DOI : 10.14746/pp.2022.27.3.1

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The Implementation of Space Policy Rules for Development of the Emerging Geographical Regions. Pace Technology Park in Lubuskie Polish Province-a Case Study

Abstract: The article is devoted to the problems of the growing and developing space sector in Poland, and above all, its impact on building a competitive, knowledge-based economy. The aim of the work was to present the efforts of the regions, focusing on the example of the Lubuskie Voivodeship, aimed at building research, development and implementation infrastructure, thanks to which cooperation is established between the local government at the regional level, the world of science, and enterprises. Thanks to such cooperation, it is possible not only to build real relationships between these environments, and in particular, the result of these interactions will be specific economic cooperation, locating new economic entities in the region, or the formation of new companies operating in the space sector. The main part of the work is a case study which presents the initiative to create a Space Technology Park taken by the local government of the Lubuskie Voivodeship, and carried out jointly with the University of Zielona Góra and Hertz Systems LTD. This is an excellent proof that at the voivodeship level, very important initiatives for the development of the space sector can be undertaken as part of a *de facto* intraregional regional policy.

Key words: space technologies, regional policy, region, development, European Union

Introduction

Although it is rarely noticed, technologies from the space sector accompany us every day. Many of them, which were in fact intended to observe the Earth and send people to the Earth's orbit and the Moon, have been appropriately adapted and now can be found in commonly available devices, products and services. Thanks to research related to space, it is now possible to use the Internet, television, wireless headphones, water filters, car navigation, insulin pumps and many other solutions that we face in our daily lives. As a result, advanced technological patterns, developed according to the strict norms of operating in space, have found a number of applications in conventional industry and production aimed at the average consumer. At the same time it should be added that technologies developed for the space sector contribute significantly to the development of industrial economic potential and space is a kind of test field for new technologies. In this context it should be recognised that one of the most innovative and technologically advanced areas of human activity, which plays an increasingly important role for the national and international economy, is the space sector. Space technologies and satellite techniques are used in many areas of social and economic life, including transport, environmental monitoring and management, spatial management, energy, agriculture, fishing industry, defence, security and crisis management, insurance and bank-

ing. At the same time, it should be noted that this sector is one of the most dynamically developing areas with a huge potential for innovation and growth. Research on the use of space gradually contributes to the creation of an expanding range of available satellite products and services.

In the opinion of the author of this paper, these areas can be applied to the entire functioning and impact of the space sector on our lives in its broadest sense: In Earth observation and disaster response. Through research, it is possible to better understand and solve environmental problems, including climate issues, environmental change and natural hazards (Lewandowski, Dudzik, Ingersleben, 2017, p. 49).

In terms of economic development thanks to space exploration, which has led to the development of numerous scientific disciplines and technologies. It has allowed new business solutions to be tested, among other things, moving away from government funding of goods and services. A new branch of the economy was created, exploiting the possibilities of the low Earth orbit. This activity focused on the commercial provision of services and commercial research. It should be noted that a completely new market, not available in the past, has been created, which generates new stakeholders in the space-flight sector and new economic opportunities.

In the recent years we have seen an increase in the activity of Polish business entities and institutions in the space sector. According to researchers, this is related to Poland’s accession to the European Space Agency in 2012, opening up access to research projects and programmes financed by the agency. Among the available programmes there are optional programmes, research works dedicated exclusively to Polish entities. Considering the broad and capacious scope of the term space sector, it includes, for example, issues related to the development and use of satellite navigation systems, design and operation of communication satellites, use of components necessary for the operation of ground and space segment of satellite systems and such applications as Earth observation, space research, time metrology, management of orbital resources. It should also be added that this is an area of great interest from a purely scientific point of view. Finally, as already noted, it constitutes a significant element influencing the development of the domestic economy.

Being aware of the growing and dynamically developing space sector in Poland, and first of all of the information about its influence on building a competitive, knowledge-based economy, the aim of this paper is to present regional efforts, focusing on the example of Lubuskie Province, which are aimed at building a research, development and implementation infrastructure thanks to which cooperation between the regional self-government, the world of science and enterprises is established. Thanks to such cooperation, it is possible not only to build real relationships between these circles, but in particular the result of these interactions will be specific economic cooperation, the location of further economic entities in the region, or the creation of new ones operating in the space sector.

