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## THE ROLE OF INDUSTRIAL PARK IN LOCAL DEVELOPMENT ON THE EXAMPLE OF KUJAWSKO-POMORSKIE REGION

**Abstract.** The article presents industrial and technological parks, operating in the Kujawsko-Pomorskie voivodship. The essence of the research was the diagnosis of functional zones for the region and entrepreneurs. The purpose of the article was to investigate whether the existence of industrial, industrial and technological parks has an impact on the attractiveness of the region and whether it encourages new investors to undertake economic activity. Based on the research, it has been pointed out that the parks and their incubators and other centers supporting entrepreneurship have a number of favorable conditions. Starting a business in their area. It is also significant that the existence of the zones contributed to the increase in the number of new jobs in the Kujawsko-Pomorskie voivodship, as well as investors willing to invest their capital in the parks.

**Keywords:** industrial-technological parks, entrepreneurship incubators, regional development

## ROLA PARKÓW PRZEMYSŁOWO-TECHNOLOGICZNYCH W ROZWOJU LOKALNYM NA PRZYKŁADZIE REGIONU KUJAWSKO-POMORSKIEGO

**Streszczenie.** W artykule przedstawiono parki przemysłowo-technologiczne, działające na terenie województwa kujawsko-pomorskiego. Istotą przeprowadzonych badań była diagnoza funkcjonalności stref dla regionu i przedsiębiorców. Celem artykułu było zbadanie, czy istnienie parków przemysłowych, przemysłowo-technologicznych ma wpływ na atrakcyjność regionu i czy zachęca nowych inwestorów do podejmowania działalności gospodarczej. Na podstawie przeprowadzonych badań wskazano, że parki i funkcjonujące przy nich inkubatory oraz inne ośrodki wspierające przedsiębiorczość posiadają szereg uwarunkowań sprzyjających podjęciu działalności gospodarczej na ich terenie. Istotny jest również fakt, iż istnienie stref przyczyniło się do wzrostu liczby nowych miejsc

pracy w województwie kujawsko-pomorskim, jak również inwestorzy chętniej lokują swój kapitał na terenie parków.

**Słowa kluczowe:** parki przemysłowo-technologiczne, inkubatory przedsiębiorczości, rozwój regionu

## 1. Introduction

In times of high technological progress, it is necessary to constantly improve the competitiveness and position of companies in the market of goods and services. Increasingly significant are the implementation of innovative technological solutions, information technology and the ability to manage human capital. Industrial and technological parks and special economic zones are directly linked to the region's potential for attractiveness. Through the operation of economic zones, the technology sector is supposed to stimulate entrepreneurship of companies, restructure post-industrial areas and create new jobs by creating favorable conditions for investors for small and medium-sized businesses. One of the most important criteria for new entrants to the market is access to cutting-edge technology and attractive location. In order to create conditions for the development of new plants, technology parks, technology and nature parks are still making the offer more attractive for creating pioneering environments. Science parks have become an inseparable link between knowledge and technology, and by using their tools they both contribute to the entrepreneurial pursuit of new business and lead to the emergence of modern technological solutions. In contrast, the Special Economic Zones are increasingly used in Poland to develop pro-development solutions, stimulating the development of individual regions, and significantly increasing the level of innovation<sup>1</sup>.

The aim of the article is to investigate whether the existence of industrial, industrial and technological parks has an impact on the attractiveness of the region and whether it encourages new investors to start a business.

## 2. Industrial and technological parks in Poland and Kujawsko-Pomorskie voivodship

The development of technology parks in Poland has initiated the establishment of the Poznań Science and Technology Park, and the last 15 years indicate the special interest of

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<sup>1</sup> Zajdel M., Michalcewicz-Kaniowska M.: Social Cooperatives as Social Economy Actors in the Development of Entrepreneurship – Based on the Example of the Kujawsko-Pomorskie voivodeship. "Economic Science for Rural Development", No. 39, Yelgawa 2015, p. 227-235.

investors and the growing popularity of such parks in Poland. As in the world, the desire and need for development of the domestic market has been recognized, which has contributed to the creation of various types of centers for the development of entrepreneurship. In 2014 there were 42 technology parks in Poland, and 176 active innovation centers and business incubators<sup>2</sup>.

In the global classification, the Kujawsko-Pomorskie Voivodship is at the middle level in economic and industrial terms in the country. Industrial cities are striving to meet the demands of free-market competition in order to stand out internationally<sup>3</sup>.

