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LOGISTIC CENTRES AS EXAMPLES OF LOGISTIC PROJECTS IN THE CONTEXT OF SUSTAINABLE DEVELOPMENT

1. Introduction

The Lisbon Strategy¹ and the European Union Sustainable Development Strategy² are social and economic programmes whose objectives include the transformation of the EU economies into a world leading economy. This objective is supported by the following actions, together with the proper concentration of expenditures of public means:

- quick adaptation to knowledge-based economy, including the development of information society, research and innovation, as well as the shaping of appropriate qualifications and skills;
- liberalisation and integration of the markets and sectors that the common market has not yet encompassed (telecommunication, power engineering, transport, postal services, financial services);
- business development: deregulation and elimination of administrative and legal obstacles, easier access to capital and technology, the limitation of state aid that hampers competitiveness, the creation of an equal field for competition;
- increase in employment and a shift in the social model: more professional activity, better education, modernised social security systems, limited poverty and social seclusion;
- taking care of sustainable development bases and the environment.

¹ *The Lisbon European Council – An Agenda of Economic and Social Renewal for Europe*, Contribution of the European Council to Special European Council in Lisbon, 23-23 March 2000, DOC/00/7; *Strategia lizbońska – droga do sukcesu zjednoczonej Europy*, Urząd Komitetu Integracji Europejskiej, Warszawa 2002.

² *Renewed EU Sustainable Development Strategy*, Council of the European Union, 10117/06, Brussels 2006.

The objectives of the strategy like economic growth, increase in employment or innovation, together with the priorities set forth in 2001 in Gothenburg³, namely the improvement of the quality of the environment and sustainable development, require the implementation of different methods and tools that facilitate sustainability⁴.

So far, development strategies, environmental policies and other kinds of Polish and European documents on sustainable development emphasised the importance of resource acquisition, production sustainability, consumption sustainability, waste disposal sustainability, soil protection, air protection, water protection or the prevention of climatic changes.

This paper, which is a result of the author's research, attempts to point to logistic centres as examples of logistic projects, being significant tools that may facilitate competitiveness and speed up, or at least smooth the process of sustainable development. Logistic centres as instruments of development sustainability may seem a controversial idea, yet the author wishes to prove the thesis, indicating that:

- logistic centres support the dematerialisation of processes of cooperating business entities, as they limit and/or eliminate the necessity of the entities using their own power supply, means of transport and tools,
- development of logistic centres facilitates intelligent structuration that increases the eco-effectiveness and the competitiveness of cooperating business entities,
- being multi-functional systems that integrate services at a given spatial point, logistic centres facilitate effective development of the space.

Moreover, the article emphasises the role of central logistic policy in solving the problems of logistic centres as logistic projects that play an important role in the improvement of physical and information flows within supply chains and sustainable development itself.

³ *A Sustainable Europe for a Better World: A European Strategy for Sustainable Development*, European Commission, COM(2001)264 final, Gothenburg 2001.

⁴ *More on sustainable development*, e.g. in: T. Borys, *Spory wokół pojęcia zrównoważonego rozwoju*, [w:] S. Czajka (red.), *Zrównoważony rozwój – doświadczenia polskie i europejskie*, Wydawnictwo I-BiS, Wrocław 2005; B. Fiedor, *Problemy trwałego rozwoju (Sustainable Development)*, Wydawnictwo I-BiS, Wrocław 2000; R. Janikowski, *Zarządzanie antropopresją – w kierunku zrównoważonego rozwoju społeczeństwa i gospodarki*, Difin, Warszawa 2004; R. Janikowski, *Zarządzanie ekologiczne*, Akademicka Oficyna Wydawnicza PLJ, Warszawa 1999; S. Kozłowski, *Zrównoważony rozwój – wyzwanie przyszłości*, „Człowiek i Przyroda” 1996 nr 5, s. 5-27; F. Piontek, *Globalizacja a rozwój zrównoważony i trwały*, „Problemy Ekologii” 2003 nr 1, s. 3-12; D. Reid, *Sustainable Development. An Introductory Guide*, Earthscan 1995; *The UE Sustainable Development Strategy. A Framework for Indicators*, Pascal Wolf-Eurostat E5. Seventh Meeting of the ESS Task Force on Methodological Issues for SDI, SDI Workshop, Stockholm, February 2004; G. Zabłocki, *Rozwój zrównoważony. Idee, efekty, kontrowersje*, Uniwersytet M. Kopernika, Toruń 2002.

