

The role of industrial parks in the economic development of Debrecen



Abstract

In recent times, industrial parks have played a very important role in the development of the Hungarian economy, and in the spirit of the above, local governments have also paid special attention to these facilities. The purpose of this paper is to analyse the role of industrial parks in economic development in the case of a specific settlement; the city of Debrecen. The most important research findings are the followings: on the one hand, industrial parks have been an essential element of local economic development documents since the early 1990s; on the other hand, the companies operating in the industrial parks constitute an important base of the city's economy, a role which is also expected to remain in the future.

Keywords: Debrecen, industrial parks, economic development

INTRODUCTION

In recent decades, industrial parks have played a particularly important role in the economic development of Hungarian settlements. Local governments held that the creation of such facilities would significantly improve the attractiveness of the settlement for investors searching for new sites and would facilitate their settling there, and this would contribute, among other things, to an increase in local tax revenues and the reduction of unemployment.

The utilisation of potential opportunities, however, required very serious efforts in various aspects from local leaders. First of all, the areas concerned had to be designated in the development documents of the settlements (e.g. spatial development plan); secondly, the necessary infrastructure had to be developed; and thirdly, the facilities had to be suitable advertised and promoted. In this respect, significant differences could be observed between the settlements: while some places only reached the point where the relevant areas were designated, elsewhere the increasing demands made it necessary to expand industrial parks several times.

Giving precedence to the above, the purpose of this paper is to analyse the role played by industrial parks in the economic development efforts of Debrecen, the second largest city of Hungary. The study will review the appearance

of industrial parks in the various settlement and economic development documents and analyse the role that companies operating in industrial parks play in the economic life of those settlements. For a better understanding of the topic, however, it was found necessary to define the concept of the industrial park, and therefore, this will be the topic of the first longer chapter of this paper.

In our research, a variety of databases were used. In addition to reviewing the literature regarding the topic, we have also examined the development documents of Debrecen after the change of the political regime, engaged in the collection of data in the industrial parks, and compared the results to the data available in Creditreform Céginformáció company information database. Our analyses will concentrate, in the majority of the cases, on facilities with the official title of Industrial Park. In our paper we use the expression “industrial park” written with small initial letters when we speak generally about a property for economic development purposes. However, the official names as well as the objects possessing the title in Hungary are written with large initial letters.

1. SOME THEORETICAL ISSUES CONCERNING INDUSTRIAL PARKS

The concept of industrial parks is (fundamentally) possible from two aspects: we can analyse the academic position, or we can examine what the relevant provisions of law consider industrial parks.

In recent decades, researchers of local economic development (e.g. Kozma, 2002; Kecskés-Kovács, 2015) and the tools of regional policy (Rechnitzer, 2002) have approached the issue of industrial parks from a variety of perspectives. On the one hand, they try to make a list of all the “elements” that are conditions of considering a facility as an industrial park (Lengyel et al., 2002; Rakusz, 2000):

- the ownership of the area is well-established, and the basic infrastructure is clearly defined in technical terms;
- the park has an “owner” that provides services for the entities settling there on a business basis;
- companies settling in the park can use the infrastructure of the park and the available services at favourable prices;
- there are value-creating activities (not only industrial activities) pursued within the park.

On the other hand, they differentiated a variety of industrial park types and defined their specific features, as well as the related advantages and disadvantages. In terms of their location/way of establishment, we can differentiate brownfield and greenfield industrial parks (Grasselli, 1996; Kiss, 2013); however, Nikodémus (2002) extended this dichotomy and placed Hungarian facilities in six groups:

- fully greenfield industrial parks (e.g. Győr Industrial Park, Hatvan Industrial Park and Tiszaújváros Industrial Park);
- parks that integrated businesses that had previously operated on the area with extensive greenfield areas (e.g. Esztergom Industrial Park, Orosháza Industrial Park and Szentgotthárd Industrial Park);
- earlier military facilities with significant greenfield areas (e.g. Pápa Industrial Park);
- former industrial areas, mainly with businesses that moved in and with vacant industrial buildings (e.g. DIGÉP – Diósgyőr Industrial Park, Ózd Industrial Park, VIDEOTON Industrial Park in Székesfehérvár);
- agricultural-type industrial parks (e.g. Regional Industrial Park in Pacsa, Homokhát Regional Agro-Industrial Science and Technology Park in Mórahalom);
- industrial parks formed from logistical centres (e.g. Harbour Industrial Park in Budapest).