In the process of creating and operating industrial and technological parks, local authorities, businesses and universities in their neighborhood play a big role. They in combination with the surface of the park itself are their components<sup>4</sup>.

The surface is their uneven part. A minimal, cost effective park size of 3000 m<sup>2</sup> of usable area was determined. Borders were determined on the basis of research and analysis of the competitiveness of world industrial and technological parks.

Park area is divided into:

- space allocated to the lease of enterprises that take over the development of the area on their own, as well as rental properties for offices and facilities for technological incubators, research institutions,
- a recreational area that serves as the added value of individual parks, given their geographic location and infrastructure.

Universities, especially the technical ones, have a huge impact on the role of industrial and technological parks, given the nature of the university as "a new technology, a human factor, and access to new ideas for new products. Equally important for co-operation with universities is the continuous development of entrepreneurs and workers by improving their skills and creativity in the development of modern technology".

However, small and medium enterprises are the basic element of industrial and technological parks. Small and medium-sized enterprises can make far greater use of industrial and technological parks than large companies because of their focus on the highest quality and class of products offered. Parks in their business provide support to small and medium-sized enterprises, which they use when they are ready to take market risks.

Industrial and technological parks as organized enterprise support systems provide an excellent environment for the development of industry, a place for innovative solutions and

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<sup>2</sup> Portal innowacji, [http://www.pi.gov.pl/IOB/chapter\\_86514.asp](http://www.pi.gov.pl/IOB/chapter_86514.asp), 23.03.2017.

<sup>3</sup> Kujawsko-Pomorski Urząd Wojewódzki w Bydgoszczy, <http://www.bydgoszcz.uw.gov.pl/pl/gospodarka.html>, 5.04.2017.

<sup>4</sup> Raport: Parki przemysłowe, technologiczne i specjalne strefy ekonomiczne, [http://www.ipo.pl/raporty/parki\\_przemyslowe\\_2009.pdf](http://www.ipo.pl/raporty/parki_przemyslowe_2009.pdf), 30.09.2016.

a range of services – a place of new knowledge. Technological and natural parks, due to the variety of business offers, fulfill many roles and tasks<sup>5</sup>.

The foundation of the industrial and technological parks is the provision of space and real estate equipped with necessary resources such as: media, transport and communication infrastructure. Entrepreneurs starting a partnership with a park have the opportunity to choose the form of space available to them for development in the form of sale of real estate, rent or lease. Some of the parks provide the opportunity to make land available for development. The use of offers is addressed both to small production lines and offices, and takes the form of renting exhibition space for the purpose of promoting entrepreneurs.

An important aspect of attracting entrepreneurs and investors is access to laboratories, prototypes and workshops, where they have the opportunity to carry out research, research and innovation projects<sup>6</sup>.

Park offers a range of office and administrative services ranging from office activities through communication to real estate management. The hotels, car parks, kindergartens and restaurants located at them are conducive to the working and living comfort of entrepreneurs and employees. Some of the services available are included in the rent paid by entrepreneurs to the industrial and technological parks. Parks and business centers, aimed at popularizing clean industry, are most often located in the neighborhood of the center, which contributes to increasing ecological awareness in Poland.

By enabling research and research activities and locating businesses in parks, their businesses have direct contact with the exchange of knowledge and ideas, which can lead to new and better industrial and technological ideas.

The benefit to the industry is the ongoing transfer of knowledge and innovation from research to implementation. Industry support is manifested through the provision of services consisting in training of the research and development sector in the form of development work, promotion activities and cooperation with global innovation support institutions<sup>7</sup>.

Park tenants use the participation in services that involve the introduction of business rules. Usually, the form of services is training, business advisory, technology transfer and intellectual property protection. Training usually involves the subject of sources of investment finance and finance and accounting. Entrepreneurs are expected to attend court in the following areas:

- implementing innovation,
- commercialization of technology,

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<sup>5</sup> Matusiak K.B.: Wybrane aspekty funkcjonowania parków technologicznych w Polsce i na świecie. PARP, Warszawa 2008, s. 27-28, <https://www.parp.gov.pl/files/74/81/194/4378.pdf>, 09.03.2017.

<sup>6</sup> Michalcewicz-Kaniowska M., Zajdel M.: Rozwój regionu kujawsko-pomorskiego w aspekcie funkcjonowania stref ekonomicznych. „Europa Regionum”, t. 21, 2015, s.151-162.

