Within the North Atlantic Treaty Organization/NATO we have in most cases operations and activities supported in a multinational environment, diverse and especially different in terms of technology and levels of training. The logistics of military actions is one of the pillars and basic factors taken into account right from the moment of their preparation, which initiates a widespread need to understand the phenomenon of multinational logistical support, both tactically and operationally, as well as issues related to legality, funding, responsibilities, limitations and constraints. We also believe that multinational logistical support must primarily reflect the interests of the state and, secondarily, the obligations of the state that generates the logistical support in accordance with the treaties, conventions and alliances to which it is a party. At the same time, we believe that the harmonization of national strategic cultures and logistics cultures is a major challenge that will find a rather difficult answer. Also, noting the current technological advancement but also the growing threats of Russia, we believe that defining on the territory of one of the NATO member states on the eastern border a large and rapid reaction logistical support capacity would be one of the solutions for ensuring the least material support of NATO’s eastern countries in the event of military aggression that would invoke Article 5. Major logistical support provided by the alliance could support frontline countries to military support from other members, thus decongesting the material burden, being able to focus on the conduct of combat actions.

**Keywords:** multinational logistics support; NATO; guidance; economics; logistics operations; financing.

**Introductory landmarks in multinational logistic support**

In a world in perpetual development, in which the level of interoperability knows values and levels unprecedented to this day, the challenges that arise are just as great. The challenges that NATO faces, especially on the eastern border of the alliance, determine ample military actions that take place in a multinational military environment (NATO 2019), actions through which the logistical support brings its contribution to a great extent.

Before identifying the main logistical challenges in NATO military operations, it is useful to approach the field of logistics in a general understanding. “Within the military organization, logistics is the field that materializes ensuring all the conditions for large units and units to fulfill their missions in the best possible conditions, involves the harmonization of the activities of specialized departments, so that, overall, logistics is carried out in conditions of efficiency and economy, and the combat troops should benefit from maximum logistical support at the right time and place” (Milandru 2015, 41). Logistics deals with the management, planning and implementation of the movement of resources and the support of the armed forces from the point of origin to the theater of operations and once the operation is completed, back to the point of origin. This includes transportation, maintenance, subsistence supply, ammunition, clothing, field services such as waste disposal, construction and operation of camps, guarding and security, infrastructure support, medical support and other services such as providing and maintenance of communication networks.

Timely and effective delivery of services is a crucial element of logistics. An operation will be difficult or blocked from the beginning to fulfill its mission, if the troops and equipment are not in time in the area of operation, if the force cannot be moved once deployed, or if supplies such as food and drinking water are not delivered on time. In addition, sustainability is an important issue and the flow of goods and services must be guaranteed. Logistics involves a chain of services whose disruption has immediate consequences.
on the overall efficiency and effectiveness of an operation.

The main challenges in the field of logistics are often summarized in the so-called 4D formula: distance, duration, destination and demand (Pap, Venekei 2018), these being simplified in Figure 1. This figure determines the most common challenges in planning and executing any logistical support action, be it tactical or strategic, local, national or multinational.

These issues need to be taken into account when planning the logistics of an operation and anticipating challenges. The logistics parameters differ for each management context of the operation and must be adjusted to the realities of the operating area and the limitations of the support chain. Limitations are likely to occur, especially given the variety of actors operating locally, nationally and multinationals, various government actors, contracting companies, non-governmental organizations, North Atlantic Treaty Organization / NATO, non-NATO, European Union / EU institutions and engaged international partner organizations. (Wade 2018).

With the shift to forward-looking stocks and operations, NATO’s position on logistics and the way it operates has changed, and in an attempt to limit the costs of operations, multinational logistics support solutions have been encouraged to lead the action, to be dissipated and to increase both the efficiency and to significantly increase the ability to advance, the displacement, the flexibility but also the use of the specific national expertise in support of the combat forces. Thus, in the following lines we will describe the ways of operating this type of logistical support, as well as their relevance, usefulness and key features. Operating modes such as Logistic Leading Nation / LLN, Logistic Role Specialist Nation / LRSN, Multinational Integrated Logistic Unit / MILU, Multinational Logistic Unit /MLU but also the use of economic operators through Contractor Support to Operation / CSO are intrinsically necessary for military operations to be both successfully met but also with a low logistics mark coupled with reduced operational costs.