Another approach is based on the activities pursued in the industrial parks, where the following categories were differentiated (Benko, 1992; Kullmann, 2000; Rakusz, 2000):

- science parks,
- technology parks,
- commercial parks,
- innovation centres,
- traditional industrial parks.

The third group of academic examinations of industrial parks also surveyed the broader environment of these facilities, and analysed, among other things, their link with the network of transportation infrastructure (Kiss-Tiner, 2012), their function in regional competitiveness (Lux, 2013), their role generating advantages for the agglomerations (Faragó-Lux, 2014), as well as the system of relationships between the facilities and the individual sectors of the economy (Lukács, 2013; Molnár, 2013).

As outlined in the Introduction, the formation of business-purpose properties by having the necessary infrastructure and serving the needs of economic operators constituted a very important element of the economic development activities of Hungarian local governments at the time of the political transformation of the country. At the same time, various types of initiatives also raised significant problems (the issue emerged, for example, which settlements could receive subsidies from the central budget for such purposes), and therefore, from the mid-1990s, the national government strove to settle the situation by way of provisions of law.

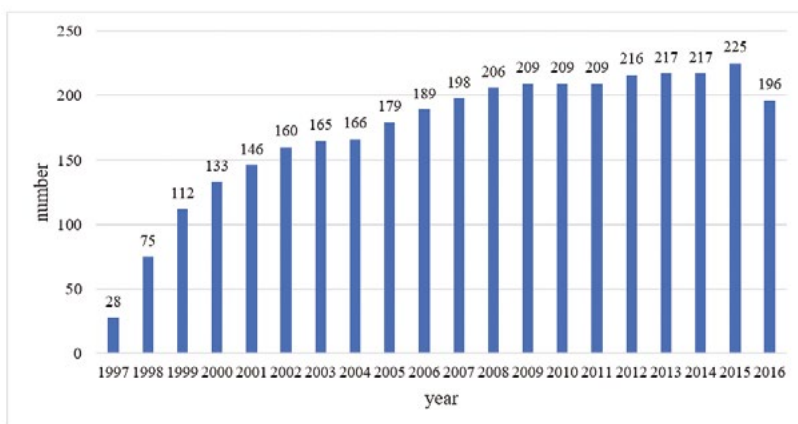
The starting point was Government Decree 185/1996 (XII. 11.), which set forth that the title of Industrial Park had to be obtained first, and it was only in possession of the title that the grants available for the construction of infrastructure could be applied for. Based on this reason, in the past 20 years, several ministerial and

government decrees have been promulgated that regulated the conditions of awarding the title of Industrial Park in details. On the one hand, the provisions of law concerned had certain common elements pertaining to, among other things, the types of applicants (local governments or their associations, business companies) and the document to be prepared (feasibility study). On the other hand, it could be observed that the rules became gradually stricter, with the most important change: from 2007 only such facilities may receive the title of Industrial Park where at least 5 companies employing a total of 100 people operate.

At the same time, a definition of industrial park in Hungarian laws was only introduced in the 2010s: on the one hand, pursuant to the 2013 amendment of Act XXI of 1996 on Regional Development and Regional Planning (Act CCXVI of 2013), an industrial park is “an organisation engaged in general industrial and spatial development, having the necessary infrastructure, engaging in development, production and service providing activities, aiming at innovation, which has been awarded the title ‘Industrial Park’.” The 2015 amendment of the above act (Act CLXXXVI of 2015), however, already used a different approach, and put the emphasis on the real estate aspect of industrial parks when defining them as “areas with the necessary infrastructure provided, where companies in the production and processing industries, as well as those striving for innovation can be found”.

If we examine the number of facilities having the title of Industrial Park (Figure 1), we can observe a significant increase until the second half of first decade of the millennium: their number initially increased by 35–30 each year, and then from the middle of the decade by 8–10 annually. In recent years, however, a stagnating trend was rather characteristic, and in 2015/16, due to the non-performance of obligations undertaken, a significant number of titles were actually revoked.

