COLLECTIVE LOGISTICS SUPPORT FOR NATO-LED OPERATIONS

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ABSTRACT
The success of NATO operations largely depends on the smooth functioning and collaboration between all stakeholders. Deployment of forces over great distances to areas with little or no local support, requires the development of deployable logistics capabilities that will be able to provide required support. A multinational approach to the provision of logistics support for current and future operations is a key task for the optimization of logistic support, improvement of operational efficiency and achievement of economies of scale. For most nations, multinational logistics cooperation is the only way to successfully engage in joint operations. Interoperability is essential prerequisite for logistics cooperation and has a direct impact on the sustainability of forces and the combat effectiveness.

KEYWORDS: logistics, logistic support, NATO, multinational operation

1. Introduction
The development of the security environment during the past 10-15 years and the need to deal with conventional and especially asymmetric threats and risks, wherever they occur, sets a clear demand for the development of new capabilities. These include the ability to conduct multinational joint expeditionary operations over long distances, in locations with minimal or no local support, and to sustain forces in operation for a longer period of time. It is required that the armed forces are fully deployable, sustainable in operations and capable of interoperability, which can be achieved only if the support for deployed units is multinational and fully coordinated [1].

Starting with the NATO summit in Lisbon and continuing at the NATO summit in Chicago there was a development in the various fields of international cooperation that has and will have an impact on logistics. The results reflect the evolving political and security environment and the associated risks, including the ongoing financial crisis, which has a significant impact on defense budgets of all Allies. In parallel, NATO is successful in conducting of expeditionary
operations and development of cooperation with partner nations. NATO has adopted and implemented a number of measures, including a revision of the NATO Command structure and the NATO Force structure, in order to be able to successfully and effectively respond to the changing station.

It is likely that NATO will need to conduct a number of smaller, but demanding operations, yet must retain the ability to lead a high-intensity operations, including the common defense. To be able to fulfill its mission, the Alliance must have sufficient capabilities that would enable conduct of the two major joint operations and simultaneously six smaller operations within the framework of collective defense, crisis management on the territory of NATO nations or in its neighborhood, or at a strategic distance [2].

The above underscores the importance to have forces that can be rapidly deployable anywhere needed, sustainable in any environment and at any distance in order to meet operational task.

From a logistics standpoint, the new strategic situation and the transition to expeditionary operations introduces a number of new challenges.

Logistics must be able to support the full spectrum of NATO operations and missions, because the logistics capability for NATO operations is crucial. Deployment of forces over great distances to areas with little or no local support, requires the development of deployable logistics capabilities that will be able to provide the required support.

To be able to respond to the support requirements of deployable forces the efficiency and the effectiveness of logistics support for the benefit of all stakeholders must be improved. More emphasis is put on logistics support and interoperability of deployed forces. Logistics capabilities for NATO operations must be designed to reduce the level of duplication of national resources, to simplify and streamline logistics chains and to achieve significant economies of scale.

However, only a few NATO nations are able to independently deploy and support their forces. In addition, there are persistent problems in the area of capability development and their provision. It is therefore important that NATO and allies continue in their efforts to pursue collective logistics in order to give the NATO commanders the greatest possible flexibility for current and future operations by providing effective logistics support, in particular, improving deployability and sustainability of forces in operations, providing capable and interoperable logistics forces and optimizing logistics command and control, which will generate substantial savings. The interoperability of deployed forces is one of the crucial prerequisites to achieve this goal is.

2. Current Situation and Resulting Requirements

In one of the main logistics documents, the NATO Logistics Vision and Objectives for 2013-2022, it is stated that NATO operations are supported by effective, but mostly independent, uncoordinated and unnecessarily duplicative national logistics capabilities, which increases the cost of support of operations [3].

In NATO there is currently 28 nations that vary in size and population, a different structure of forces and armaments. In addition, NATO cooperates with other nations through different partnerships formats, such as Partnership for Peace, Mediterranean Dialogue, Istanbul Cooperation Initiative, Partners Across the Globe – together with Allies approximately 70 nations. Individual nations have not only different forces, but also capabilities, including the ability to deploy on operations. They also have a different level of training and preparedness of the forces and the different level of logistics standardization and interoperability.

Nations have also very different peacetime budgets and priorities, which
generally leads to a reduction in spending on the armed forces; therefore nations often rely on limited national logistics capabilities and are more or less dependant on industrial and contracting support.