2. Logistic centres as development sustainability tools

In this article we shall use B. Rodawski and J. Witkowski's definition of logistic projects as *single, time-limited and budget-limited enterprises (tasks) whose accomplishment facilitates effectiveness of product flows and accompanying information within companies, supply chains or spatial layouts*⁵. Our definition of logistic centres will be a compilation of different descriptions known in the literature and logistic practice. According to it, *a logistic centre is an independent object located at the intersection of different branches of transport which has got its own separate piece of land with infrastructure (access roads, car parks, warehouse areas, engine-ring buildings, loading terminal facilities, etc.), where logistic services are provided (reception, transport, warehousing, consolidation, deconsolidation, packaging, etc.)*⁶. In the light of the above mentioned definitions, logistic centres can be seen as examples of logistic projects which do not only facilitate effectiveness of product flows and accompanying information within companies, supply chains or spatial layouts, but which also facilitate sustainable development. For this type of entities, standard requirements that may be regarded as favourable for development sustainability include:

- multimodality (access to different branches of transport),
- multi-functionality (wide range of services),
- availability (services offers for numerous entities),
- value added (creating macro advantages for regional development and micro advantages for logistic chains participants or single business entities),
- integration function (creating favourable conditions for cooperation among companies of different fields, creating platforms that integrate participants),
- IT support (introducing state-of-the-art. information technology).

Logistic centres allow their customers:

- to focus on production,
- not to incur unnecessary expenses while creating new warehouses (which would occupy more space),
- to lower the stock in commodity turnover,

⁵ B. Rodawski, J. Witkowski, *Pojęcie i typologia projektów logistycznych*, „Gospodarka Materialowa & Logistyka” 2007 nr 3.

⁶ Definitions, functions, divisions and objectives of logistic centres described in: H. Brdulak: *Rynek usług transportowo- spedycyjno- logistycznych (TSL) w Polsce*, „Logistyka” 2003 nr 2, pp. 10-11; M. Chaberek, *Integracyjna funkcja centrów logistycznych*, „Spedycja i Transport” 2000 nr 7; I. Fechner, *Centra logistyczne. Cel-realizacja-przyszłość*, Instytut Logistyki i Magazynowania, Poznań 2004; B. Hentschel, S. Krzyżaniak, *Usługi logistyczne na współczesnym rynku wymiany towarowej*. Instytut Logistyki i Magazynowania, Poznań 1999; E. Mendyk, *Teoria a praktyka polskich centrów logistycznych*, „Logistyka” 2001 nr 5, 18-19; L. Mindur, *Metodyka lokalizacji i kształtowania centrów logistycznych w Polsce*, Kolejowa Oficyna Wydawnicza, Warszawa 2000; A. Wojciechowski, M.R. Tumas, *Centra logistyczne- można i tak*, „Logistyka” 2002 nr 6, p. 45.

- not to incur expenses involving purchase of means of transport (which would add to numerous eco-unfriendly vehicles),
- to improve the quality and regularity of supplies,
- to lower the cost of physical material flow,
- to increase productivity.

Thus, logistic centres (especially large, regional and international ones) facilitate sustainable development through:

- creation of rational structures and forms of regional usage of transport,
- relief of big city traffic infrastructure of a considerable number of transports, especially long-distance and transit shipping,
- incubation of activity within the scope of transferring of new logistic technologies, promoting new ideas in the field of commerce, transport or city traffic engineering,
- increase in intermodal cargo transport, thus limiting car transport,
- recovery of city central areas,
- limitation of subjectivised space,
- concentration of logistic infrastructure investments in one place.