Figure 1 The change in the number of facilities having the title of Industrial Park between 1998 and 2016



Source: own collection relying on governmental degrees

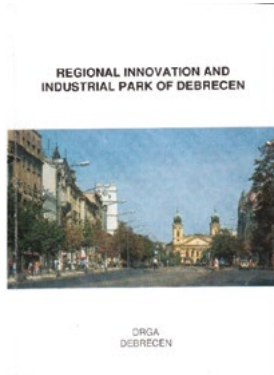
2. THE ROLE OF INDUSTRIAL PARKS IN THE ECONOMIC DEVELOPMENT OF DEBRECEN

As a result of the political transformation of the country, a significant backdrop occurred also in the economy of Debrecen. Therefore, it is not surprising that in Government Decision no. 1086/1993 (X. 26.) on the short- and medium-term development tasks of Hajdú-Bihar County, the creation of the Debrecen Innovation and Industrial Park – in addition to a number of other development needs (e.g. reviewing the possibility of the civilian use of the airport, the starting of the regional labour force development and training centre) – was also considered to be an important task. In Debrecen’s Urban Policy Programme, accepted in 1996, which was the city’s first document dealing with settlement development, one of the tasks formulated also included “making the city attractive to foreign direct investments, facilitating the better utilisation of the technical and intellectual infrastructure”, even though industrial parks are not mentioned among the specific steps of the programme.

At the same time, the Debrecen Regional Economic Development Foundation, established in 1992 and coordinating the activities of Debrecen in the field of economic development in the 1990s, took steps for the development of the facilities in two areas. On the one hand, it conceived industrial parks as the last unit of the Economic Development System, a concept developed in 1996 and consisting of elements building on each other (e.g. business incubator, entrepreneurs’ park), in the form of a real property providing sites for companies engaged in large-scale mass production of goods. On the other hand, in the 1990s, the organisation issued several publications (Figure 2) informing potential investors about the industrial parks proposed to be developed in the city.

Figure 2 Publications from 1994 and 1995, advertising the industrial parks to be developed in Debrecen





Source: DRGA 1994, Grasseli-Láng, 1995

The first complex official documents of Debrecen dealing with the issue of economic development were prepared in the millennium. A study of these materials reveals that they consist of two/three levels, from which the lowest level (operational task/operational activity) dealt with industrial parks (Table 1). Based on a comparison of the individual documents, we can draw a number of important conclusions:

- as we move forward in time, there is a continuously increasing specificity of the locations, which is fundamentally due to the fact that from the second half of the first decade in the 2000s, there has been a more accurate perception of industrial properties of which further development has become necessary;
- in all documents, the need for the infrastructure development to be implemented in the Southern Industrial Park played an important role, which has two reasons behind this: on the one hand, due to the excellent location of the area from the aspect of logistics (the proximity of the airport), it has always been considered natural that developments would take place here, on the other hand, the preparatory investments necessary for the utilisation (the construction of the public road and physical infrastructure) could not be started for a long time - due to the high costs - thus, the necessity of these constituted an important part of all materials;
- the importance of developments related to logistics has been emphasised in all development materials, which can be primarily explained by the excellent transportation characteristics of certain parts of Debrecen (e.g. the airport and the bypassing roads);
- in the 2010s, as a new element, the improvement of accessibility appeared in the case of two industrial parks; although these facilities were nearly 100% full, poor accessibility constituted a serious obstacle to their normal operation (for example, the University of Debrecen, Science and Technology Innovation Park is still only accessible through a housing estate).

Table 1 Appearance of industrial parks in the development documents of Debrecen

	Strategic programme/ priority/medium-term thematic objective/ partial objective	Operational programme/ measure	Operational task/operational activity
A (2000)	Strengthening the competitiveness of the production sector	Investment promotion	- More conceptual formulation of industrial parks - Development of physical infrastructure - Development of business services
	Strengthening the logistical and transit roles	Logistics development based on the airport	Designation and development of the areas
		Logistics development based on railway/public roads	Designation and development of the areas
B (2003)	Economic development	Developing the competitiveness of the production sector	Infrastructural development of industrial parks and sites suitable for industrial activities
		Strengthening the logistical and transit role	Development of the logistical facilities and organisational frameworks
C (2006)	Providing the conditions necessary for more efficient economic development	Infrastructural development satisfying the requirements of the economy	- The construction of the infrastructure of the Southern Industrial Park - The expansion of the Debrecen Regional Innovation Science and Technology Park - Infrastructural expansion of the University of Debrecen, Science and Technology Innovation Park - The improvement of the standard of services offered by logistical centres - The expansion of the of the Western Industrial Park
D (2007)	Infrastructural development satisfying the requirements of the economy	-	- The construction of the infrastructure of the Southern Industrial Park - The expansion of the Debrecen Regional Innovation Science and Technology Park - The improvement of the standard of services offered by logistical centres
E (2014)	Infrastructural development satisfying the requirements of internationally competitive economy, creating an environment that is supportive of economic operators	-	- Infrastructural development of the Southern Industrial Park - The improvement of the accessibility of the Debrecen Regional Innovation Science and Technology Park and the University of Debrecen, Science and Technology Innovation Park - The logistical-purpose development of Debrecen Airport