<sup>7</sup> Zajdel M., Michalcewicz-Kaniowska M.: Factors determining development of businesses in kujawsko-pomorskie province as a part of the pomeranian special economic zone – study results. „Economic Science for Rural Development”, No. 41, Yelgawa 2016, p 180-186.

- patent counseling,
- EU grant packages,
- economic, legal,
- research and analysis of future needs for innovation.

The versatile range of free and paid services to tenants and the availability of ready-made offices prompt businesses to start their business on preferential terms, giving them the ability to allocate their capital to grow their operations. Using counseling allows you to eliminate the mistakes that arise from lack of investor experience<sup>8</sup>.

The development of the economy is directly linked to human capital, which, through the development of creativity and skills, creates new jobs for technically educated staff. Parks cooperating with technical universities are a modern land for graduates, sought after by businessmen based on innovation.

The intellectual work platform created by the parks encourages the use of acquired knowledge by young, qualified university graduates. For students, the park provides an environment for introducing market knowledge through the employment and commercialization of own ideas. The operation of companies located in industrial and technological parks stimulates development mechanisms in the areas of innovation, entrepreneurship and creativity<sup>9</sup>. Contemporary economy requires an environment that supports the development of knowledge-based ventures.

Industrial and technological parks fulfill a number of functions conducive to the development of a modern economy<sup>10</sup>:

- Intensifies and organizes the flow of knowledge and technology in the learning-infrastructure-learning chain.
- Facilitates the creation and development of knowledge-based companies through spin-off, spin-out.
- Provides businesses with high quality services that support the company's value.
- Allows you to increase the number of vacancies available to qualified staff.
- Modernizes the land for the development of people and businesses.

In the international markets, industrial and technological parks are seen as a means of increasing the competitiveness of companies and the goods and services offered by tenants, thereby creating the potential of a strong regional economy.

There are a number of criteria to be considered in assessing the effectiveness and impact of the operation of parks on the economy. One of the evaluation criteria are the functions:

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<sup>8</sup> Matusiak K.B.: op.cit.

<sup>9</sup> Ibidem.

<sup>10</sup> Strategiczne obszary rozwoju parków technologicznych, [http://www.pi.gov.pl/PARPFfiles/file/OIB/SOIB/Publikacje/PARP\\_BIOS\\_T22\\_poradnik\\_Obszary\\_rozwoju\\_parki\\_tech.pdf](http://www.pi.gov.pl/PARPFfiles/file/OIB/SOIB/Publikacje/PARP_BIOS_T22_poradnik_Obszary_rozwoju_parki_tech.pdf), 10.03.2017.

- Incubation function, understood as leading to an increase in the number of modern enterprises in the technology sector, in the region. It is assumed that incubators develop the premises of new knowledge used by academic and academic staff.<sup>11 12.</sup>
- Integration function, which creates conditions for network connections between companies, scientific institutions, research institutions, local government and the community. The effect of fulfilled integration function is recognized as the initiation of an innovative environment and the accumulation of resources around pioneering undertakings.
- Promotional function identified with the regional marketing tool. Through the establishment of the park the region gains the reputation of an open environment for economic development and encourages the participation of society and capital donors.

### 3. Research results

The conducted research included industrial and technological parks operating in the Kujawsko-Pomorskie voivodship. The essence of the research was to examine the functionality of the zones for the region and the entrepreneurs. The study analyzed the following industrial-technological parks:

- Bydgoszcz Industrial and Technological Park,
- Włocławska Economic Development Zone Industrial and Technological Park,
- Industrial Park in Solec Kujawski,
- Vistula Park Świecie,
- Grudziądz Industrial Park,
- Toruń Technology Park with Technology Transfer Center.

The study also included centers that cooperated within the parks, including business incubators and an analysis of the importance of covering the area with a special economic zone.

Considering the potential of the progress of the Kujawsko-Pomorskie region, the most important areas of industrial specialization are the production of high quality products in the electronic, electrical, mechanical, construction, chemical and food industries, as well as

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<sup>11</sup> Parki przemysłowe i technologiczne, [http://www.paiz.gov.pl/strefa\\_inwestora/parki\\_przemyslowe\\_i\\_technologiczne#](http://www.paiz.gov.pl/strefa_inwestora/parki_przemyslowe_i_technologiczne#), 30.03.2017.