Therefore, logistic centres may be seen as logistic projects, which essentially facilitate sustainable development.

3. Dematerialisation of logistic flows

An important feature of logistic centres that facilitates sustainable development is the fact that they limit and/or eliminate the necessity of cooperating entities using their own power supply, means of transport and tools. Logistic centres allow their customers to use services (either once or many times) that identically or similarly accomplish given logistic processes. In this way, from the customers' point of view, dematerialisation of a need or needs takes place and the dematerialisation may be derived from the logistic environmental imperative.

The concept of the logistic environmental imperative⁷ involves viewing logistic systems of single companies (or supply chains) as systems that process matter and/or energy and in this way satisfy needs connected with the execution of logistic processes (delivery, warehousing, transport, distribution, etc.). The necessity of removal of the effects of the satisfaction of the needs is also an issue here.

According to this concept, the execution of logistic processes should be based on four principles:

1. Selection principle, which involves selecting out of available methods of need satisfaction those that are alternative and the least harmful to the natural and social environment.

⁷ See: A. Skowrońska, *Koncepcja logistycznego imperatywu ekologicznego*, „Logistyka” 2007 nr 4, pp. 37-41.

2. Minimalisation principle, which focuses on the minimalisation of matter, energy and time consumption.

3. Maximilisation principle, which is based on increased effectiveness of space, matter, energy and time utilisation.

4. Segregation principle, which is based on minimalisation and segregated removal of side effects of the execution of logistic processes.

What results from the first principle of the logistic environmental imperative is that a given need of the logistic system of a company or the whole supply chain can be satisfied through different methods and functional forms of material, as well as different methods of time, space and energy use. It turns out that minimalisation of time, space and energy consumption in logistic processes may take place differently from the one resulting from the principle of minimalised consumption. There are methods of accomplishment of logistic processes, and the satisfaction of needs at the same time, which do not require (from the point of view of a company) using one's own energy, material, space or time. For example thanks to logistic centres it is possible to buy logistic services. In this way, from the perspective of business entities, that is customers of those centres, the dematerialisation of the need takes place. At the same time it is the realisation of two principles: economy in the application toward space, time, material and energy, and maximilisation of their effective use. This leads us to believe that the first principle of the logistic environmental imperative should be in full: the satisfaction of needs through services is less troublesome to the natural and social environment. The reason for this is the fact that giving service to many customers by one entity minimalises the bothersome influence of numerous means of transport, warehouses, sites, buildings and tools that would be necessary in case of self-sufficient satisfaction of needs by self-dependent entities.

According to the logistic environmental imperative, dematerialisation can be broadly seen as:

- using logistic service instead of independent accomplishment of logistic processes (logistic outsourcing);
- maximalisation of time when service is used.

Thus the development and the operation of logistic centres certainly helps to implement dematerialisation.

4. Intelligent structuring

Sustainable development is dependent on the behaviour of business entities, state organs and customers, in accordance with the principles of the eco-effective code, which in the logistic context include:

- intelligent structuring of methods and means connected with the accomplishment of logistic processes,

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- effective reuse of waste energy and matter resulting from the accomplishment of logistic processes,
 - environmental substitution of energy and matter, as well as other means connected with the accomplishment of logistic processes,
 - effective and maximal use of means connected with production, transport, delivery, warehousing, etc.,
 - effective and economical use of input energy and matter in the accomplishment of logistic processes.

The need to create and maintain well-equipped logistic centres⁸ is supported by the fact that the mere essence of such objects favours intelligent structuring and effective, maximal use of all means connected with the accomplishment of logistic processes.

The intelligent structuring of resources and supplies relies on a creative search for novel, efficient ways and means that enable delivery, production, warehousing, transport or distribution, the result of which is to be a more and more evolutionarily advanced structure of logistic processes.

Research proves that logistic operators within logistic centres often use combined transport. Actions aimed at joining all types of transport lead to better the development and the utilisation of the existing transport potential, decreased energy consumption, lower noise levels, minimised negative impact on the climate, etc.

Rich resources, strict specialisation and intelligent combination of transport and systems of delivery, production and distribution make it possible to optimise actions and implement and constantly upgraded activities effective methods of delivery, transport, reloading, division and distribution of goods.

Proper management of logistic centres⁹ undoubtedly facilitates the accomplishment of the remaining principles of the eco-effective code.

It must be mentioned that the development of logistic centres is consistent with the current tendency to introduce changes to the gross domestic product structure, in which services play a more and more important role. This leads us to believe that creating logistic centres, which offer a wide variety of services, is a manifestation of intelligent structuring that increases eco-effectiveness.

⁸ The author believes that there should be a governmental strategic programme for building logistic centres, which could facilitate investments, guarantee financial means for investments, solve the question of gaining ground, create a system of incentives for strategic investors and concentrate on real development of logistic infrastructure.

⁹ The author sees proper management as management that complies with the following principles of sustainable development: the use of space, energy and matter, which are all recoverable; the use of renewable matter and energy only when they cannot be substituted by recoverable resources; economical and efficient use of time, space, matter and energy; the transfer of processed matter and energy back to the environment only when they cannot be reused.

5. Effective space use

Space, seen as a piece of land, is counted among non-augmentable and non-renewable natural resources. As with other types of such resources, it must be treated specially and rationally.

Space can be divided into¹⁰:

- non-subjectivised space, i.e. non-developed (oceans, seas, meadows, fields, forests, mountains, parks, gardens, etc.),
- subjectivised space, i.e. developed (residential houses, production plants, warehouses, commercial buildings, terminals, etc.).

Space, as non-augmentative resource, should be shaped in an orderly and sustainable way and managed rationally, efficiently and economically.

Space sustainability requires a holistic point of view and properly shaped relations between subjectivised and non-subjectivised space. Proper shaping of the fields of activity, business and innovation seems very important here.

Space development in accordance with the principles of sustainable development also involves searching for alternative infrastructure solutions concerning e.g. transport. Transport (mainly road transport) is one of the factors that are seen as considerably harmful to the environment. Therefore, what seems to be important is: planning of real transport alternatives in every spatial scale; striving for sustainable transport; aiming at lower environmental costs; economical resource management; multifunctionality of particular areas and joining of complementary functions¹¹.

The starting point, which supports the thesis that logistic centres facilitate effective and sustainable spatial development, are the guidelines of the *Concept of National Spatial Development Policy*, the act of 27 March 2003 on spatial planning and development¹² and Kolodziejcki's paradigm¹³, which recommends the following direction of transformation:

¹⁰ A. Bańka, *Behawioralne podstawy projektowania architektonicznego*, Wydawnictwo Politechniki Poznańskiej, Poznań 1984; A. Bańka, *Psychologiczna struktura projektowania środowiska. Studium przestrzeni architektonicznej*, Wydawnictwo Politechniki Poznańskiej, Poznań 1985.

¹¹ More on spatial development in accordance with sustainable development principles in e.g. P. Lorens, *Zrównoważony rozwój a gospodarka przestrzenną*, in: T. Borys (ed.), *Zarządzanie zrównoważonym rozwojem. Agenda 21 w Polsce – 10 lat po Rio*, Wydawnictwo Ekonomia i Środowisko, Białystok 2003; Obwieszczenie Prezesa Rady Ministrów z dnia 26 lipca 2001 r. o ogłoszeniu Koncepcji polityki przestrzennego zagospodarowania kraju (MP nr 26, poz. 432); Ustawa z dnia 27 marca 2003 r. o planowaniu i zagospodarowaniu przestrzennym (DzU 2003 nr 80, poz. 717).

¹² Decision issued by Prime Minister on 26 July 2001 on national spatial development (MP No. 26, par. 432); act of 27 March 2003 on spatial planning and development (Journal of Laws, 2003, No. 80, par. 717).

¹³ J. Kołodziejcki, *Koncepcja polityki przestrzennego zagospodarowania kraju. Polska 2000 plus*, Centralny Urząd Planowania, Warsaw 1995; J. Kołodziejcki, *Polska przestrzeń a wyzwania XXI wieku*, Polska Akademia Nauk Komitet Przestrzennego Zagospodarowania Kraju, Biuletyn, Vol. 176, Warsaw 1997; J. Kołodziejcki, *W sprawie nowego paradygmatu kształtowania polskiej przestrzeni*, [w:] A. Kuliński (red.), *Polska przestrzeń w perspektywie długiego trwania*, Polska Akademia Nauk Komitet Przestrzennego Zagospodarowania Kraju, Biuletyn, Vol. 178, Warszawa 1997.

- from closed space to open space,
- from monopolistic space to competitive space,
- from ineffective space to effective space,
- from dirty space to clean space,
- from routine space to innovative space,
- from negative uniformist space to richly diverse, technological, cultural and environmental space.

In view of the above, it can be concluded that:

1. Logistic centres seem to be the best investment option, combining economic and environmental objectives. Every entity that conducts its own logistic activities and processes, is governed by individual aims, different assessment and evaluation criteria, partial calculations of incurred expenses and resulting effects, or autonomous and contradictory aspirations which lead to the increased use of resources, energy, matter and sometimes increasingly conflicting objectives in the conditions of limited resources.

2. Logistic centres provide spatial order¹⁴, as in comparison with the appropriation of space by numerous entities that accomplish their own logistic processes, concentration and centralisation of services in a given place find expression in better functionality of logistic centres, rational space usage, as well as logical, legible and clear space structures occupied by them.

3. The compact structure of logistic centres leads to decreased spatial and environmental degradation, the limitation of unnecessary expansion of subjectivised space or even to the release of space. That is due to the fact that thanks to logistic centres, it is possible to eliminate and/or limit the appropriation of space designed for warehouses, different types of halls, car parks, flat grounds, platforms etc. by independent business entities (centres' customers).

4. Thanks to logistic centres, it is possible to execute one of the basic features of sustainable development in relation to space which is connected with the aspiration after the intensification of the existing structures and the improvement of the effectiveness of their use.

5. Logistic centres, while combining complementary functions, support economy rationalisation with resources, matter and energy. Therefore, in a long-term perspective, logistic centres (through the specialisation and the development of new technologies) bring about substantial structural changes that are connected with lower absorptive power for materials, energy and capital. With no logistic centres, when single companies are held responsible for logistic processes like production, warehousing, loading, reloading, unloading or shipping, the consumption of resources, energy and matter increases.

¹⁴ According to a national spatial development concept (MP No. 26, par. 432), spatial order should find expression in harmony, order, proportion and sustainability of surrounding factors.

6. Logistic centres, through offering the wide ranges of logistic service packages to numerous customers, make it possible to maximise the effectiveness of space occupied by them, and also to use the space in a multi-functional way, which facilitates space integration (see Fig. 1 and Fig. 2).

Viewing logistic centres as tools of sustainable development is a circumstance to their further development. What is even more, according to the concept of na-