In order to achieve the aforementioned research goal, it was necessary to obtain an answer to the formulated questions of possible implementation of the space policy rules for development of the emerging geographical regions as well as the readiness of the regional authorities to take actions aimed at creating space technology parks that increase innovation and competitiveness of the provinces?

In order to obtain an answer to the research question posed in this way, it was necessary to start with outlining the essence and areas of European Union activity in space. The main part of the paper is a case study which presents the initiative of creating a Space Technology Park taken by the self-government of Lubuskie Province, and implemented jointly with the University of Zielona Góra and private entity Hertz Systems LTD. This is an excellent proof that on the province level in the framework of regional, de facto intra-regional policy, very important initiatives for the development of the space sector can be undertaken. The last part of the paper contains reflections on the role of emerging regions in building innovative knowledge-based economy and draws conclusions.

Space activity in the strategic documents of the European Union and Poland – an outline of governance environment

European space policy is one of the European Union’s treaty policies and at the same time has a specific anchoring in the European Union’s institutional system. The supranational space activities of the EU Member States are carried out and developed mainly by the European Space Agency (ESA), which primarily carries out research programmes. It should be added, however, that it is thanks to the ESA that the EU’s current space assets, namely the Galileo satellite navigation system and the Copernicus Earth observation system, were planned and implemented. The EU, as an institutional actor, was relatively late in becoming involved in determining both the shape and the scope of European space assets. The concept of a European space strategy, on the other hand, emerged as a result of a combination of a number of events, political processes and rapid technological changes which made it clear to European decision-makers that they needed to have independent space resources to fully implement Community policies. It should also be noted that the effectiveness of the European Space Policy depends to a large extent on the commitment of the EU Member States to the development of space resources at European level and on the concept of implementing national strategies of countries already possessing space resources, primarily France, Germany and Italy. European space policy is also an important rationale for expanding European integration into areas that remain under the exclusive competence of Member States, as well as for strengthening the European Commission in its relations with the European Space Agency, which implements the policy of building EU space assets (Frankowski, 2016).

The Space Strategy for Europe (SSE) announced in October 2016 includes, not only European space policy issues, but also the security threats and challenges that the European Union currently faces. According to the strategy referred to, the EU should focus on four objectives.

– Firstly, to bring tangible benefits to European citizens and businesses.
– Secondly, to support the competitiveness and innovation of the European space sector.
– Thirdly, to increase the strategic autonomy of the EU.
– Fourth, to strengthen the EU’s leading position on the international stage (*Space Strategy*, 2016).

In the draft resolution of the European Parliament on the space strategy for Europe, a number of recommendations for achieving particular goals are included. In this article only some of them have been selected, which in the author’s opinion are the most important for further considerations.

In terms of achieving the first objective, it was considered important, among others, that space programmes and related services are key resources in policy areas and economic sectors such as energy, climate, environment, security and defence, health, agriculture, forestry, fishing, transport, tourism, digital market and mobile communications, regional policy and local planning. The important role of the European structural and investment funds in stimulating space-related markets was highlighted, especially through public procurement, including in countries where there is not yet a large space sector. At the same time, it was noted that the regional dimension is essential to enable citizens to benefit from space and that the involvement of regional and local bodies can create synergies with smart specialisation strategies and the Urban Agenda for the EU. In this context, the need for a stronger involvement of regional and local authorities in ensuring the success of EU space policy was pointed out, considering outermost regions and overseas countries and territories.

For the second objective, it was highlighted that the success and competitiveness of the space sector and the development of breakthrough technologies are highly dependent on research and innovation, underlining the importance of cooperation between the EU, ESA and Member States to ensure efficiency and avoid duplication, especially in areas where research funding is provided by a number of actors. The need to drastically increase investment in education and training of European citizens in space was emphasised, also to be able to take full advantage of the opportunities offered by the space sector in the transition to a digital society, stressing also the importance of space policy achievements to inspire future generations and develop a sense of European identity. In this regard, the need to continue and develop a revised approach to European space education that can attract young people to careers in space science and technology was highlighted as well (European Parliament resolution, 2017).

For the third objective, it was noted that EU space programmes have a civilian nature, reaffirming the EU’s commitment not to militarise space, while recognising the strategic dimension of the space sector for Europe and the need to improve synergies between civilian and security and defence aspects and the need to exploit space for security and protection, considering the geopolitical environment and the Common Security and Defence Policy. It is also important to note the growing importance of cyber security for space programmes and to point out that this problem is particularly acute given that a significant part of our economy depends on space-based services. It also highlighted the reduction of the threat to EU space assets by taking appropriate measures, including, where appropriate, the use of encryption protocols to protect space infrastructure from cyber threats and ensuring that all relevant agencies have contingency plans in place for possible cyberattacks. The importance of a comprehensive European space policy aimed at contributing effectively to the strengthening of common security, foreign and defence policies by providing independent intelligence services, such as real-time situational awareness, to relevant institutions was considered fundamental (European Parliament resolution, 2017).

The achievement of the fourth objective relates to ensuring a peaceful and secure space environment, which will require a commitment to work with international partners to promote standards of responsible behaviour and sustainable development, in particular in the field of space exploration. In this context, the need for international coordination of the management of space traffic and space debris, which will increase due to the planned deployment of so-called “megaconstellations” and the density of orbits close to the Earth that will result from further reductions in the cost of launching satellites, was recognised. Attention was also drawn to the need to monitor existing private sector ambitions in the field of space exploration and the implications that these may have for the current legal framework and in particular the Outer Space Treaty. It was pointed out that the fundamental principles of the treaty should be upheld and it was considered necessary to avoid a race that leads to the degradation of resources in space. It recommended the use of economic diplomacy as the main tool to create new business opportunities for the European space industry, while stressing that European actors in third country markets should be supported by the European Commission, and where appropriate by Member State authorities, ESA and entities such as the European Aviation Safety Agency adding that support for such coordinated plans was made in advance (European Parliament resolution, 2017).

On the other side Polish document of a strategic nature in this area, the “Polish Space Strategy” (2017) notes that since Poland’s accession to the European Space Agency, there has been dynamic growth in the Polish space industry. The document includes five strategic objectives as important for the further, dynamic and consistent development of the space sector in Poland. In order to achieve the five specific objectives, different directions of intervention were provided for, which are to contribute to their achievement and thereby increase the significance of the space sector in the domestic economy.

The first specific objective “An increase in the competitiveness of the Polish space sector and its share in the European space sector turnover” will be achieved by increasing the participation in ESA’s optional programmes; developing and implementing the National Space Programme; increasing the participation in EU space programmes – Horizon 2020, Copernicus, Galileo, SST, GovSatCom; identifying the most promising technological areas for the Polish space sector; striving to raise the position of the Polish space sector from a supplier of components to a supplier of satellite sub-systems; developing bilateral cooperation; increasing the participation in other international initiatives; initiating the participation of the Polish space sector in the so-called New Space. Considering that the global and European space market is still dominated by orders coming from various public institutions as a stimulation for development of satellite systems, although the share of commercial undertakings also in this segment is steadily increasing. Thanks to the implementation of contracts commissioned by the ESA or EUMETSAT and its participation in European Union space programmes, the European space industry is developing technologies and acquiring competences, which it then uses to create commercial products or services. It is necessary to ensure that the Polish space sector also makes greater use of this mechanism to accelerate its development, including an increase in exports. Another important element facilitating the achievement of this goal is the development and implementation of a national space programme, as a complement to international activity (Polish Space Strategy, 2017).

Specific second objective “Development of satellite applications – contribution to build digital economy” will be implemented by: providing continuous, fast and reliable access to satellite data; popularising the use of satellite data in public administration at various levels; developing commercial services and increasing participation in international programmes. With regard to ensuring constant and quick access to satellite data, it should be noted that the European Union, under the Copernicus programme, provides Member States with access to Earth observation data, the amount of which is constantly growing as the system develops and more satellites are launched into orbit. A significant challenge and at the same time a great opportunity is the widespread use of large amounts of data for the needs of various policies, of geographical regions especially such as monitoring climate change, environmental protection, agriculture, spatial planning and crisis management. Permanent access to data coming from both satellites of the Sentinel constellation owned by the European Commission and certain supporting missions of the Copernicus programme, which are under the authority of the European Space Agency, will provide Polish entities with access to the Collaborative Ground Segment system, managed by ESA. A very important element in the use and dissemination of data is public administration at various levels, which not only can, but above all should, use it as a tool for carrying out many of its tasks. The use of satellite techniques in the practice of offices and services does not usually mean a complete change in the processes and sources of information which are the basis for administrative decisions. Undoubtedly, they can represent an opportunity to improve their efficiency, to have a better situational awareness and to achieve a higher level of coordination between institutions operating in the same area. Satellite data are a source of objective, up-to-date and continuous information in space, in this context wherever it is possible and economically justified administration as a so called “intelligent client” should use the potential of Polish entrepreneurs ordering services based on satellite data which meet its precisely defined needs. This will improve both the efficiency of administrative bodies, while being an important instrument for stimulating the development of the national satellite services sector (Polish Space Strategy, 2017).

