proposal will be signed as a Smart Specialisation initiative between the regional administrators and the parties that came up with the proposal. The proposals have to be in line with the regional strategic programs determined by the RIS3<sup>16</sup>.

<sup>13</sup> A. Weidenfeld, Tourism diversification and its implications for smart specialization, *Sustainability* 10.2 2018, p. 319.

<sup>14</sup> D. Michalak, E. Wulf, Priority Areas of Poland's Development in Line with EU Policy (Smart Specializations)–Poland's Food Security and Climate Change, *Journal of Intercultural Management* 11.4 2019, p. 158

<sup>15</sup> J. Wyrwa, Smart specialisation-a novel approach towards region development in Poland, *Acta Scientiarum Polonorum. Oeconomia* 13.3 2014, p.

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<sup>16</sup> A. Mempel-Śnieżyk, Smart specialisation and clusters in economic growth, *Prace Naukowe Uniwersytetu Ekonomicznego we Wrocławiu* 324 2013, p. 92.

Once approved, the proposals will be used to determine the scope of activities, mechanisms and projects that will be executed in order to realize the smart specialization initiative. All agree upon actions and flagship projects are given the highest priority when it comes to accessing funding and other forms of resources in order to guarantee their realization. Table 1 below, which was adapted from Soltys and Kamrowska-Zaluska<sup>17</sup>, illustrates the Smart Specialisations initiatives undertaken by Pomeranian Voivodeship regional administrators, including the respective number of partners in each initiative.

**Tab. 1. Pomeranian Smart Specialisations**

Pomeranian Smart Specializations	Areas	Partnerships	No. of Partnerships
Investing in interactive technologies in vital information systems environment	a) Cloud computing, big data processing, data security, database, and data transmission; b) IoT and embedded systems for intelligence space, and c) multimodal human-machine interfaces.	Smart Interactive Systems – Innovative products, technologies and services for intelligence environments	74
Investing in off-shore and logistics technologies	a) innovative ways of using sea resources, b) renewable sources of energy and equipment for use in the coastal zone, c) energy-efficient and low carbon emission technologies, d) technologies in ports and facilities, e) underwater systems and equipment, f) specialized equipment, vehicles and structures for working in a marine surrounding	SMART PORT & CITY: Intelligent technologies and processes in ports	51
		Smart equipment and technologies in the coastal regions	59

<sup>17</sup>J. Soltys, D. Kamrowska-Zaluska, Comparison of smart specialization in coastal regions in Poland, N.p., 2016. Web. [https://www.econstor.eu/bitstream/10419/174628/1/Paper0158\\_JacekSoltys.pdf](https://www.econstor.eu/bitstream/10419/174628/1/Paper0158_JacekSoltys.pdf)

<b>Pomeranian Smart Specializations</b>	<b>Areas</b>	<b>Partnerships</b>	<b>No. of Partnerships</b>
Investing in medical technologies that improve lifestyle diseases and aging	a) systems of care for the elderly and disabled, and b) prophylaxis, diagnosis, and therapy.	Long Healthy Life – Innovations for diagnosis, prevention and therapy of the aging society and civilization diseases	99
Investing in eco-efficient technologies	a) renewable energy, energy prosumers, and distributed energy, b) use of bio-fuels and their components, c) developing a smart grid transmission system, d) ensuring efficient energy demand and consumption, e) developing and using vehicles with alternative propulsion, and f) the exploration, extraction and processing of energy resources.	Intelligent Energy and Fuel Technologies	25
		Construction SMART 3E – environment protection, efficiency, energy	64

Source: J. Sołtys, D. Kamrowska-Zaluska, *The assessment...* op. cit., p. 41-58.