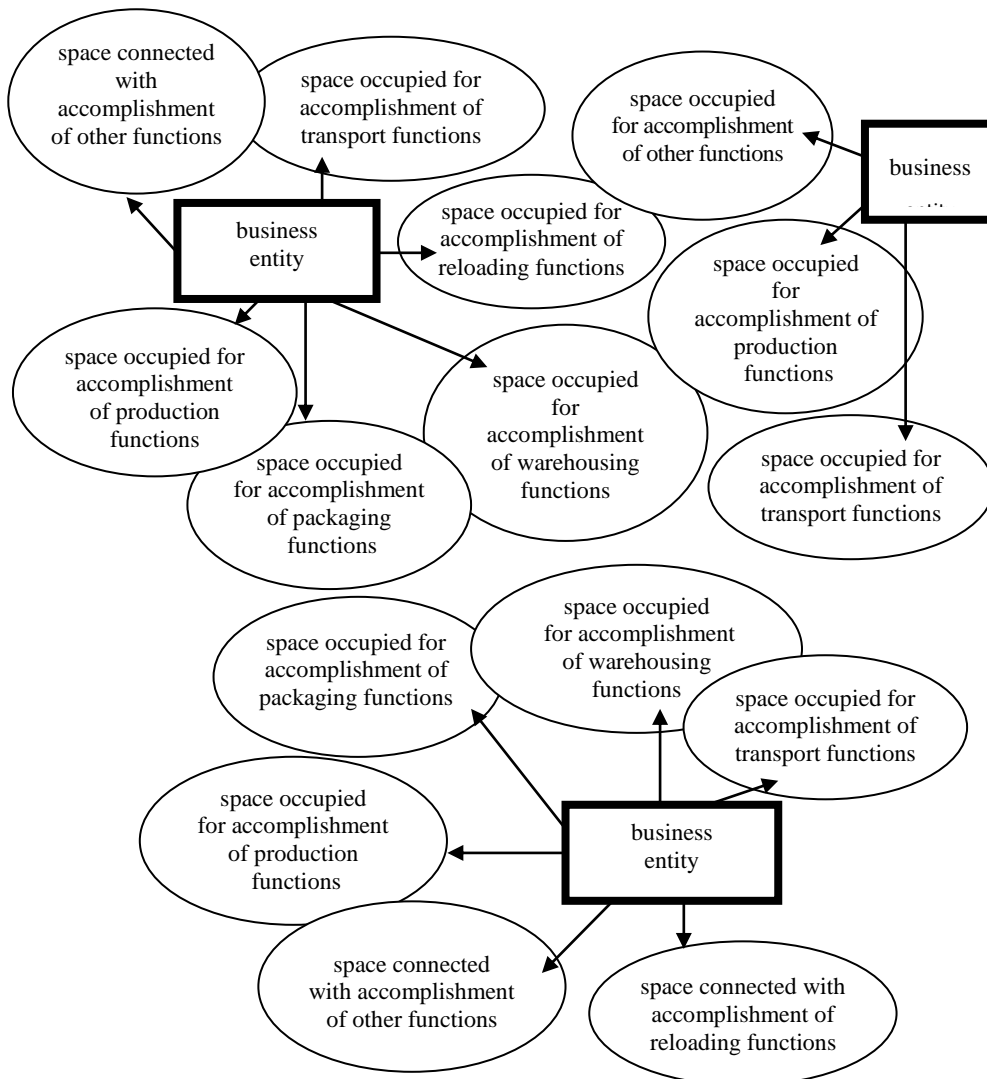


Fig. 1. Disintegrated space (without logistic centres)

Source: the author's research.

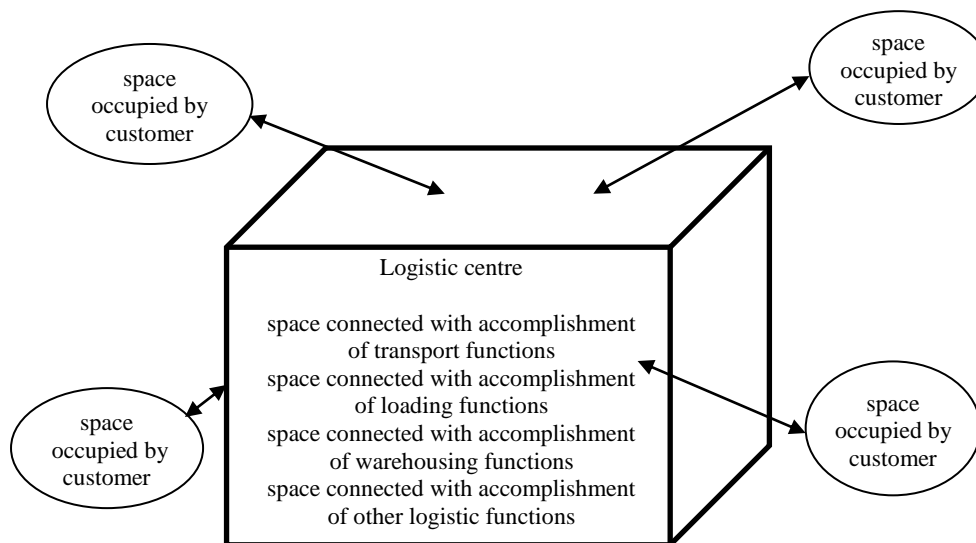


Fig. 2. Integrated space (with a logistic centre)