The third objective: “Development of capabilities in the area of national security and defence with the use of space technologies and satellite techniques” implemented mainly through the construction of a national satellite earth observation system; construction of a space situational awareness system; ensuring the availability of services of satellite communication and navigation systems; development of rocket technologies

The fourth specific objective “Creating favourable conditions for the development of the space sector in Poland” concerns establishing an ESA business incubator; conducting information and promotion activities; introducing facilitations for science and entrepreneurs, especially for small and medium-sized enterprises; increasing the level of private investment; and developing an Act on the National Space Objects Register. Support for the Polish space sector is to be provided, inter alia, through the establishment of a business incubator to support space companies at early stages of their development and to provide support in the form of business and technology advice in various segments of the space sector. Incubators shall cooperate with scientific and research centres as well as potential institutions that can finance the development of enterprises.

Specific objective five “Building human resources and infrastructure for the needs of the Polish space sector” assumes: establishing new fields of study; developing internship

and apprenticeship programmes; supporting competitions and student projects; increasing the participation of Polish personnel in international organisations. It should be remembered that the space programmes currently being developed had their beginnings in scientific research.

In conclusion, it should be stated that the “Polish Space Strategy” is an instrument for programming, management and coordination of public policy implemented by the Government with regard to the space sector in partnership with public, private entities, and society. In addition, the document is a basis for updating the existing programme documents on the sector, as well as for verifying the existing instruments for their implementation.

The Space Technology Park in Lubuskie Province as the solution to activate the Region for innovation

Thus, developed infrastructure for space activity as the Space Technology Park is an extremely important project for the region. In Lubuskie Province the project has been discussed for years and finally it was included in December 2014 in the Territorial Contract – agreements between the government and the regional self-government, which will indicate goals and priority projects that are important for the development of the country and the region – In 2015, the government was requested to change the provisions in the Territorial Contract and, thanks to the support of the Space Research Centre of the Polish Academy of Sciences, the change was successful The following years saw a series of discussions on the possibility of building a broad formula of cooperating partners who will ultimately be able to jointly implement this ambitious and demanding project.

The intensification of activities for the creation of the Space Technology Park took place in 2017, when, at the request of the University of Zielona Góra, the task “Development of space technologies in Lubuskie Province” was included in the Territorial Contract. The actions taken by the region’s authorities at that time led to the signing of a letter of intent on 24 April 2018, which confirmed the will to cooperate for the implementation of the Space Technology Park project in Zielona Góra together with the University of Zielona Góra and the Space Research Centre of the Polish Academy of Sciences. Ultimately, the project will be implemented in partnership, according to the Partnership Agreement signed on 14 December 2018, with Lubuskie Province as the leading partner, the University of Zielona Góra – which has competent and experienced staff of practitioners and theoreticians enabling education in astronomy and systems engineering, the Space Research Centre of the Polish Academy of Sciences, which has implemented more than 70 projects in the space sector, and the private entity Hertz Systems Ltd. Sp. z o. o., which for 25 years has been conducting business in the area of security and for more than a decade has been developing and manufacturing satellite monitoring systems – additionally since 2012 it has been implementing European Space Agency projects (*Europe’s Galileo*..., 2021). According to the Partnership Agreement, the private partner is obliged to make its own contribution to the project implementation in the amount of 1% of the project value. It should be emphasized that the private partner of the project was selected through an open call for partner(s) from outside the public finance sector to jointly pre-

pare and implement the partnership project, in accordance with the provisions of Article 33 of the Act of 11 July 2014 on the principles of implementation of programmes in the area of cohesion policy financed in the Financial Perspective 2014–2020.