With to the current and anticipated future operations, logistics is facing a number of challenges, which include [4]:

- Scarce conditions, limited local resources, lack of host nation support, and insufficient local infrastructure.
- Long supply chains, vulnerable and limited supply routes.
- Sustainability and logistics support of units for an indefinite period of time.
- The amount of national logistics forces and resources in a joint area of operations, command and control.
- Availability and cost of strategic transport, limited transport capacity.
- The complexity of weapon systems and their support.
- Greater reliance on contractors.
- Interoperability of logistics.
- The constant pressure to reduce logistics support (tooth to tail ratio).

These challenges are resulting in follow on general logistics requirements:

- Development of flexible, efficient and adaptable logistics capabilities and systems.
- Interoperability with allied forces.
- Optimizations of inventories and supply systems.
- Effective use of information systems and reporting.
- Improvement of the efficiency of logistics services.
- Strategic mobility – management of transport over long distances.
- Logistics sustainability.
- Improvement of training of professional logisticians.

The experience from the previous and current NATO operations confirmed the need for modern and highly capable forces that are fully deployable, sustainable and interoperable, able to operate across the full spectrum of possible conflicts and crises for a longer period of time beyond Alliance territory without geographical limitations.

Logistics from the perspective of conduction of multinational operations has always been a critical area. The experience from current joint operations NATO clearly demonstrated that it is necessary to improve the efficiency of logistics support, particularly in the area of coordination and adaptation of common procedures among NATO nations. The above requirements for the development of multinational logistics cooperation as one of the key tasks to ensure efficient logistic support for NATO operations is also reflected in the conclusions of the last NATO summit.

The only possibility to achieve operational goals while achieving significant savings is a mutual cooperation of all stakeholders. The basis for cooperation and for a successful response to the logistics challenges is and always will be interoperability. The main factors that affect interoperability are the composition and structure of the forces and their equipment, technological development and status. With the changing operating environment and the involvement of a larger number of states in NATO operations, the need to achieve interoperability is continuously growing. For these reasons, we must be able to precisely identify interoperability requirements. Interoperability is necessary if we want to use collective and multinational logistics.

3. Interoperability and Standardization

Interoperability is the capability of Alliance forces and, where possible, the forces of partner nations to train and prepare units for joint and effective deployment in operations and fulfilment of operational tasks. Interoperability is critical for the effective execution of logistic support in an international environment. A key tool for achieving this goal is standardization [5].
3.1. Objectives of Interoperability

a) Ability to Communicate

Mutual communication is a fundamental ability, without which it is not even possible to think about interoperability. However, the ability to communicate cannot be seen only as a knowledge of the language. Knowledge of the language is indeed very important as the foundation to the understanding of NATO processes, rules of engagement and the principles of logistics cooperation. Representatives of nations should be able to openly express their requirements, be engaged in discussions on common problems, understand and support viable solutions and to contribute to the joint activities. Lack of knowledge of common language and terminology, and the inability to communicate can cause not only confusion and misunderstandings, but sometimes even fatal problems. NATO in support of the mutual communication and information exchange develops a common information environment and tools for proper communication and mutual awareness.

b) Ability to Cooperate

Ability to cooperate enables effective and efficient preparation of the multinational operations, which depends on a common understanding of the nature, ability, strength, and limiting factors of the participating nations. Common objectives and tasks within these forces determine how they think and work. The ability to cooperate depends on a common understanding of the similarities and differences in doctrines, tactics and procedures for participation in joint operations, including provision of logistics support. Joint doctrine is the cornerstone for all activities.

c) Ability to Support

The ability to support each other emphasizes the procedures, standardization of assets and the ability to provide own capabilities for support of forces of other nations in a multinational environment. The basic factors that affect the ability of mutual support are the composition and structure of the national forces, their equipment, technology and status. Achieving a certain level of material standardization and logistics will increase the ability to create interoperability. Interoperability of systems and equipment largely determines the degree of flexibility associated with the use of multinational forces.

d) Training and Exercises

Communication skills, cooperation and mutual support in a multinational environment will not work well if they are not sufficiently validated during training and exercises. Joint training and exercises enable to verify the extent of interoperability in various fields, communication, understanding the fundamentals of doctrines, tactics, techniques and procedures. They also determine areas in which interoperability must be strengthened in order to increase the coherence, effectiveness and efficiency of joint and multinational forces before deployment to operations. In addition, the joint training also improves understanding of the concept of NATO and mutual understanding between nations.