Source: the author's research.

tional spatial development¹⁵, it is necessary to shape e.g. space that is open to Europe and the world, space that generates European relations and links, space that is competitive, innovative and effective, space that creates conditions in which entities end up with competitive effects, space that is environmentally clean, space that lays foundations for stable sustainable development for generations to come.

6. The role of state's logistic policy in controlling the development of logistic centres

With the ever-growing macroeconomic importance of logistics and the more and more separate and significant logistic sector, which contributes to the generation of the gross domestic product and actively influences economy, society, environment and space, it seems indispensable to direct the traditional transport policy toward logistic policy¹⁶. The policy, through a programme of purposeful, direct and

¹⁵ Decision issued by Prime Minister on 26 July 2001 on national spatial development (MP No. 26, par. 432).

¹⁶ More on the new type of economic policy, namely logistics, in: J. Witkowski, *Polityka logistyczna nowym rodzajem polityki gospodarczej państwa*, [w:] M. Sołtysik (red.), *Kierunki rozwoju logistyki w Polsce w świetle tendencji światowych*, Wydawnictwo AE, Katowice 2004, pp. 54-62; A. Skowrońska, *Rola logistyki w polityce gospodarczej państwa*, „*Ekonomika i Organizacja Przedsiębiorstwa*” 2006 nr 6, pp. 35-42; A. Skowrońska, *Globalne trendy cywilizacyjne podstawą europejskiej polityki logistycznej*, „*Gospodarka Materiałowa & Logistyka*” 2007 nr 1, pp. 15-18; A. Skowrońska, *Polityka logistyczna na świecie*, „*Gospodarka Materiałowa & Logistyka*” 2007 nr 9, pp. 9-17.

indirect pressure and through competent institutions, could not only strengthen the logistic sector, but also solve the problem of logistic centres, which in the light of the aforesaid analysis are a perfect tool of improving physical and information flows and facilitating sustainable development. The political, economic and social changes in Central and Eastern Europe has brought about some definite and manifest spatial implications. A negative example might be Poland. So far, the development of logistic centres in Poland has been rather a spontaneous process. Numerous minor centres have appeared, out of which few are attended to by several types of transport. The introduction of logistic policy might direct logistic policy into planned development, which could contribute to the elimination of some negative implications caused by the spontaneous, unplanned and free-market development of logistic policy. These implications include: fighting for a place within the space, making the conditions for gaining ground and developing precious and attractive land be dictated by investors with the largest capital; certain ennoblement of selected space fragments by locating trade centres, business centres, logistic centres or industrial companies there; space degradation and formation of poor and neglected areas; development and intensification of spatial and social distances. Logistic policy could facilitate tidying of the space and the author would like to point to the fact that spatially well-located logistic centres combining with traffic networks become the kernel of the place which decides about its future and contributes to its spatial order.

While choosing instruments concerning the development of logistic centres, the state should consider such market instruments as¹⁷:

- development of a special act to regulate the issue of creating logistic centres, pointing to financing sources for the centres,
- creation of a central programme for the creation of logistic centres that would be public purpose investments,
- appointment of public institutions to initiate logistic centres,
- stimulation of investment initiatives within public private partnerships,
- administrative simplification in relation to location procedures,
- introduction of tax allowances and/or lower tax rates.

The aim of logistic policy that is directed towards logistic centres should be the correlation of their development with the concept of national spatial development and more emphasis on the necessity of public private partnerships. Initiating their development, one could use a solution where private companies create them, and the public sector monitors marketing processes and adjusts the imperfections of the market by, for instance, changing a cluster of logistic entities into a network based on cooperation. While creating a system of protections and financial incentives,

¹⁷ More in: D. Drzazga, *Rola centrów logistycznych w rozwoju gospodarczym i przestrzennym kraju – wnioski i rekomendacje dla władz rządowych i samorządowych*, [w:] T. Markowski, *Rola centrów logistycznych w rozwoju gospodarczym i przestrzennym kraju*, Biuletyn, Vol. 225, Polska Akademia Nauk, Komitet Przestrzennego Zagospodarowania Kraju, Warszawa 2006, pp. 18-19.

and participating in investments, the public sector could in advance protect the risk and attract investors. Yet such an approach would require a system of standard economic criteria for granting financial aid to proposed logistic centre projects from the public sector. The role of the private sector in establishing logistic centres seems quite obvious. Logistic centres as business entities are to function commercially and their operators, as any other private entity, are profit-oriented. As logistic centres mainly cooperate with industrial entities, the necessity to introduce the private sector in their development also results from the fact that private entrepreneurs are customers of such centres, providing information that a given place needs a logistic centre.

7. Final remarks

Development processes in developed countries lead to a situation where there are more and more business entities in the market. Those entities conduct processes connected with delivery, production, transport, warehousing, reloading, packaging, distribution, etc., influence the environment and consume space, matter and energy.

A comparative analysis of the influence of numerous entities, both individual companies conducting logistic processes and complex logistic centres, indicates that logistic centres should be treated as a significant tool of sustainable development.

The development of logistic centres may play two roles. On the one hand, they might help to respect ever-stricter environmental quality standards (a logistic centre and its services within a supply chain or for individual companies helps its customers to save and optimally use space, time, matter and energy). On the other hand, the development of logistic centres will most probably contribute to better competitiveness of customer companies (full integration of logistic processes makes it possible to effectively plan investments aimed at automation or mechanisation of material and product flow activities; integration processes lead to uniform objectives regarding distribution, production and delivery, where no so-called suboptimalisation of actions takes place; integration of logistic processes facilitates better control over conducted activities; integrated management of logistic processes is an enhanced source of innovation) and will consequently lead to the economic growth and the increased competitiveness of EU national economics¹⁸.

The accomplishment of the European Union Sustainable Development Strategy will require a significant increase in investments. At the same time, the long-term objective of sustainable development purports a perfect chance for the development of logistic centres as a significant tool of development sustainability. The author

¹⁸ A. Jeziński, *Czynniki kształtujące funkcje logistyczne centrów dystrybucyjnych*, [w:] M. Chaberek (red.), *Modelowanie procesów i systemów logistycznych*, „*Ekonomika Transportu Lądowego*” nr 24, Wydawnictwo Uniwersytetu Gdańskiego, Gdańsk 2002.

would like to emphasize the fact that it is the state that should play an enormous role in this process, introducing intentional direct and direct programmes so as to solve important yet still unsettled questions involving the development of logistic centres.

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CENTRA LOGISTYCZNE JAKO PRZYKŁAD PROJEKTÓW LOGISTYCZNYCH W KONTEKŚCIE ZRÓWNOWAŻONEGO ROZWOJU

Streszczenie

Celem opracowania jest wskazanie na centra logistyczne jako przykład projektów logistycznych stanowiących istotne narzędzia, które mogą zarówno zwiększyć konkurencyjność, jak i przyspieszyć, a niewątpliwie ułatwić równoważenie rozwoju.

W artykule opisano centra logistyczne jako obiekty: sprzyjające dematerializacji procesów współdziałających z nimi podmiotów gospodarczych; służące inteligentnej strukturalizacji zwiększającej efektywność i konkurencyjność współpracujących z nimi przedsiębiorstw. Podkreślono również wielofunkcyjność centrów logistycznych jako istotny element sprzyjający efektywnemu zagospodarowaniu przestrzeni.

W artykule wskazano poza tym na rolę polityki logistycznej państwa w rozwiązywaniu problemów centrów logistycznych jako przykładu projektów logistycznych, odgrywających istotną rolę w usprawnianiu przepływów fizycznych i informacyjnych w łańcuchach dostaw i ułatwianiu równoważenia rozwoju.