### **Comparison of Smart Specialisations in the West Pomeranian Voivodeship and the Pomeranian Voivodeship**

As noted in the analysis of the West Pomeranian Voivodeship and the Pomeranian Voivodeship Smart Specialisation, the regions assume rather two different approaches to Smart Specialization. The West Pomeranian Voivodeship assumes a two-step, top-down approach to Smart Specialisation, whereas the Pomeranian Voivodeship assumes a bottom-up approach to Smart Specialisation with the two voivodeships focusing on intense participation of stakeholders. Nonetheless, participation of stakeholders, i.e., R&D institutions, companies, and other business support institutions, was different in two voivodeships<sup>18</sup>. The regional administrators in the West Pomerania Voivodeship considered the stakeholders as sources of information that they collected during their meetings, surveys and interviews. The interviews and surveys were also platforms of creating cooperation and joint plans. In the Pomeranian Voivodeship, the administrators are essentially concerned with stakeholders, who can introduce specialisations in the region. The Marshall's Office of the Pom-

<sup>18</sup>M. Frankowska, U. Grosse, S. Zenk, *Regions, clusters and SMEs—the challenges of cross-border cooperation as in the example of Brandenburg and West-Pomerania*, *Clusters as a Driving Power of the European Economy* 2016, p. 251.



eranian Voivodeship use a framework for the process of identifying stakeholders who will be the main initiators and facilitators of the Smart Specialisation initiative<sup>19</sup>.

Stakeholders, i.e., R&D institutions, companies, and other business support institutions were involved in the planning process in the two voivodeships, even though bottom-up approach applied in the Pomerania Voivodeship ensured greater contribution by the stakeholders and also accountability. While the quantitative analyses for selecting the Smart Specialisation activities in the Pomerania Voivodeship were conducted by external consultants, in the West Pomeranian Voivodeship, the analyses were conducted internally by persons working in the offices of the regional administrators<sup>20</sup>. It should also be noted that the processes, even though the main aim was to achieve Smart Specialisation, they had different activities; in the West Pomeranian Voivodeship, the activities focused on regional specialisation, whereas in the Pomeranian Voivodeship, the activities focused on competition.

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### Conclusion

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Smart Specialisation as a concept has been playing a key role in the development of different countries. It is an important tool for formulating a strategy for the creation of innovation at the regional and state levels along with identifying and building a knowledge-based economy. The purpose of this paper was to research the process through, which regional administrations in Poland identify activities to focus their investments in order to ensure knowledge-intensive growth. In order to ensure that this work remained as specific as possible, it used the West Pomeranian Voivodeship as its reference point and compared the activities to the Pomeranian Voivodeship. As noted in the analysis of the West Pomeranian Voivodeship and the Pomeranian Voivodeship Smart specialisation, the regions assume rather two different approaches to Smart Specialisation. The West Pomeranian Voivodeship assumes a two-step, top-down approach to Smart specialisation, whereas the Pomeranian Voivodeship assumes a bottom-up approach to Smart specialisation with two voivodeships focusing on intense participation of stakeholders. While writing this paper, one could notice the clear lack of studies especially the one focusing on activities applied in realizing Smart Specialisation in the West Pomeranian Voivodeship. In light of that, this research recommends that further studies be carried out on the same topic in order for interested parties to fully comprehend the activities for Smart Specialisation in the West Pomeranian Voivodeship.

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<sup>19</sup>D. Kamrowska-Zaluska, J. Soltys, *Process...* op. cit., p.

<sup>20</sup>M. Sychevskiy, et al. *Implementation...* op. cit., p. 10.

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## References

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- Bański J., Mazurek D., Smart specialisation and the internal potential of regions in Poland, *Folia Geographica* 60.1 2018.
- Frankowska M., Grosse U., Zenk S., Regions, clusters and SMEs—the challenges of cross-border cooperation as in the example of Brandenburg and West-Pomerania, *Clusters as a Driving Power of the European Economy* 2016.
- Grochowski M., Development Potentials and Smart Specializations of Polish Regions—book review, *MAZOWSZE Studia Regionalne* 17 2015.
- Kamrowska-Zaluska D., Soltys J., Process of emergence of smart specialisation in Pomeranian Voivodeship in Poland, *Procedia engineering* 161 2016.
- Kogut-Jaworska M., Ociepa-Kicińska E., Smart specialisation as a strategy for implementing the regional innovation development policy—Poland case study, *Sustainability* 12.19 2020.
- Malik K, et al, Specialization integrated strategy of innovations: effective model for emerging regional economy development?, 2020.
- Mempel-Śnieżyk A., Smart specialisation and clusters in economic growth, *Prace Naukowe Uniwersytetu Ekonomicznego we Wrocławiu* 324 2013.
- Michalak D., Wulf E., Priority Areas of Poland's Development in Line with EU Policy (Smart Specializations)—Poland's Food Security and Climate Change, *Journal of Intercultural Management* 11.4 2019.
- Rodchenko V., Prus Y., The features of implementation of regional innovation policy in the context of the smart specialization strategy, *Development of the innovative environmental and economic system in Ukraine, Prague* 2019.
- Soltys J., Kamrowska-Zaluska D., Comparison of smart specialization in coastal regions in Poland, N.p., 2016. Web. [https://www.econstor.eu/bitstream/10419/174628/1Paper0158\\_JacekSoltys.pdf](https://www.econstor.eu/bitstream/10419/174628/1Paper0158_JacekSoltys.pdf)
- Soltys J., Kamrowska-Zaluska D., The assessment of smart specialization emergence process. The study of coastal regions in Poland, *Studia Regionalia* 2016.
- Stępnia-Kucharska A., Regional differences in innovation activities of industrial enterprises in Poland, *Equilibrium. Quarterly Journal of Economics and Economic Policy* 9.2 2014.

- Sychevskiy M, et al, Implementation of Smart Specialisation for Regional Industrial Development, *III International Scientific Congress Society of Ambient Intelligence 2020 (ISC-SAI 2020)*, Atlantis Press 2020.
- Weidenfeld A., Tourism diversification and its implications for smart specialization, *Sustainability* 10.2 2018.
- Wyrwa J., Smart specialisation-a novel approach towards region development in Poland, *Acta Scientiarum Polonorum. Oeconomia* 13.3 2014.

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**Priorytety Inteligentnej Specjalizacji i Innowacji  
w województwie zachodniopomorskim**

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**Streszczenie:**

Koncepcja Inteligentnej Specjalizacji w różnych krajach odgrywa kluczową rolę w kontekście rozwoju gospodarczego. Tworzenie innowacji na poziomie regionalnym i państwowym jest ważnym narzędziem do formułowania strategii tworzenia innowacji z połączeniem identyfikacji i gospodarki budowlanej, która opiera się na wiedzy. W świetle tych informacji uznano za istotne zbadanie procesu, w ramach którego administracje regionalne identyfikują działania mające na celu skoncentrowanie inwestycji w celu zapewnienia wzrostu opartego na wiedzy. By zapewnić, że ta praca będzie w sobie zawierać jak najwięcej szczegółów, będzie ona wykorzystywała województwo zachodniopomorskie jako punkt odniesienia oraz będzie porównywała je z województwem pomorskim, by dowiedzieć w jaki sposób te dwa regiony identyfikują działania, które pomagają im ukierunkować swoje inwestycje w celu zapewnienia wzrostu, który można uzyskać dzięki wiedzy. Województwo zachodniopomorskie stosuje dwustopniowe, ewolucyjne podejście do inteligentnej specjalizacji. Identyfikacja specjalizacji regionalnej jest pierwszym krokiem do osiągnięcia inteligentnej specjalizacji stosowanej w województwie zachodniopomorskim. Etap drugi wiąże się z identyfikacją inteligentnej specjalizacji. W województwie pomorskim administratorzy regionalni stosują oddolne podejście do inteligentnej specjalizacji, w ramach którego identyfikuje się i wybiera kluczowych interesariuszy z dziedziny środowiska akademickiego i biznesu, aby ukierunkować program specjalizacji regionalnej w oparciu o to, co ich zdaniem ma największy potencjał wzrostu w regionie. Takie podejście umożliwiło regionom skuteczne inwestowanie m.in w dziedzinie informatyki, badań i rozwój, edukacji, transportu morskiego i logistyki, medycyny itp.

**Słowa kluczowe:**

Inteligentna Specjalizacja, RIS3, działania, województwo zachodniopomorskie, województwo pomorskie