At the same time, it should be added that an important undertaking which positively influenced the support for the initiative to establish the Space Technology Park in Zielona Góra was the launch of the Laboratory of the Dynamics of Satellite Manipulators belonging to the Space Research Centre of the Polish Academy of Sciences on 1 April 2019 in the Science and Technology Park of the University of Zielona Góra. This initiative has also received financial support from the regional authorities. On 29 March 2019, an agreement was signed between Lubuskie Province and the Polish Academy of Sciences.

In general, however, starting the implementation of the project was preceded by a thorough analysis of the socio-economic situation of Lubuskie Province in terms of economic development and innovation growth in the region, as well as opportunities and threats conditioned by the specificity of the region. Based on current information, knowledge and market research as well as available publications, studies and reports, market problems and needs were identified as well as possible ways of solving them. The analysis of the existing problems indicates the basic problems of the development of small and medium enterprises (SMEs), which include above all:

– low innovativeness and competitiveness of enterprises from the SME sector;
– weak influence of the scientific environment on enterprise operations, low application of scientific achievements;
– low interest and use by SME of the available scientific and research potential;
– limited conditions for effective support for SME companies using modern technologies and stimulation of cooperation between scientific and business circles;
– insufficiently developed and prepared infrastructure for the SME sector, in particular as regards R&D, development works and innovative activities (*Feasibility*..., 2018, p. 11).

On the other hand, limitations reported by SME enterprises include problems with availability of space for business activities and difficult access to highly specialised research equipment. A barrier preventing the acceleration of the SME development process is the lack of investment in research and development. The scientific and research facilities available in the region, including laboratories, are underinvested and so undeveloped that they are not a sufficient magnet to attract new SMEs, especially the innovative ones.

Unfortunately, also reading such documents as Regional Innovation Scoreboard and Regional Competitiveness Index it appears that:

– the level of innovativeness of Lubuskie Province, similarly to other Polish provinces, is low and improves too slowly;
– a factor improving Lubuskie Province’s position is innovation expenditure unrelated to R&D activity,
– Lubuskie Province even in comparison to other Polish regions, is characterized by disadvantages in terms of expenditures on R&D activity in the public sector, the share of innovative SMEs cooperating in innovation, patent applications to the European Patent Office per one billion PLN of GDP, the share of SMEs introducing product or process innovations and marketing and organizational innovations and the share of revenue from sales of innovative products in enterprises;

– the overall innovativeness of Lubuskie in comparison to other European regions is low, indicators such as GDP per capita, regional institutional potential, health, higher education and lifelong learning, market size, business sophistication and innovativeness are not satisfactory;
– slightly higher competitiveness scores were achieved in the infrastructure, labour market performance and technological readiness sections.

The analysis of the above-mentioned documents and the situation in the SME sector shows that its needs are not sufficiently satisfied and that the improvement of the international competitive position and innovativeness of the region requires long-term, systematic and consistent actions, focused primarily on factors lowering the position of the region and on less developed factors. Considering the outlined context, it should be stated that the construction of the Space Technology Park fulfils them perfectly, at the same time fitting in with the planning and strategic documents.

Increasing the region’s innovativeness remains a major challenge. The innovative potential of Lubuskie Province’s scientific environment and economy can be seen in the development of high-tech industries, including space technologies. The development of smart specialisation of the region assumes the commercialisation of research and incubation of innovative companies (start-ups), which in turn will contribute to strengthening the competitiveness of the region. The shape of the Space Technology Park has been designed to effectively contribute to the implementation of the strategic objective and intermediate objectives of the project, thus responding to the challenges faced by Lubuskie Province’s economy, in particular by the SME sector. Within, the Park will create such laboratories and centres as:
– Laboratory of satellite electronics and FPGA systems;
– Facilities for clean assembly, integration and testing of satellite systems and subsystems;
– Centre for processing and interpretation of satellite data and Civil Satellite Navigation Systems;
– Laboratory of robotic systems and artificial intelligence;
– Laboratory of cryptography and countering cyber threats;
– Laboratory of Space Medicine;
– Laboratory of materials engineering and strength testing (*Application*..., 2018, p. 4).