<sup>12</sup> Wybrane aspekty funkcjonowania parków technologicznych w Polsce i na świecie. PARP, Warszawa 2008, s. 27-28.

outsourcing services, including BPO (business services) and SCC (Mutual services)<sup>13</sup> – undertakings transfer work performed not directly related to the business of an undertaking operating outside the borders of a particular country.

Kujawsko-Pomorskie region has well-educated staff, the relevant infrastructure is provided by external services in the fields of law, finance, IT, HR and customer service. The premise for using BPO and SCC is to reduce the operating costs of companies<sup>14</sup>.

The research conducted by the Kujawsko-Pomorskie Investor Assistance Center in Toruń shows that the Kuyavian-Pomeranian region is an appropriate place to invest in various industries.

The predisposition of the region to the whole of the country was examined in the cost-effectiveness of investing in the aspects of investment attractiveness such as industrial, service and high technology. Comparing the Kujawsko-Pomorskie voivodship with the domestic market, it can be stated that the profitability of investing in the region in the above mentioned areas is placed in 6<sup>th</sup> place<sup>15</sup> and it is defined as a region of high investment attractiveness.

Table 1 shows the surface of the analyzed objects.

Table 1

## Area of parks in Kujawsko-Pomorskie voivodship

Park name	Park area [ha]	
Włocławek Economic Development Zone Industrial Park	33,47	5%
Bydgoszcz Industrial and Technological Park	280,00	39%
Vistula Park World	125,00	17%
Vistula Park World II	40,00	6%
Industrial Park in Solec Kujawski	99,00	14%
Grudziądz Industrial Park	130,50	18%
Toruń Technology Park	14,00	2%

Source: Own study based on reports.

<sup>13</sup> BPO i SSC, <http://weblog.infopraca.pl/2010/07/bpo-a-ssc-czyli-czym-roznic-sie-moze-praca-w-centrum-ksiegowosci/>, 4.02.2017.

<sup>14</sup> Jegorow D., Niedużak A.: Wpływ sektora B+R na wzrost konkurencyjności polskiej gospodarki poprzez rozwój innowacyjności, tom 1. Chem 2012, s. 38-42; <https://books.google.pl/books?id=YkjyBQAAQBAJ&pg=PA42&lpg=PA42&dq=sektor+wysokiej+szansy+kujawsko+-pomorskie&source=bl&ots=uIQG9ltjNx&sig=qwlDuBZ71IyLmJtw2IXFRtq4hEE&hl=pl&sa=X&ved=0ahUKEwj7sNSCzIvKAhWKpnIKHWEbBB6kQ6AEILDAD#v=onepage&q=sektor%20wysokiej%20szansy%20kujawsko%20pomorskie&f=false>, 2.02.2017.

<sup>15</sup> Atrakcyjność inwestycyjna województw i podregionów Polski. 2011, [http://www.kas.de/wf/doc/kas\\_29767-1522-8-30.pdf?111219113219](http://www.kas.de/wf/doc/kas_29767-1522-8-30.pdf?111219113219), 8.01.2017.

The largest area occupied by the Bydgoszcz Industrial and Technological Park constitutes as much as 39% of the area of the parks, and the smallest of the parks is Toruń Technological Park with 14 hectares.

The main activity of the parks is to provide investors with terrain enabling them to start a business and to function properly. Research shows that the essential business activity for entrepreneurs is to provide space for the start of ventures. An important element of the offer is also actions aimed at assisting in the management of the necessary for proper management of the company. Each of the analyzed parks is covered by a land use plan, which is a big benefit for new investors, as it directly influences the time of preparation of a new investment to commence its implementation. In the case of industrial parks, technological and industrial and technological incentives for the investor, access to the areas equipped with the necessary technical infrastructure directly contributes to the shortening of the start-up time, and the assistance of various institutions and offices at every stage of its implementation.

In order to try to evaluate the possibilities of development of industrial and technological parks, degree of use of park areas. Research has shown that the Bydgoszcz Industrial and Technological Park, the Grudziądz Industrial Park and the Kujawskie Industrial Park represent the greatest potential for the development of the Kujawsko-Pomorskie region, due to the fact that it has a large usable floor area for new projects. The largest share of free space for investment is Grudziądz Industrial Park, which has 74% of vacant land. Toruń Technology Park, which has only 3% of its area of land, has the least development potential. However, in spite of the already developed areas in the parks, the incentive for investors is also the possibility of renting objects located in the developed area and presence of business support centers.