A – the Economic Development Concept of the Municipality of Debrecen (2000); B – the Operational Development Programme of the Municipality of Debrecen for 2004-2006; C – the Strategic and Operational Programme for the Developments of the Municipality of Debrecen between 2007 and 2013; D – the Integrated Urban Development Strategy of the Municipality of Debrecen (2007); E – the Urban Development Concept of the Municipality of Debrecen for 2014-2020 (2014)

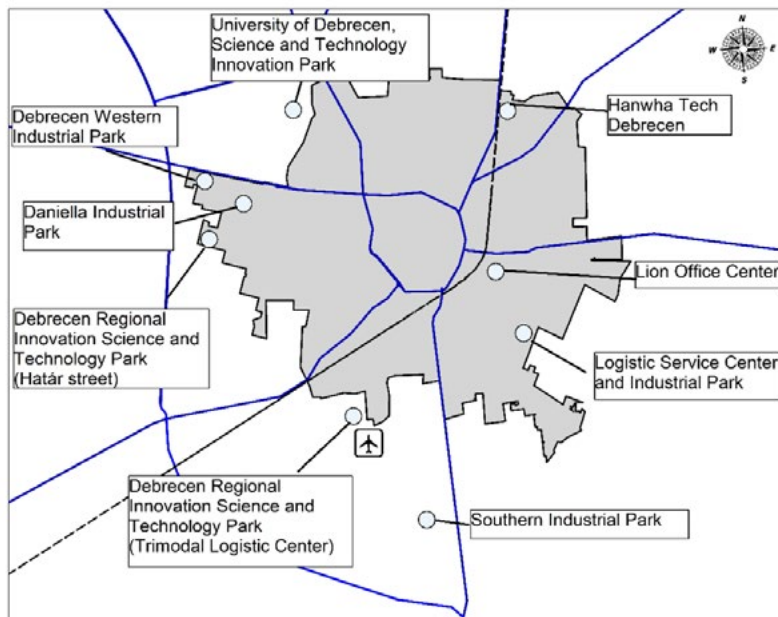
Source: VÁTI-Euro-Régió Ház 2000; Excellence 2003; Euro-Régió Ház 2006, 2007; Euro-Régió Ház-INNOVA 2014

3. THE ROLE OF INDUSTRIAL PARKS IN THE ECONOMY OF DEBRECEN

In recent decades, the organisations engaged in the field of real estate development (local government, business associations) established several *areas suitable for investment* in Debrecen: in the publication titled “Why Debrecen – Economy, Investment, Innovation” (2015), designed to promote investment opportunities in the city, for example, nine such areas (Figure 3) were listed. From these facilities five can be officially considered as Industrial Parks: the Debrecen Regional Innovation Science and Technology Park received its title in 1997, University of Debrecen, Science and Technology Innovation Park (its original name was Debrecen Agricultural-Industrial Park and it was awarded the title of Science and Technology Park in 2016) and Logistical Service Centre and Industrial Park in 2000, while the Western Industrial Park in 2001 (the first three were greenfield, while the last a brownfield industrial park, established on the area of the former factory for prefabricated concrete buildings blocks). The original name of the first one was Debrecen Regional and Innovation Industrial Park and it was awarded the title of Science and Technology Park in 2015. In parallel with this change the company operating it increased its area and currently this Park consists of two parts: one of them is situated in Határ street (its development was started in 1997) and the second part is situated near the airport (its name is Trimodal Logistic Centre).

From the other four properties, the Daniella Industrial Park (on the area of the former Beloianisz Telecommunication Equipment Plant), the Hanwha Tech Debrecen (on the area of the former Hungarian Roller Bearings Factory) and the Lion Office Center (on the area of the former tobacco factory) does not reach the required minimum size (property of 10 hectares, plus an additional 10 hectares of development area), and therefore, their owners did not apply for the title. The construction of the infrastructure at Southern Industrial Park, an industrial park of much larger size than the previous ones, as well as the settling of companies in the park only started a few years ago, and as a result, the company managing the park was not able to satisfy the required conditions for a long time.

Figure 3 Areas suitable for investment in Debrecen in mid 2010s



Source: own work relying on EDC (2015)

By analysing the data of the large, medium-sized and potentially medium-sized enterprises operating in facilities with the title of Industrial Park and having a relatively larger headcount (employing at least 20 people), we can find significant differences between them (Table 2). In terms of its economic potential, the Debrecen Regional Innovation Science and Technology Park (in Határ street) stands out, which owes its outstanding role primarily to its size (the area of the facility increased from the original 40 to 135 hectares). This is the park which was already home to 45 companies in 2016^[1] where the largest number of large, medium-sized and potentially medium-sized enterprises operate. Thanks to its size – employing 5000 people – it has a considerable role/relevance in the local economy. Furthermore, on the basis of the distribution of the employees between various sectors, this is the only park with a true industrial profile, where the representatives of metalworking and the machine industry (e.g. FAG Magyarország Kft.), as well as the electronics industry (e.g. National Instruments Europe Kft.) dominate, but the pharmaceutical industry, which has a long tradition in the city, is also represented by a significant company (Richter Gedeon Nyrt.).

[1] Bulik Péter: Az ország egyik legjobb ipari parkja a debreceni - videóval <http://www.dehir.hu/debrecen/fontos-szakmai-cimet-nyert-a-hatar-uti-ipari-park/2016/02/05/> Retrieved: 10.12.2018.

Table 2 The most important characteristics of companies located in facilities in Debrecen having the title of Industrial Park and employing more than 20 persons, May 2018

	Number of firms	Number of employees
Debrecen Regional Innovation Science and Technology Park	23 (19 ¹ +4 ²)	4 941 (4789 ¹ +162 ²)
University of Debrecen, Science and Technology Innovation Park	1	1400
Logistic Service Center and Industrial Park	5	1011
Debrecen Western Industrial Park	12	784
Total	41	8 146

1 - Határ street, 2 - Trimodal Logistic Centre

Source: own collection and Creditreform Céginformáció company information database

If we take it into consideration that, on the basis of the census of 2011, the number of locally employed people in Debrecen is around 96 thousand, then the approximately 8-9 thousand people in total who are employed by companies operating at the Industrial Parks definitely represent less than 10% in the local economy. We can receive a more nuanced picture if we narrow our analyses to the companies. Companies operating in Industrial Parks account for nearly 10% of the local companies concerned (Table 3); at the same time, it can be clearly observed that this proportion is higher among larger enterprises. (This is especially true for units employing more than 500 people – with IT Services Hungary Kft. also taken into consideration, this proportion would be as high as 33.3%.) What is primarily behind this phenomenon is that a significant portion of the enterprises in the size category concerned (e.g. National Instruments Europe Kft., FAG Magyarország Kft.) already appeared in Debrecen in the new millennium, and the satisfaction of their needs (e.g. plots of suitable size, high standard of infrastructure) was only possible in the newly formed Industrial Parks.

Considering the future status of industrial parks, we can conclude that they will continue to play a significant role in the city's economic life. As proof of this statement we could mention that some of the larger-volume job-creating investments announced in Debrecen between 2016 and 2018 (about 1/3 in terms of employee headcount) will also be realised in facilities with the title of industrial parks (Table 4).

Table 3 The weight of locally headquartered companies employing more than 20 people and operating in facilities with the title of Industrial Park among local companies of different size categories, 2018*

	Number of locally headquartered companies operating in industrial parks	Total number of companies having their registered seat in Debrecen	Proportion of companies operating in industrial parks (%)
20-49 employees	13	244	5.3
50-249 employees	15	116	12.9
250-499 employees	3	14	21.4
Over 500 employees	3	11	27.3
Total	34	385	8.9

* - the difference from the figures in Table 3 is due to the fact that, in order to ensure comparability with the municipal data, we only took into consideration companies having their registered seats in Debrecen, as a result of which certain companies (e.g. IT Services Hungary Kft.) fell outside of our scope of examination.

Source: own collection and Creditreform Céginformáció company information database

Table 4 New investments announced between 2016 and 2018 resulting in additional employment of at least 100 employees, as well as their appearance in Industrial Parks

Name of firms	Number of new employees	Economic sector	Location
BMW	1000	automotive industry	North-western Economic Area
FAG Magyarország	510	mechanical engineering	Debrecen Regional Innovation Science and Technology Park
Krones	500	mechanical engineering	Southern Industrial Park
Continental	450	electronics	Southern Industrial Park
Flowserve	400	shared service centre	Lion Office Center (later Agora Office Debrecen)
Thyssenkrupp	250	automotive industry	University of Debrecen, Science and Technology Innovation Park
National Instruments	210	electronics, shared service centre	Debrecen Regional Innovation Science and Technology Park
EPAM	200	shared service centre	Forest Office Debrecen

Transcosmos	150	shared service centre	Debrecen Regional Innovation Science and Technology Park
Diehl Aircabin	150	mechanical engineering	Forest Office Debrecen
Richter	125	pharmaceutical industry	Debrecen Regional Innovation Science and Technology Park
Intertanker	120	automotive industry	Debrecen Regional Innovation Science and Technology Park
Alföldi Tej	110	food industry	Köntösgát street
British Telecom	100	shared service centre	City Centre
IT Services	100	shared service centre	Lion Office Center

Source: relying on data of EDC Debrecen

4. CONCLUSION

Our paper investigated the role of industrial parks in the economic development of Debrecen, Hungary's second largest city. The most important findings of the study could be summarised as follows. Firstly, industrial parks were important constituting elements of the city development documents: basically, they were regarded as the flagships of Debrecen's economic revival. In that spirit, improving the endowments offered by them was always an important goal: both always present – everlasting – tasks (e.g. the extension of their area and the development of their infrastructure) as well as new problems waiting for solution (e.g. the improvement of their accessibility) arose in this framework. These objects played a very important role in the development of the local competitiveness: the newly arriving firms (e.g. National Instruments, Richter Gedeon) or the larger companies no longer able to expand their earlier sites (e.g. FAG, IT Services) during their search for possible sites regarded the Industrial Parks as easy solutions – unlike the old industrial areas located at the south-eastern part of Debrecen – due to their good accessibility, the lack of environmental problems and spatial limitations posed by the existing building stock. (This statement – with limitations – is also valid for the medium-sized companies, although they have a broader range of choices based on the existing old properties.)

Secondly, comparing the objects officially possessing the Industrial Park title to the park categories presented in the theoretical part of our article we cannot identify clear tendencies. The University of Debrecen Science and Technology

Innovation Park as well as the Határ street site of the Debrecen Regional Innovation Science and Technology Park can be regarded as fully greenfield objects, while the Debrecen Western Industrial Park can be categorized as an earlier (brownfield) industrial area representing the opposite extremity. The Logistic Service Centre and Industrial Park belongs to the type of industrial parks grown out of logistic centres, while the other site of the Debrecen Regional Innovation Science and Technology Park located next to the airport (Trimodal Logistic Centre) constitutes a special case of the properties established on a former military area but containing also significant greenfield parts. The sectoral specialisation of the Industrial Parks can be observed only in some cases: the site of the Debrecen Regional Innovation Science and Technology Park located in Határ street is dominated by manufacturing, in the Debrecen Western Industrial Park mostly enterprises dealing with trade can be found, while in the case of the Logistic Service Centre and Industrial Park as well as the Trimodal Logistic Centre at the airport transport and warehousing are the main activities. Two objects (Debrecen Regional Innovation Science and Technology Park, University of Debrecen Science and Technology Innovation Park) have the title of “Science and Technology Park”, but their situation is quite peculiar. Despite the definitions accepted internationally, the practical implementation of innovations and R&D results developed by the university is very limited in these parks and the relationship with the higher education institution means mostly ensuring the labour force needed by the firms (the only exception is Richter Gedeon).

Thirdly, the enterprises functioning at the Industrial Parks are very important actors of the local economy (which is especially true for the firms employing a larger number of people), and this situation – considering the already announced expansion plans – is likely remain in the next 4-5 years. The supportive measures of the local government regarding Industrial Parks can be identified in two contexts: the improvement of their accessibility by investing into the transport infrastructure and the support of their territorial expansion by changing the regulation. In the far future, the situation of the new southern industrial park as well as the developments related to the BMW-investment can be regarded as crucial factors. In the first case the main question is whether it is important for the local government that the property have the title of “Industrial Park”: considering the current situation and the present legal conditions the real opportunity for submitting an application will open up in 3-4 years. While in the case of the BMW the new economic area planned north of the plant covering approximately 100 hectares can also be an important element of the local economic development.

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