



Planning Practice of Industrial Parks in Lithuania by the Measures of Country Development Level of Infrastructure

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Problem formulation and aim of the research

One of the most important objects of Lithuania is to create a more efficient economy and raise labor productivity. Industrial park (IP) territories are being developed for such a purpose. More than 56 million euros, from the budget of the country and European Union support, have been already invested in the development of these zones in Lithuania. However, there are many proofs of such investment projects failure in Lithuania and even more around the world.

This research aims to analyze the spatial planning features of the existing industrial parks of regions of Lithuania in the context of the development level of country infrastructure.



Research questions, relevance

Well-developed IPs attract the highest investments and validate their existence. They provide benefits, especially social and economical, for nearby cities and the whole region as well. As an example, the increased value and efficiency of urban land use, the creation of workplaces, social inclusion, the rise of the economy, etc.

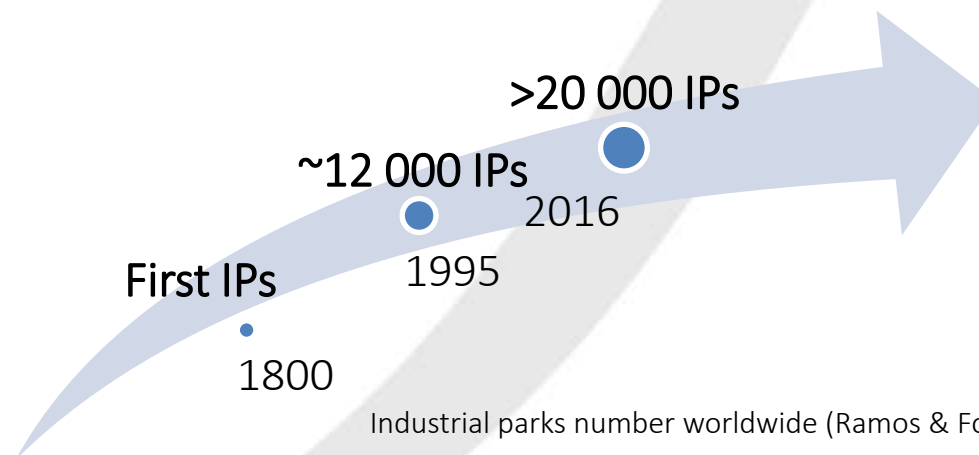
From the scientific point of view, there are many kinds of researches on the topic of industrial zones, but it still lacks the answers, why one projects thrive, and others fail to succeed.



Application and research development perspective

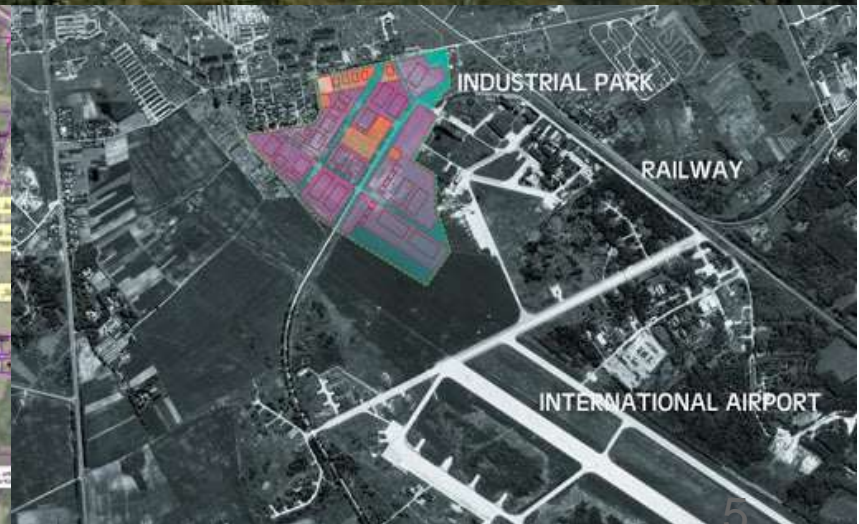
The research provides insights into the development of industrial park territories from the perspective of its planning and substantiates sustainable social, economic, and ecological development in Lithuania.

This research complements the existing publications on the topic of industrial parks expediency creation in the context of the regions of Lithuania published by the authors before and is part of the Ph.D. thesis.