The research also analyzes the increase in the number of companies and the number of people employed, based on data from the report of the Bydgoszcz Industrial and Technological Park in the years 2007-2014<sup>16</sup>. The purpose of the analysis was to assess the growth of business activity by investors in the park. Thus, the number of companies and the number of employees has been increasing in the Bydgoszcz Industrial and Technological Park. Between 2007 and 2014, the number of companies doubled, and the number of employees increased by 1600 (table 2).

Table 2

## Number of newly created jobs and newly created companies

Year	2007	2008	2009	2010	2011	2012	2013	2014
Number of companies	30	39	44	41	41	51	57	59
Relative increase with variable basis		30%	13%	-7%	0%	24%	12%	4%
Number of employees	202	213	434	547	745	1169	1532	1880
Relative increase with variable basis		5%	104%	26%	36%	57%	31%	23%

Source: Own study based on reports.

<sup>16</sup> Przestrzeń nowych możliwości, <http://www.inlab.byd.pl/userfiles/files/PARTNER%20-%20oferta%20BPPT.pdf>, 4.02.2017.



Business profiles of companies were also analyzed. Of the 122 companies located in the Bydgoszcz Industrial Park, the Industrial Park in Solec Kujawski, the Industrial Park in Grudziądz, the Technology Park in Toruń and the Włocławek Industrial Development Zone, 55% are manufacturing companies and 45% are service companies. The most popular services provided by companies are IT services and their share is around 15%. Further services include specialized services, including the following: personal data protection, recycling and disposal of hazardous materials, and computer consultancy services. Popular are also services in the field of printing, training, legal and tax services (about 9%) or advertising services. On the other hand, in the group of production activities, plastics and construction (12%) are the most numerous. The production of test and control equipment as well as of the mechanical and chemical industries was further indicated. The four companies located in the Park are engaged in the production of technological lines and the other companies are the paper and pharmaceutical industry.

Most of the parks in the area have Enterprise Incubators, whose priority is to encourage residents to start a business, instead offering support from the beginning of the initiation process through all stages. Entrepreneurs Incubators offering their services are able to provide assistance to micro, small and medium enterprises. Particularly noteworthy is that most incubator services are not profit-oriented and encourage investment in innovative solutions and help to achieve their objectives. It is also important that the measures taken to support businesses and entrepreneurs will increase the region's competitiveness in terms of cost-effectiveness of investments and broaden cooperation with foreign centers<sup>17</sup>.

#### **4. Conclusions**

Industrial, technological, industrial and technological parks are engaged in activities aimed at stimulating the local community to run their own businesses on preferential terms, thus enhancing the competitiveness of the local market compared to the domestic market. Parks are created by local government authorities and business support centers, and entrepreneurs who receive business permits in their area have the opportunity to benefit from a number of tax exemptions and reductions resulting from internal legislation set by law. Beneficiaries within the framework of the cooperation have the opportunity to use the technical infrastructure prepared by individual parks.

The aim of the article was to show that industrial, technological and industrial parks contribute to the attractiveness of the local market on the domestic market and that their

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<sup>17</sup> Matusiak K.: *Rozwój systemów wsparcia przedsiębiorczości. Przesłanki, polityka i instytucje*. IE, Radom-Lódź 2006, s. 88.

policies encourage entrepreneurs to engage in their own business. Parks and their incubators and other centers supporting entrepreneurship have a number of opportunities for doing business in their area. The existence of the zones also contributed to the growth of new jobs in the Kujawsko-Pomorskie voivodeship, as well as investors willing to invest their capital in the parks.

Parks of the Pomeranian Special Economic Zone play a particular role in starting a business. Research shows that entrepreneurs are more interested in cooperating with parks. Significant for the investor initiating the project is the range of services provided by the parks to entrepreneurs and assistance at every stage of investment implementation, both in terms of starting a business, including assistance in raising funds for start up and business development, through accounting, administrative or legal services.

As a flagship factor to help investors decide whether to lease, buy or lease land for the construction of plants is to cover the area of the park with a local land development plan, which is no doubt a factor reducing the start time of investment than if the land is unarmed.

Typically, localization of capital in the selected area is also affected by location, access to road, rail or air infrastructure. In the case of the Kujawsko-Pomorskie voivodship, all these elements should be considered impeccable, which in turn affects the transfer of capital between adjacent regions as well as international transport.

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