These modes of multinational logistical support are used within the North Atlantic Treaty Organization/NATO, both for the spectrum of military operations and for exercises, including those conducted with other non-NATO state actors.

We also have several types of multinational logistical support (NATO 2021) (NATO 2018):

- pre-planned reciprocal logistical support, including Host Nation/HNS Support, CSOs, mutual support agreements - Mutual Support / ASM Agreements and cooperation between National Support Elements/NSEs, which are concluded bi- or multilaterally by NATO and/or nations;
- a country formally supporting the operation as an LLN or LRSN formally initiates the provision of logistical support or a range of services to all or part of the multinational coalition, in which case the command authority is the commander of the NATO / JFC joint force, but national control is what is manifested in the services and support provided. Order. To fulfill the role of LLN or LRSN, nations can use their NSEs;
- one or more nations formally undertake to provide support to all or part of the multinational force, under the operational/OPCON control of JFC NATO; this type of support also applies to MILU participation;

| Demand         | Distance       | Destination     | Duration            |
|----------------|----------------|-----------------|---------------------|
| • Additional requests | • Transport routes | • Development areas | • Time required to complete the mission |
| • Support units | • Distances    | • Geography     | • Framing in the tempo of the actions and in its phases |
| • Quantitative and qualitative factors | • Quality of transport infrastructure | • Climate | |
| | | • Risks | |
| | | • HNS | |

Figure 1 Simplified 4D analysis
one or more nations formally undertake to provide support to all or part of the multinational force through the formation of MLUs, in which case the NATO JFC is the commanding authority, but the support or services provided remain under strict national command. (European Defence Agency. 2022)

All these types of materialization of multinational logistical support have a different logistic mark both from an operational and financial point of view but especially, at certain moments or conjunctures, they contradict the national interests in many respects.

According to STANAG 2182, edition B, version 1 of 2018 which refers to the Allied Doctrine of the Joint Level for Logistics (AJP-4), identifies the functional areas of logistics in the following way (NATO 2018):
- supply;
- life-cycle support for materials and equipment;
- equipment maintenance;
- movement and transport;
- campaign services;
- medical support.

At the same time, the functional areas are seconded by other related areas that increase the support and response capacity of the logistical support as follows:
- budget;
- finances;
- engineer support;
- confessional support;
- funeral services;
- support of contractors in operations;
- civil-military interaction;
- the support of the military police.

Benefits, limitations and constraints
The responsibility assumed when signing and assuming multinational support must be well understood both in terms of the benefits created later by acquiring certain privileges or capabilities but especially in terms of the need for financial resources and staff, so this support should not be burdensome to own forces, thus creating a destabilization of national structures. Multinational logistical support must not run counter to national interests, overburden any structure and, above all, involve unnecessary forces and resources in these support missions.

The use of multinational logistical support significantly reduces the need for resources, equipment and personnel used in the process or phases of deployment of forces and means, and at the same time the nation that benefits from this means also has the capabilities and expertise provided by the guarantor nation (Major and Strickmann 2011). These combined aspects also lead to increased interoperability, a precondition

Figure 2 Logistics mark within a general mark of a joint force
(Doctrina logisticii întrunite a Armatei României 2020)
for viable multinational logistical support, which requires standardized practices, procedures and techniques, and a common language, all of which are established in NATO through Standard Operating Procedures / SOP and STANAG 6001.

Observing all these benefits, we deduce that by using this kind of support, certain constraints and limitations also appear, which can be summed up in two categories:

- **availability and capability** – the provision of support services by a nation may not be up to an acceptable standard or with a sufficient guarantee of availability to meet the requirements of a beneficiary nation. Lack of confidence or failure of a supplier nation to meet standard requirements will reduce the benefits of multinational solutions provided to the force and may increase operational risks;

- **national constraints** – access to appropriate support for a beneficiary nation depends on the priorities of the providing nation. Political pressure, some restrictive legal provisions, or the need to support one’s own forces may limit access to key elements of previously agreed support. To eliminate deficits and to have the capacity to generate sufficient reserve capabilities, a close link between NATO, its subordinate logistics staff and the contributing nations is essential.