As already mentioned, the investment is being implemented as part of a partnership project, on the basis of a partnership agreement. The project is implemented in the “design and build” mode on the territory of Zielona Góra. As a result of the project a 3720 m^2 facility will be created, within which the above laboratories and centres will function. It should be noted that the created infrastructure will be equipped with both specialist (dedicated apparatus for each laboratory and centre) and non-specialist basic office equipment. Bringing together in one place infrastructure and people specialised in various areas of space technology will allow for comprehensive research and development of components and technologies and even complete satellites or other devices intended for use in space and beyond, and above all the development of technology companies. A separate but important functional part will be the training department, which will enable to conduct training and practical workshops intended in particular for cooperating companies from the SME sector. The cooperation of specialists from the University of

Zielona Góra and Space Research Centre of the Polish Academy of Sciences, as well as private companies, both from STP and the adjacent Science and Technology Park of the University of Zielona Góra, and also from outside institutions, should bring about a synergy effect and result in the rapid implementation of research results and technologies developed. Providing favourable conditions for the creation and development of companies and creating a training programme in conjunction with access to high-class laboratories and workshops should result in the creation and development of companies specialising in advanced technologies – not just space technologies. The long-term effect of such cooperation should be an increase in the competitiveness and innovation of the Lubuskie region, both on a national and international scale.

The construction of the Space Technology Park started de facto in September 2018, when preparatory work was undertaken. Completion of the material implementation of the project is scheduled for 31.05.2023, while the deadline for the financial completion of the project is 30.06.2023. The funding comes from the Regional Operational Programme – Lubuskie 2020 (RPO-L), precisely from Priority Axis 1. Innovative economy, sub-measure 1.2. Development of entrepreneurship (*Application*..., 2018, pp. 26–27). The Priority Axis 1 aims at strengthening the regional economy based on modern technologies and innovative solutions. Actions taken in this respect should be inseparably connected with the market and its main actors, i.e. entrepreneurs. Entrepreneurs are also the most important group of beneficiaries who will have an impact on the achievement of the development objectives of the Lubuskie region.

Summary

The administrative reform of the country, the creation of the province self-government in accordance with the Act of 5 June 1998, created an entity which is able to generate and carry out regional policy in the province dimension. Poland’s accession to the European Union on 1 May 2004, and thus the possibility to benefit from the cohesion policy, meant that the regions received financial resources for the implementation of important undertakings stimulating socio-economic development. The key issue in this context was to provide the self-governments with specific instruments, including the possibility to prepare appropriate strategic and planning documents, which set the directions for the development of regions in the medium-term horizon. Local governments successively, every EU budget perspective, update development strategies and prepare regional operational programmes, which to a significant extent finance the implementation of the strategic objective and operational objectives contained in the strategy. In the 2014–2020 perspective, “Development Strategy for Lubuskie Province” annexed to the Resolution XXXII/319/12 of the Sejmik of Lubuskie Province of November 19, 2012 (DSLP), which is the most important document of the province self-government setting the directions of regional development and indicating the areas of particular intervention, indicates a catalogue of undertakings necessary for further development of the region. The vision of the document states that in 2020 Lubuskie Province takes full advantage of its location in Europe, environmental advantages and communication accessibility. Competitive and innovative economic sectors as well as tourism have developed. In

addition, Lubuskie Province can already be considered an information society, and the effective use of EU funds, the activity of local governments, entrepreneurs and NGOs have ensured a high standard of living of its inhabitants and access to services of a good standard. In the conclusion of the vision it is noted that the region is perceived as a place of healthy lifestyle and has gained the name of “the green land of modern technologies” (*DSLP*, 2012, p. 30).

Construction of the Space Technology Park in Lubuskie Province undoubtedly fits in with and implements the strategic objectives contained in the “Space Strategy for Europe”, the “Polish Space Strategy” and the “Development Strategy for Lubuskie Province”. Implementation of the project will contribute to the creation of innovative industry, and space sector as a specialization of innovative industry will influence the development of satellite electronics, programmable logic systems, processing and interpretation of satellite data and others. It will also improve the availability of technical equipment necessary for professional training corresponding to market needs, support the development of competencies in the creative and innovative bases of students, support the cooperation between enterprises and schools, promote the participation of enterprises in internship programs. Overall, the construction of the Space Technology Park will contribute to building an innovative, knowledge-based and thus competitive economy in the region. It will also be a fundamental impulse to improve the position of Lubuskie Province on the innovative map of Poland and the European Union (Sługocki, 2016). This undertaking, above all, is a clear example that decentralisation of public authority, awareness and creativity, responsibility and the ability to seek adequate partners can and should contribute to undertaking key projects for specific communities.