3.2. Aim of Standardization

The aim of standardization is to enable interoperability and thereby improve the ability of Alliance and its operational efficiency. The level of standardization in all basic areas determines the level of interoperability in multinational operations.

3.3. Levels of Standardization

NATO recognizes three levels of standardization:

- Compatibility – the ability to exist or function in the same system or environment without mutual interference;
- Interchangeability – the ability of a product, process or service to be used in place of another, to meet the same requirements;
Commonality – the state of using of the common doctrine, procedures, terminology, and techniques.

The minimum requirement is compatibility of equipment, interchangeability of combat supplies and common procedures.

Standardization also includes concepts, doctrines, procedures and designs for compatibility, interchangeability or commonality, which are necessary to achieve the desired level of interoperability. NATO has over 1300 Standardization Agreements (STANAGs) and Allied Publications (APs), which are promulgated, with approximately 400 of them are related to logistics. NATO Standardization Agency (NSA – NATO Standardisation Agency) developed a policy of NATO in the area of interoperability, which leads to the identification of requirements for interoperability. This policy, approved by the North Atlantic Council (NAC), provides basic objectives, principles and obligations, which should be applied by nations and NATO bodies in identifying and addressing the objectives of the NATO interoperability.

The success of NATO operations largely depends on the smooth functioning and collaboration between all stakeholders. In this context, interoperability is a key tool. Forces must be interoperable; therefore, the requirements for interoperability must be precisely identified and be achieved by national, multinational and NATO providers of capabilities. Interoperability is essential for logistics cooperation and has a direct impact on the sustainability of forces and the combat effectiveness.

4. Multinational Approach and Involvement of Partner Nations

A multinational approach to the provision of logistical support for current and future operations is a key task for the optimization of logistic support, improvement of operational efficiency and achievement of economies of scale. To reach these objectives it is necessary to streamline and intensify the cooperation in the field of logistics and to coordinate logistics activities at all levels and across the full spectrum of logistics. Contributing nations expect improvement of cooperation and interoperability and enabling the integration of the smaller national contributions to coalition operations. Optimizations of number of logistical assets will possibly result in increasing the ability of fighting units, both in quantitative and qualitative terms. Reduction of the total expenditures could subsequently increase willingness of nations to participate in the multinational operations.

How the Alliance changed over the years, in order to meet new requirements arising from the evolving security environment, in parallel, also the Partnership for Peace (PfP) developed to be able to maintain its relevance to the Alliance, the Partnership had to adapt its activities and mechanisms to the new priorities of NATO. Political-military framework set out the principles, methods and other guidelines for the involvement of partners in political consultations and decision-making in operational planning and command and control system. New major initiatives were launched to increase operational focus of PfP and participation of partner nations in the planning and decision-making processes of NATO in earlier stages.

Significant changes in the security environment, increased emphasis on operational requirements and especially the continuing development of PfP initiatives calls for the definition of the necessary connection between the new mission and tasks. One of the key objectives of PfP is to develop the military forces of partner nations that would be able to operate together with NATO forces in the peacekeeping operations. Therefore tasks focusing on the achievement of interoperability with NATO forces are very important. Interoperability is the alpha and omega of all PfP mechanisms and tools. In logistics, no logistics capability can be provided without reaching a required level of interoperability.
5. Requirements of Nations for the Interoperability Enhancement

An Ad Hoc Working Group for multinational logistics cooperation was created within the Standing Group of Partner Logistics Experts (SGPLE) in order to address the requirements of NATO and partner nations on mutual logistics cooperation. The group tried to identify the most common requirements for interoperability between two different groups of nations – experienced NATO nations and less experienced and partner nations. Basic requirements for the enhancement of interoperability that were identified include:

- Sound knowledge of current procedures and doctrines of NATO and a clear and accurate understanding of the logistics requirements and shortfalls.
- Knowledge of current problems of logistic support.
- Understanding the requirements for deployment and provision of logistical support in operations.
- Understanding of the rules of multinational logistic support and the relationship of the participants.
- Standardization in accordance with NATO STANAGs.
- Definition and specification of requirements for the preparation and training of multinational logistics.
- Increase of opportunities for training and exercises of multinational logistics.
- