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Contracting logistic services by military airports on the civil market

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ABSTRACT

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Contemporary armed conflicts are characterized by the volatility and unpredictability of activities that may be surprising in terms of scale, location and time. In the war, especially in the battle for air control, the enemy would strive to destroy the military airfields. The question then arises: is there a possibility to strengthen or to take over some of their tasks to prepare for the rapid neutralization of the resulting "cracks" in the logistics system. One of the possible solutions is the contracting of various logistic services on the civil market. The article describes the essence of outsourcing, characterises the military airport and identifies the capabilities of civil logistics companies. In conclusion is presented the list of suggested solutions the use of civilian companies for military airports.

1. Introduction

The motto presented above from the book titled: "War and anti-war" [1] shows that relations and relationships between warfare and the national economy have become bilateral. Modern methods of conducting wars force the searching for rational (or even better optimized) ways of logistic security of troops. This is evidenced by the dynamic changes occurring in the theory of warfare, determined by the deployment of modern warfare equipment on armaments. They cause a systematic increase in the army's demand for supplies and the provision of a wider range of logistics services. It is obvious that this need must be accompanied by the continuous development of logistical potential and support through civilian logistics solutions (eg logistic companies), because once the civilian logistics used the achievements of military logistics, nowadays it may be reversed.

Especially in the first phase of the war, the opponent will focus its efforts primarily on the destruction and disorganization of military logistics infrastructure, including military airports. Consequently, this may lead to inefficiency of the operating system and the complete collapse of the logistics process of securing air operations.

Thus there was not only the problem of the adequate logistic improvement of military airports, prudent usage of its forces, but also its empowerment through other products. One possible solution to this problem may be the use of a well-functioning civilian infrastructure system and any civilian logistical resources (human, material, technical, etc.). Therefore, civilian logistic companies with their advantages and capabilities can be an invaluable source of all goods and services for military airports.

Logistic companies, thanks to their characteristic values expressed in multi-variance and complexity of services, flexibility, mobility and modernity of equipment and infrastructure, play a decisive role in the warehousing and transport processes of the national economy. Their appropriate use contributes to reducing the need to maintain and consume logistical capabilities during the peace period, increasing logistical security guarantees during the war, increase the multivariate of provided logistic services, improving cooperation between military and civilian territorial logistics, and making logistic tasks more flexible.

Adopting such solution will result in a relief in the organic logistics of military airports, will provide better service quality and will result in significant financial savings. Hence, the main aim of the article is to identify the potential for civilian companies to use military logistical support in period of peace and period of military crisis.

2. Characteristics of the military airport

In the area of the Republic of Poland there are 29 airports and airstrips [2] (18 of them are active) belonging to different types of Armed Forces: Land Forces, Navy and Air Forces. As demonstrated by the experiences of past armed conflicts, military airports are the primary target of attacks for the enemy. The military airport is one of the most important strategic military objects which ensures keeping the battle potential (of aircraft) in the suitable efficiency and the fighting readiness in the period of the peace, the crisis and the war. Due to its meaning for the defence system of the state, the airport constitutes the primary source of the influence of criminal groups, terrorist and of military opponent.

According to the Rules of Procedure, **a military airport** is an airport used by the National Defense Agency for defense and security purposes, and a shared airport located in a state owned area under permanent management of organizational units subordinate to the Minister of National Defense, entered in the register of airports and military airfields [3].

Military airport – it is a surface object occupying an average of about 600-700 ha with a circumference of 20-30 km, apparently contrasting against the background of the environment. There are point and line objects, difficult and sometimes impossible to hide from the opponent with various means of recognition.

This is a specially prepared and equipped area with buildings and equipment to provide a take-off and a landing, arrangement and servicing of aircrafts. So within the airport you can distinguish the part serving the technical service of aircraft during take-off and landing: runways, taxiways, aircraft stoppings, hangars, air-traffic control tower, guidance equipment, and administrative/logistic part, which means warehouses, transport Equipment Park, etc. To maintain such a large object and infrastructure, human potential of different levels of management and specialization is needed.

Therefore, in its organizational structure, the air force, as a security unit, possesses services and subdivisions that provide for durable maintenance of the operational readiness of the airport and to carry out combat security duties. There are six basic elements in the organizational structure: the staff, the logistics division, the infrastructure team, the maintenance group, the maintenance group and the support group. In terms of the discussed issues, the three elements: support group, logistics division and infrastructure are designed for comprehensive security tasks in the planning and operation of airport, transport and supply and storage infrastructure. The support group is also responsible for the smooth operation of the flight control and flight insurance system.