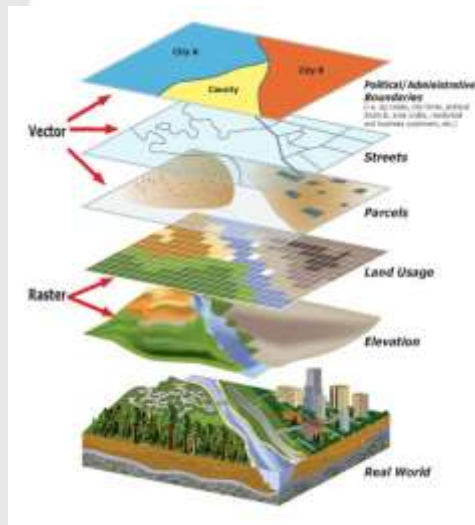
The object of the research

Industrial parks and free economic zones (FEZ) in the Republic of Lithuania



Methods & Data Collection

<p>Methods:</p>	<p>Data:</p>
<p>Statistical analysis Spatial analysis (GIS)</p>	<p>Master plan of the Republic of Lithuania Georeferenced spatial data sets (GDR10LT) ESPON Data from industrial parks and free economic zones websites Data from institutions</p>



Industrial park infrastructure objectives



INDUSTRIAL INFRASTRUCTURE

- Development of integrated transportation infrastructure (on-site and off-site)
- Development of power/energy infrastructure
- Development of a logistics hub
- Development of communications infrastructure
- Development of integrated utilities infrastructure



ENVIRONMENTAL INFRASTRUCTURE

- Development of solid waste collection, transport and treatment facilities
- Development of an industrial waste collection, sorting, transport and management system
- Water source development and harvesting, including rainwater, treatment and recycling infrastructure
- Development of wastewater treatment and recycling
- Renewable energy infrastructure development
- Development of co-generation plants
- Centralized effluent treatment through centralized effluent treatment plants (CEPTs)
- Provision of pollutant and toxicity testing facilities and laboratories

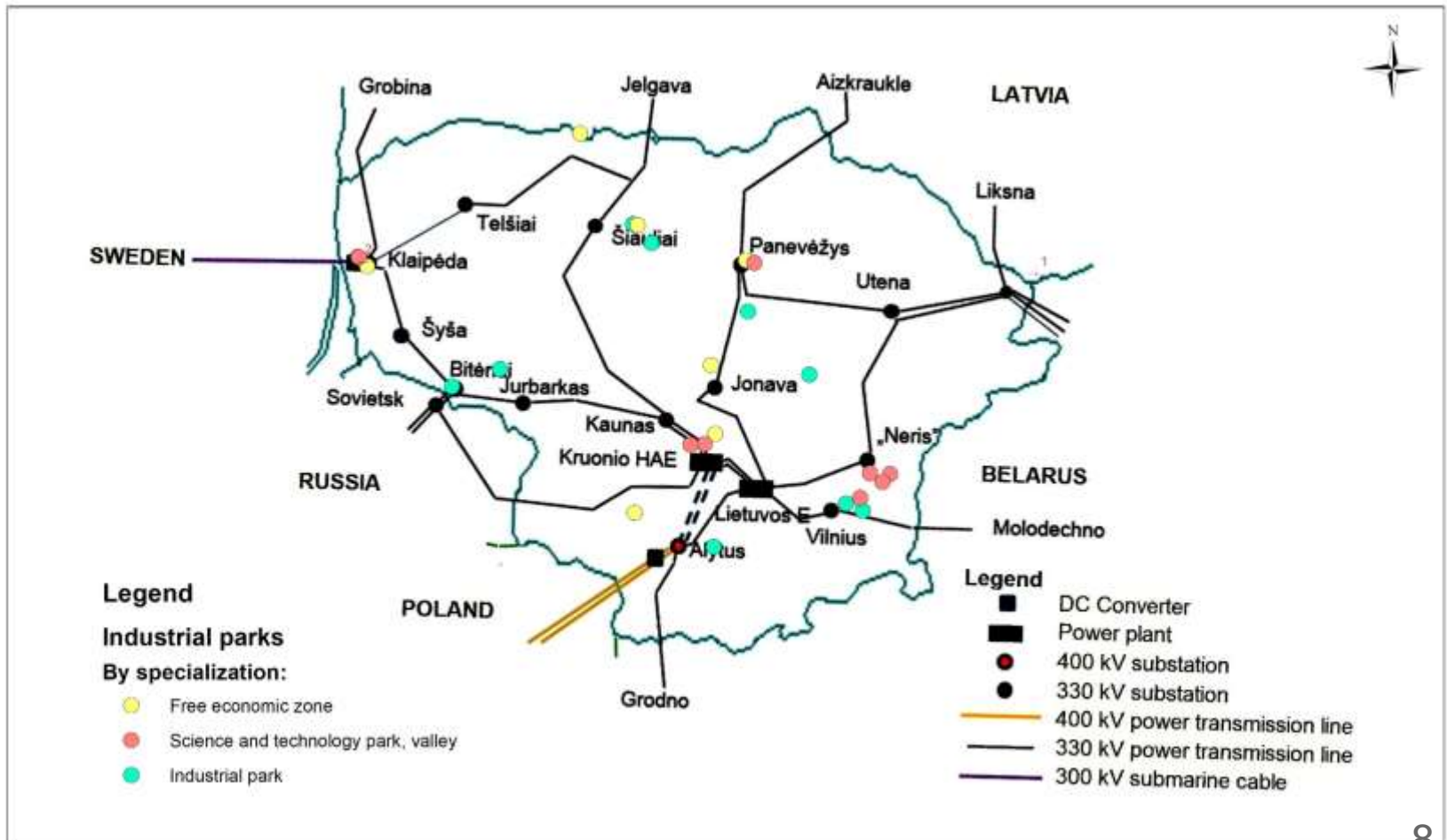


SOCIAL INFRASTRUCTURE

- Establishing an industrial zone with compatible social infrastructure
- Integrated industrial, commercial, institutional and social development
- Development of knowledge, training and research support infrastructure
- Provision of emergency services

Assessment of existing industrial parks infrastructure of Lithuania

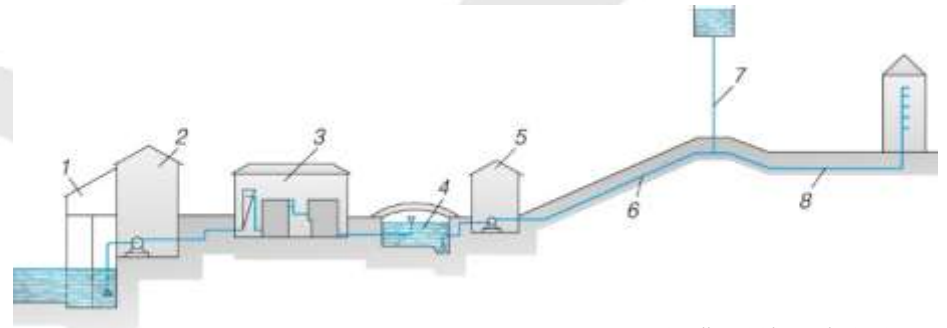
Electricity infrastructure



Assessment of existing industrial parks infrastructure of Lithuania

Water supply and sewage

In Lithuania, water reserves are almost seven times higher than we can consume. Approximately 15-20% of the total amount available is consumed during the day. Water is usually centrally supplied and available in all IP territories. The wastewater treatment system is also centralized or otherwise local.