Bibliography

Frankowski P. (2016), *Space strategy for Europe*, Unia Europejska.pl, no. 6, pp. 21–26.

Lewandowski M., Dudzik A., Ingersleben M. (2017), *Public management in the space sector*, Kraków.

Sługocki W. (2019), *The process of shaping regional policy in Poland*, “Przegląd Politologiczny”, no. 2.

Sługocki W. (2016), *The role of European Union funds in building the competitiveness of Polish regions*, “Marketing i Rynek”, no. 10, pp. 517–533.

European Parliament resolution of 12 September 2017 on space strategy for Europe (2017), European Parliament, https://www.europarl.europa.eu/doceo/document/TA-8-2017-0323_PL.html, 13.04.2021.

Act of 5 June 1998 on regional authorities (1998), OJ 1998 No. 91, item 576.

Act of 11 July 2014 on the principles for the implementation of cohesion policy programmes financed in the Financial Perspective 2014–2020 (2014), OJ 2014, item 1146.

Polish Space Strategy (2017), Resolution No. 6 of the Council of Ministers of 26 January 2017, M.P. of 17 February 2017, item 203.

Regional Operational Programme Lubuskie 2020 (2020), Office of the Marshal of the Lubuskie Province in Zielona Góra, Zielona Góra.

Space Strategy for Europe (2016), European Commission, https://www.consilium.europa.eu/pl/policies/eu-space-programme/, 13.04.2021.

Development Strategy for Lubuskie Province (2012), appendix to Resolution XXXII/319/12 of the Sejmik of Lubuskie Province of 19 November 2012.

Feasibility Study – Space Technology Park (2018), source materials of the Marshal’s Office of Lubuskie Province in Zielona Góra, Zielona Góra.

Application for funding – Space Technology Park (2018), source materials of the Office of the Marshall of Lubuskie Province in Zielona Góra, Zielona Góra.

Europe’s Galileo navigation system (2021), https://www.hertzsystems.com/product/europejski-system-nawigacyjny-galileo/, 13.04.2021.

Inauguration of the Space Research Centre facility (2019), https://rpo.lubuskie.pl/-/inauguracja-osrodka-centrum-badan-kosmicznych#, 13.04.2021.

Construction of Space Technology Park starts (2020), University of Zielona Góra Information Portal, https://www.infoserwis.uz.zgora.pl/index.php?rusza-budowa-parku-technologii-kosmicznych, 13.04.2021.

Wdrażanie zasad polityki kosmicznej dla rozwoju wschodzących regionów geograficznych. Park Technologii Kosmicznych w województwie lubuskim – studium przypadku

Streszczenie

Artykuł poświęcono problematyce rosnącego i rozwijającego się w Polsce sektora kosmicznego, a przede wszystkim jego wpływu na budowanie konkurencyjnej, opartej na wiedzy gospodarki. Za cel pracy przyjęto zaprezentowanie wysiłków regionów, koncentrując się na przykładzie województwa lubuskiego, służących budowie infrastruktury badawczo-rozwojowo-wdrożeniowej, dzięki której dochodzi do zawiązywania kooperacji pomiędzy samorządem terytorialnym szczebla regionalnego, światem nauki a przedsiębiorstwami. Dzięki takiej współpracy możliwe jest, nie tylko budowanie realnych związków pomiędzy tymi środowiskami, a w szczególności wynikiem tych interakcji będą konkretne kooperacje gospodarcze, lokowanie kolejnych podmiotów gospodarczych w regionie, czy też powstawanie nowych firm działających w sektorze kosmicznym. Zasadniczą część pracy stanowi studium przypadku, w ramach którego przedstawiono inicjatywę utworzenia Parku Technologii Kosmicznych podjętą przez samorząd województwa lubuskiego, a zrealizowaną wspólnie z Uniwersytetem Zielonogórskim oraz firmą Hertz Systems LTD. Jest to doskonały dowód na to, że na poziomie wojewódzkim w ramach polityki regionalnej, *de facto* intraregionalnej, można podejmować bardzo ważne inicjatywy na rzecz rozwoju sektora kosmicznego.

Słowa kluczowe: technologie kosmiczne, polityka regionalna, region, rozwój, Unia Europejska

Article submitted: 16.03.2022; article accepted: 22.03.2022.
Data przekazania tekstu: 16.03.2022; data zaakceptowania tekstu: 22.03.2022.