3. The nature of the outsourcing

Outsourcing is one of the most popular management ideas applied these days by many private and national organizations. The very concept of "outsourcing" comes from the combination of two words: outside and resource. The outsourcing consists in identifying certain functions from the organization's structure and handing over them in order to execute to the external organizational unit.

Initially, the aforementioned method was used primarily by manufacturing companies who, by seeking savings, acquired semi-finished products from other manufacturers, thus focusing on the company's main objectives. Currently, outsourcing is an enterprise management concept that seeks to increase the level of its operational efficiency.

With the passage of time and with development of the outsourcing, many theorists also developed theoretical aspects of this concept. J.L. Bravard, R. Morgan describe it as [4]:

- contracted use of resources, assets and skills of third parties with a guaranteed degree of quality, flexibility and value;
- providing services that were previously made within the company with possible transfer of current employees to an external service provider;
- and (or) transformation or renovation of processes and technologies that require business operations.

In the literature the subject Maurice F. Greaver defines, outsourcing as transferring to service providers the repetitive internal tasks of the organization related to their execution of employees, machines, equipment, equipment, technology and other resources, and the decision-making power to use them in accordance with the terms of the contract [5].

Contemporary organizations are exposed to challenges, other than those of the past, located in their environment, which affects the creation of new ones and the development of existing management methods [6]. They assume among others reduction of fixed costs for variable costs. This effect is due to a very flexible market, which is characterized by high impetuosity and irregularity.

The essence of outsourcing has been well described in T. Koczyński's definition that [...] this is the separation from the organizational structure or the transfer of certain functions and management responsibilities to the external organizational unit and the establishment of partner relationships with it to improve efficiency of functioning of the company [7].

Variety of outsourcing is logistic outsourcing, which involves separating from the organizational structure and transferring specific logistics functions and management responsibilities to the external logistics provider based on the long-term agreement, with the need to establish a partnership between the client and the receiver in order to improve the functioning of the organization applying this solution.

The most important advantages of outsourcing include: personnel reduction, saving time, focusing on the most important competences of the organization, increasing in production and improvement in the quality, access to technology. All these factors lead to a reduction in the costs previously incurred by the company. Such a state of affairs is the result of abandoning the acquisition of new technologies, changing the structure of the company etc. It allows to dedicate the saved resources to the development of the main competences.

Many of the advantages are also followed by the risks which, due to the most common occurrence, include: fluctuations in the relations with the supplier, deterioration in the quality of services, dependence on the supplier over a previously established level, problems on the employment rate (fear of losing jobs), and the possibility of losing sensitive data. The most dangerous risks can be attributed to the personal problems that arise when implementing outsourcing, especially when it comes to deciding to reduce employment or transfer employees to other posts. This threat poses a number of other issues, including boycotts, strikes and, in extreme cases, the "exit" of sensitive data to the competition.

4. Capabilities of civilian logistic companies

The analysis of the source material [8] shows that *the logistic company is defined as well-organized nodes (platforms) or logistics service centers and their assemblers, in which the directions and locations of transport routes and terminals, as well as sources of market information, are concentrated and crossed.*

The logistic company is characterized by a number of specific features, first of all: they are objects located at the intersection of major transport routes with access to as many transport lines as possible, equipped with telecommunication infrastructure, depending on the purpose and scope of the task, offering a full or limited package of logistics services by locating transportation companies, logistics service providers, and intensive use of logistics services for industrial and commercial companies within one industrial park.

Around 1500 different logistic companies operate in the country.