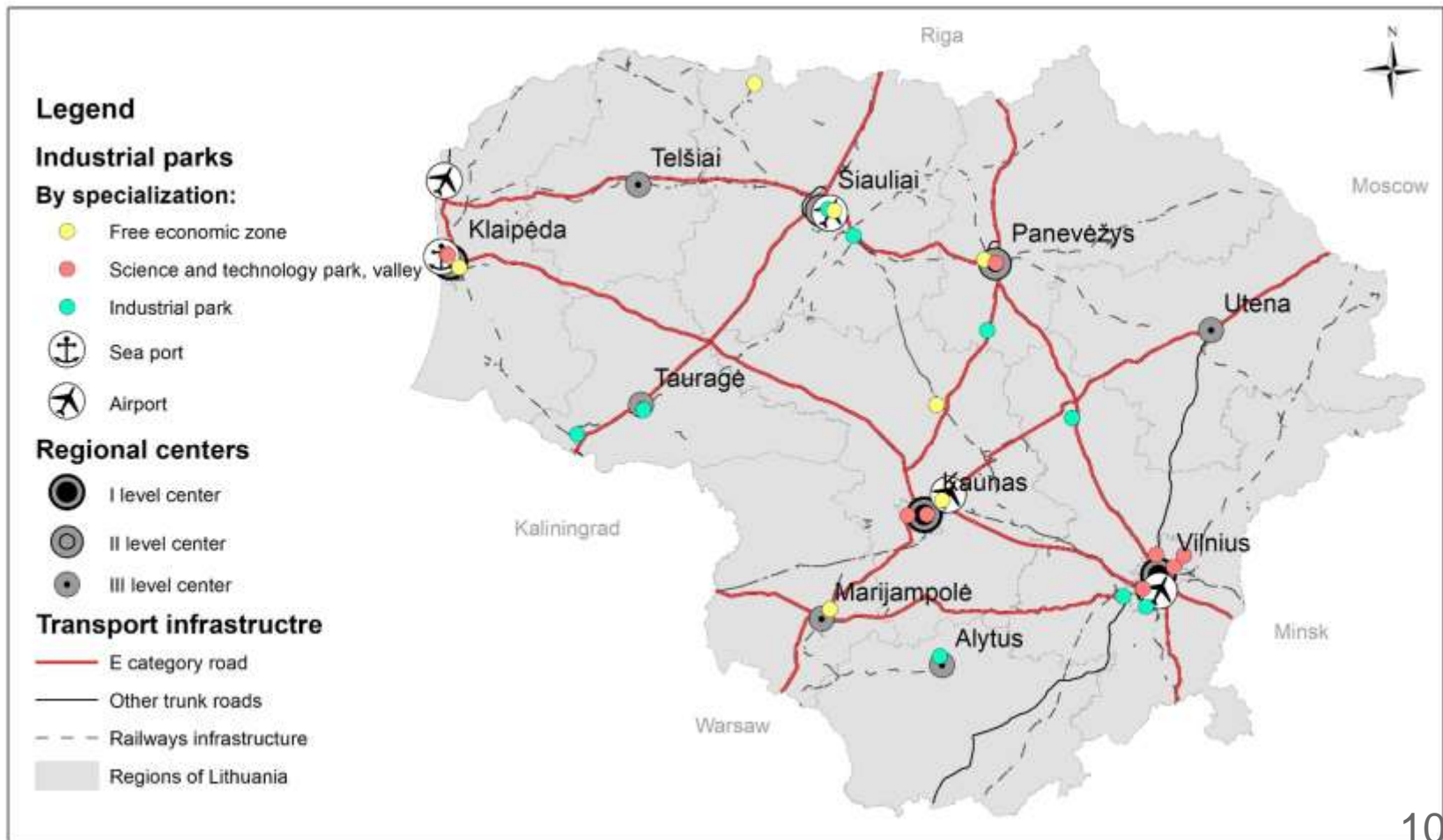
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Assessment of existing industrial parks infrastructure of Lithuania

Transport and communication



Assessment of existing industrial parks infrastructure of Lithuania

Buildings



Level of the developed areas in FEZ of Lithuania

	Region	Name/Type	Total area, ha	Area for infrastructure, protection zones, ha	Leased and reserved area for businesses, ha	Free area to be developed which needs additional infrastructure investment, ha
1	Alytus	Alytus IP	63	n/a	45,70	n/a
2	Kaunas	Kaunas FEZ	534	56	104,00	374
3		Kėdainiai FEZ	131	38	13,00	80
4	Klaipėda	Klaipėda FEZ	412	75	60,00	277
5	Marijampolė	Baltic FEZ	78	0	65,00	13
6	Panevėžys	Panevėžys FEZ	47	13	16,00	18
7		Ramygala IP	12,4	n/a	12,40	n/a
8	Šiauliai	Akmenė FEZ	99	14	61,00	24
9		Šiauliai FEZ	133	26	13,00	94
10		Šiauliai IP	53	n/a	36,85	2,2
11		Radviliškis IP	15,5	n/a	15,50	n/a
12	Tauragė	Pagėgiai IP	30	n/a	30,00	n/a
13		Tauragė IP	20	n/a	n/a	n/a
14	Vilnius	Ukmergė IP	n/a	n/a	n/a	n/a
15		Vilnius IP	180	n/a	n/a	n/a
16		Pagiriai IP	84	n/a	n/a	n/a

Discussions and conclusions

- Industrial park is potentially a major object of attraction, both from the perspective of foreign investors and residents of the surrounding cities. Planning a successful industrial park is a complicated task. IP infrastructure is one of the essential parts of this challenge to solve. Well-developed infrastructure makes the area more attractive as it is easier and faster for potential investors to set-up businesses.
- A significant part (almost 50%) of the areas designated for FEZ in Lithuania are still lacking infrastructure and need to be developed. In a competitive industrial park environment, being able to start a business quickly is a key factor in choosing an investment location. Therefore, the supply of prepared plots should be increased.
- The analysis also revealed that the most successful industrial territories in Lithuania according to the attracted investments are Kaunas and Klaipėda FEZ. In general, FEZ in Lithuania performs better than IP. Lithuania's experience in developing projects like these provides insights that the creation of basic infrastructure alone is not a decisive indicator for attracting an investor, there are other factors involved.
- The future research of industrial park development includes a detailed analysis of specific industrial park projects, land use efficiency calculations in terms of land value capturing before the implementation and after, and other researches.

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Thank you for listening.

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