In many cases, certain national legislative limitations may slow down or even block certain support operations. Here we refer in particular to the activities related to public procurement from national funds, not being the shared budget present within the NATO units (lege [5], ro 2015).

In the case of multinational military actions, military leaders conduct their actions in interconnected and global environments. Operations are conducted and distributed simultaneously in several areas of operations, most of which are often alert. "These operations can involve a wide variety of forces and techniques, government organizations and multinational forces, which makes the current logistics environment encompass all these conditions and circumstances, resulting in several levels: strategic, operational and tactical (Pawelczyk 2018, 32)".

The strategic level defines the quality of the military campaign and should meet certain basic characteristics such as the industry and its capability to be able to support military actions, followed by streamlining the processes, services and agencies involved and ending with process optimization. with the required results (G4 2014).

The operational level of this type of joint logistics support is coordinated, integrated and synchronized. The integration of common requirements by the commander into the national framework but also the optimization of support capabilities in line with the requirements of the upper echelon is the basic requirement of this level. At the same time,
it should be noted that the operational level is the most common in military operations, but also the one with the greatest impact for the multinational forces engaged in combat.

The tactical level is defined and expected to be predisposed to effectiveness. It has as its general characteristics the freedom of action, the measurement of the results and it is the bridge through which the optimization of the necessary results at the operative and especially strategic levels is conducted.

Today, after many transformations and reorganizations, the logistics are trying to be adapted to the requirements of the military body, interoperable with similar structures in the NATO armies.

The dynamics of security architecture requires the continuous improvement and adaptation of specialists in this field. Scientific developments and technological advances in the field of equipment and technical means constantly bring changes in the military endowment, and the logistical support specialist must keep up with various branches of the economy to meet the maintenance needs of troops as needed.

**Conclusions**

The crisis in Ukraine at the beginning of 2014 would bring the Alliance into the de facto reality of a new security environment, a reality characterized by the assertive behavior of the Russian Federation and the unpredictability of China and which, as a pressing necessity, required reconsideration of support from a threatened Member State, to discourage peacetime and, if necessary, collective defence against a deliberate attack.

In addition, recent challenges to the regional and global security environment have highlighted the need for the Alliance to be able to respond effectively to deter and counter the full spectrum of threats, both domestic and international, which equate to the ability and capacity to deploy and sustain, simultaneously, operations and missions, both for collective defence and crisis management, and the design of stability and the fight against terrorism, beyond its borders.

Noting the importance of logistical support for multinational operations (NATO 2012), we can draw some conclusions about the mode of operation and the future of these actions. We believe that the future of logistical support of NATO-led multinational operations must be exclusively multinational with support funding, but especially specialized expertise from countries that have conducted operations in those areas or with the expertise of the state in which the operation takes place. Multinational support must be standardized, even to the tactical level, so that there is a clear overview of the operational or strategic level command. Standardization of logistical support units must be one of the priorities of NATO Member States, as in some situations there are discrepancies and discomfort on the part of multinational structures supported by certain host nations, a discomfort that occurs from the waiting level of the beneficiary structures to the level of insufficient budget from the state of the structure providing logistical support.

U.S. Marines Admiral Henry E. Eccles stated, in his 1959, *National Defence Logistics Manual*, that "The essence of flexibility is in the mind of the commander the substance of flexibility is in logistics" (Eccles 1959, 64). We note, therefore, that any action, no matter how well it is organized and executed, no matter how motivated the troops may be, and no matter how well-performing the technique may be, the pace of the battle cannot go faster than the logistical support can provide. Any schism in the actions of logistics and combat troops can in most cases lead to the loss of combat, with enough relevant examples in World War II.

However, it is important to emphasize that such a level of capability, credibility and relevance depends mainly on the Alliance’s ability to make available and deploy promptly the support needed to strengthen the forces/elements put forward, deliberate decision-making, deliberate contingency planning and preparation and, last but not least, through the effective capacity to project and support the full response force that NATO can generate.

Logistics is and will remain one of the basic elements and pillars of military action (NATO 2022), and by understanding its limitations we can distinguish between victory or defeat, from an action that failed due to insufficient logistical support or a victory in which the limited approach has allocated enormous financial, material and human resources and the benefits that the victory has generated are insignificant compared to them.
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