TABLE 1. THE LARGEST LOGISTIC COMPANIES ON THE POLISH MARKET

No.	Company name	Range of activity	Type of ownership	Capital
Logistic services				
1.	Grupa Raben	European	Private	Foreign
2.	Spedpol SP. z o.o.	European	Private	Mixed
3.	FM Logistic Sp. z o.o.	European	Private	Foreign
4.	Kuhne& Nagel Sp. z o.o.	European	Private	Foreign
5.	Gefco	European	Private	Foreign
6.	Wincanton	Global	Private	Foreign
TABLE 1.con				
7.	Girard Polska	European	Private	Foreign
8.	Servisco Sp. z o.o.	European	Private	Mixed
9.	Messenger Service Stolica S.A.	European	Private	Mixed
10.	Masterlink Express Sp. z o.o.	European	Private	Foreign
11.	Helmann Moritz International Forwarders Sp z o.o.	European	Private	Mixed
12.	Spedition Rosner Möbeltransporte Sp z o.o.	European	Private	Foreign
13.	Fastrack SA	European	Private	Polish
14.	No Limit Sp. Z o.o.	European	Private	Polish
Road transport				
1.	Delta Trans	Global	Private	Mixed
2.	PKS Multi Spedytor Sp z o.o.	European	State-owned	Polski
3.	Schenker Sp z o.o.	European	Private	Mixed
4.	C. Hartwig S.A.	European	State-owned	Polish
5.	CJ International Ltd.	European	Private	Mixed
6.	Labatra Sp z o.o.	European	Private	Foreign
7.	Euroad Sp. z o.o.	European	Private	Mixed
8.	Erotrans Sp. z o.o.	European	Private	Polish
9.	ZTE Radom Sp z o.o.	European	Private	Polish
10.	HSW Zakład Transportu Sp z o.o.	European	State-owned	Polish
Air transport				
1.	PL LOT	Global	State-owned	Polish
Inland transport				
1.	Odra Trans	National	State-owned	Polish
Rail transport,				
1.	Grupa PKP S.A.	European	State-owned	Polish
2.	Pol-Mieź Trans Sp. z o.o.	National	State-owned	Polish
3.	Cemet S.A.	National	State-owned	Mixed
4.	Przedsiębiorstwo Spedycyjne Trade Trans Sp. z o.o.	European	Private	Mixed
5.	Przedsiębiorstwo Spedycji Międzynarodowej C. Hartwig-Katowice S.A.	European	State-owned	Polish
6.	Agencja Celna Trans-Sad Spedycja Międzynarodowa i Krajowa Sp z o.o.	European	Private	Polish
Maritime transport				
1.	C. Hartwig Gdynia S.A.	Global	Private	Polish
2.	Tirsped Sp z o.o.	Global	Private	Polish
3.	Euroafrika	Global	Private	Foreign
4.	Pol-Levant	Global	Private	Foreign

Source: *Own elaboration.*

In considering logistic companies in terms of their logistical potential, reference was made to several components such as transport, human resources, infrastructure, technical equipment, and material resources. There are over a dozen companies offering transport services on the Polish market. Due to the low transport costs with very high transport capacities (medium to long distance haulage), one of the basic mean of

transport is rail transport¹. As a result of research it has been determined that the biggest passenger carrier in Poland is PKP S.A.; PKP Intercity Sp. z o.o., PKP Przewozy Regionalne Sp. z o.o., PKP Szybka Kolej Miejska Sp. z o.o., all of which form part of the PKP Group. They own carriages with 5354 seating and sleeping places. In the field of mass transportation the biggest company is PKP Cargo S.A. In addition, on the Polish market are still operating such companies as Pol-Mieź Trans Sp. z o.o.; Cemet S.A.; Trade Trans Sp. z o.o.; C. Hartwig-Katowice S.A. Trans-Sad Sp. z o.o. In turn, the dominant part of rolling stock consists of four axle wagons, whose loading capacity is on average 50% higher than two-axle wagons. The railway is a very versatile mean of transportation and executes the transport tasks for a wide range of customers, transporting: people, animals, motor vehicles, food, fabrics, mps products, etc. The specific type of customer are fighting troops and their requirements for timely delivery and products quality are much higher than the other customers. As a result of the dynamics of the actions and the destructive effects of the impact of the enemy, there will also be greater quantitative demand for the army and the supply of goods (food, medical and combat equipment and others).

It is easy to see, these are groups of goods massively carried by rail transport, regardless of the different times of the day or season of the year and the various weather conditions. This constitutes the simplicity of using this mean of transport for the military airports, without its additional preparation and modernization. It should be also pointed out that for the needs of military airports, because of their location near large rivers, waterway transport may be also used. Waterway transport (compared to railroad) is also characterized by relatively low costs for the transport of large and uniform quantities of goods over significant distances. As a consequence, inland waterway transport is very important in transport processes. The most frequently used inland waterways in Poland are the Odra, Vistula and Warta rivers and the artificial canals (Gliwice, Bydgoszcz). This is due to the direct access of some of them (Silesian, Pomeranian, West Pomeranian, Greater Poland and Wroclaw) to the waterways channels and own river transport. The largest logistics companies in the field of inland transport include: Odra Trans, Navigator, Żegluga HTŚ. Sp. z o.o. |

On a near distance where speed and simplicity are very important, road transportation is used as more comfortable and maneuvering. The basic means of transport in road transport include lorries and sets: road tractor + semi-trailer, ballast tractor + semi-trailer. Cars and sets may be: universal (can be adapted to carry a certain group of loads) or special (to carry one particular load).

Road transport, due to the prevalence, well-developed roads network, and due to such features as high transport speed, maneuverability, relatively low sensitivity to enemy impacts, low dependence on weather conditions, etc., also belong to the main types of transport used by the military. Therefore, its quick adaptation to the operational standards of the Polish Air Force and NATO is possible. So many positive features make the transport of logistic companies, besides independent transport tasks for the army, constitutes alternative transport to other means of transport (eg rail transport and inland water transport). The disadvantages of car transport include the relatively short course of car columns (it takes a lot of time to load and unload the cargo, driving in car columns is also time-consuming) small load capacity of motor vehicles (compared to rolling stock and water) and large specific fuel consumption.

The fastest, and at the same time least-developed type of transport in the country is an air transport². Currently in Poland the largest trucking company in Poland is PL LOT company, however the transportation of goods by air takes place with the help of foreign carriers. The analysis of enclosed material shows that domestic air transport (passenger) is based on such types of aircraft as: Boeing of 767-200 Eras, 767-300 Eras, 737-500, 737-400, 737-300; ATR-72, 42; Turbolet L-410; Embraer EMB-145 and An-28. It is also possible to obtain transport aviation through logistic companies, but such a variant requires detailed calculations. Air transport due to its high speed, significant range and high maneuverability is very useful for military transport. In modern combat conditions, it will be used primarily for: transport of troops, equipment and supplies and the organization of sanitary evacuation.

The last of considered types of transport in logistical support of military airports is transport within the warehouse. It is designed to move products in the warehouse from the moment of unloading of the means of transport outside the loading front of the receptions, by storage in the storage warehouse, to the loading of means of transport outside the transshipment front by means of transport [9]. To the storage means of

transport include: lorry trucks, stacker cranes, cranes, overhead cranes, conveyors and manipulators. All of them constitute the ability to carry out logistical processes in warehouses and warehouses, and their number and type of use largely depends on the type of goods, its quantity, weight, dimensions and size of warehouses.

But what would be the modern transport sectors without the people with the appropriate specialist knowledge and ability to use it in practise, therefore the main component of the logistics potential of companies are human resources (specialists). Their number and qualifications result mainly from the need of the logistic execution of tasks and technical possibilities of the used logistic equipment. Personal state in civilian logistic companies, may be functionally divided into two fundamental groups of experts: technical-service and administrative. The technical-service group conducts projects, providing appropriate conditions for the provision of supply, transport and handling services, warehousing, economic and welfare services, etc. Moreover, it is dedicated to perform tasks aimed at ensuring the functioning of logistic equipment and equipment. In addition to the brigade leaders of various specialties, customer service staff, customs staff, repair crews, drivers, etc. In turn, the administrative group performs tasks related to exercising control over all the logistics processes of the company. Main tasks include team management (directors), consulting (lawyers), network administration (specialists), finance administration (accountants) data analysis (analysts) etc. The analysis of the organizational structure of logistic companies shows that on average there are between 500 and 1,500 employees in each of them (PKP companies - around 145,000 and PL LOT - about 8,000), which in turn gives us qualified and experienced logistics staff. With such a large manning, logistical support for the army in many areas can be successfully implemented.

A logistic infrastructure is another important component of the logistic potential of companies. The modern logistic company is carefully designed in terms of the area of infrastructure, the technique and the technology and operating needs. In the infrastructure, the majority of companies shall have:

- administrative buildings for the management board and the logistic operators of and other service providers;
- the warehouses serving various purposes and possibilities;
- the economic, social and welfare, medical infrastructure;
- warehouses, car parks, garages, sidetracks, containers; |
- Municipal Infrastructure (energy network, waterworks, district heating);
- Technological infrastructure (air-conditioning, ventilation, fire-fighting equipment).

Taking into account the possibility of using logistics infrastructure of companies in Air Force support processes it is possible to divide it into several groups. As qualifying criteria for a particular group, the following characteristics and properties are assumed:

- Influence on the execution of combat tasks by the SP operating system, which enables them to be divided into basic and auxiliary tasks. |
- Attitude, size and shape what allows to distinguish surface, linear and spot facilities. |
- Resistance to impact with a means of destruction, which allows them to be classified as resistant and low-resistant.
- Essential facilities in logistic companies (deciding on the possibility of service delivery) are: warehouses and transport facilities.

The most characteristic objects of this group are storage facilities [10]. Within this group can be distinguished: warehouses, tanks, silos, bunkers, storage squares. Due to technical and construction solutions the warehouses are divided into [11]: open, semi-open, closed and special. These facilities can be used to store military goods such as loose materials, liquids, mechanical equipment, gases, etc; furthermore, of different sizes, shapes and weights, and various types of products (food, chemicals,

medicine, clothing and more).

An unquestionable factor determining the use of warehouses for the needs of the military is their wide variety and convenient deployment in the territory of the country, including military airports. This enables it to easily and continuously supply Air Force in every region of the country and, on the other hand, makes it difficult to identify the enemy.

Additionally, in peacetime, selected logistics companies may maintain some resources for military products (eg. Hygiene accessories, clothing, food, mps means, medical, etc.). This will reduce the storage and transportation costs of the Armed Forces and will provide good storage conditions for the goods (the use of modern technology within equipment in warehouses), as a consequence ensuring the reliability of the equipment and the quality of the products, thereby ensures the implementation of military operations.

An essential logistics objects are also transport facilities. They include airports, ports (inland and marine) and railway stations.

One of the last considered components of logistic capabilities of civil logistic companies is technical equipment. Its quantitative and qualitative status and operational requirements determine the ability to perform logistic tasks. Technical equipment consists of special vehicles, engineering machinery, aggregates and other specialized equipment. The production work of various branches of transport is complemented by machines and equipment used for mechanized cargo work. They dynamize the processes of loading, unloading and handling, which affects the productivity of work throughout the transport. The basic machinery and equipment of cargo works include excavators, loaders, gantries, cranes, conveyors, loading trolleys and lifts. In warehouse operations, the flow of goods requires the use of a variety of storage devices (racks, hangers and special equipment) and auxiliary storage devices (devices for measuring product quantities, microclimate parameters in stock, palletizers, mechanical ramps, loading bridges, pallet slings) [12]. In general, technical equipment is primarily used to ensure proper operation of means of transport and logistics facilities. Considering its usefulness in the implementation of logistic processes, it should be concluded that some of its elements may also support the logistic activity of military units.

Part of the logistics potential necessary in the implementation of many of the logistics processes of the company (mainly the use of technical equipment) are material resources. These include components and spare parts for technical equipment, mps (automotive fuel, oils and greases), workwear, hygiene products, food products, medical supplies and more. Qualitative and quantitative requirements demand them to be maintained in appropriate quantity, quality and assortment at a reasonable location, while technical and technological requirements further define storage conditions and preparation prior to application. Distribution is expressed by the need to maintain a sufficient level of normative stocks in each supply chain.

5. Assumption of support for military airports by civilian companies

Civilian logistic companies may be intended for the comprehensive logistics support of military airports (providing troops with everything they need to live and fight), in all weather conditions and in a state of emergency. Contracting can be subject to such actions as [13]:

- Servicing (the weaponry, the military equipment, systems and specialist devices for the protection of objects);
- Providing for the needs for rising: of passenger vehicles and load-carrying, of sanitary cars, the handling equipment, machines, units and specialist devices;
- Utilization of warfare agents, rocket propellants, rubber articles, chemicals, disinfectants medical waste, expired medical products, veterinary medical products and veterinary waste, poisons and other waste;
- Train, sea and air transport;
- The gathering and storage of food stock, the uniform, fuels and medical products and medical products;
- Providing services of armie's general intrest (food and laundry services);

- Continuation of the armie's immibility (conservation, repairs, building inspections, the service and the exploitation of power systems, ventilation, public utilities, purchase of electricity, disposal services, cleaning of buildings, roads, squares and the green spaces, delivery of materials and everyday equipment, urban wastes management);
- Training of lorry and specialist vehicles drivers, operators of the special equipment, services and the maintenance crew staff, specialists of the aeronautical technique;
- Safeguarding Polish contingents into comprehensive nutrition, products supplies, laundry and repair services, and supplies of material means of universal use, organization of the campsites, accommodation, and social services and servicing the modern equipment.

With regard to military airports it, is possible to assume that civilian logistic companies can in peacetime fulfil the following tasks:

- Meeting the needs of the armies in the social and living and commercial areas;
- Supporting the medical manning;
- Arranging transport of people and the equipment;
- Satisfying all the armie's material needs, gathering, storage, maintenance, the issuing, recording and the material reporting;
- Transport and maintenance services of specialist and general equipment and conducting repair works of the buildings;
- Arranging protection of objects, equipment and the fire protection;
- Administration connected with from office management, bookkeeping and legal advices.

At the time of combat operations, civilian logistic companies using their potential could provide military airfields with additional maneuverability, combat readiness, and supply of material and technical resources, basic repair, and provision of social and living services. They will also evacuate their transportation to civilian and military hospitals in individual medical areas, requiring qualified medical specialists or hospitalization.

It can be predicted that, like any change, they may have both positive and negative dimensions. Similarly when using outsourcing at military airports. Discovering its essence and application can indicate both the advantages and disadvantages of this concept. The positive features of the use of outsourcing military airports include:

- Reduce costs by significantly "depleting" the human potential, focusing primarily on the basic tasks of aviation;
- Significant reduction of numbers of soldiers;
- Discharging soldiers who occupied completely unnecessary posts such as cooking or social services;
- Reaching modern technologies;
- Using the experience of outside companies;
- Significant limitation of costs associated with transport and stock services.

Analysis of the destination and tasks of logistic companies in relation to military airports, as well as the assessment of cooperation, shows that the best solution for military airports is to adopt a logistic support concept based on four components: executive, supplying, informative and structural. The executive element would constitute the organic forces and logistics facilities of the military airports which are the primary source of supply and the selected logistic companies as an additional source of supply. The supply component would create an external source of supply on the basis of other entities of the national economy (state and private enterprises) and foreign contractors. The informative element is an existing information flow system in organizations (logistic companies and aviation bases) that ensures the conditions for the supervision and management of logistical support, including the responsibilities of the

various command and control of authorities and the reporting for the accomplishment of the tasks. The structural element will be susceptible to changes in the military logistic system, providing flexibility for the organization and comprehensive conditions for receiving outside support - including From civil logistic companies.

In this situation, recognizing logistics companies as one of the possible sources of logistics support for military airports, two main stages of cooperation can be distinguished:

- Stage I - involving the acquisition by individual logistic companies of raw materials, products from external sources, not military. First and foremost, these will be resources accumulated in the national economy, in private and state-owned enterprises located within and outside the country, etc.;
- Stage II - consists in carrying out logistical tasks such as delivering products and services to the recipient. Logistics companies provide certain services and goods to the aviation bases.

6. Conclusions

Logistics, as one of the functional areas of the armed forces, has always been devoted to the theory and practice of martial arts as its impact on the ultimate effect of combat is as important as combat capability and command ability. Many historical examples, from antiquity to modern times, show that even with the latest advances in combat technology, victory can not be won without a well organized and operating supply system. It should be remembered that during the war, especially in its first phase, the main effort of the opponent will focus on the destruction and disorganization of the functioning of the logistics infrastructure of the Armed Forces of the Republic of Poland. As a consequence, this may lead to a failure of the operating system and a complete collapse of the military logistics system. It is therefore right to look for improved solutions to ensure the smooth operation and continuity and viability of logistics operations at military airports.

One of the possible solutions to this problem may be the use of a well-functioning civilian infrastructure system and any civilian logistical resources (human, material, technical, etc.). An important argument in favor of cooperation and the use of logistic companies for the needs of military airplanes is that being a NATO member we should have prepared variants of adaptation of the civilian economy to the needs of the Polish Armed Forces and also to the adoption of Allied Strength of the Reinforcement. There is, therefore, a need for a broad discussion about the

role and importance of logistic firms in the national economy, their activities, but also on how to integrate them into the national defense system.

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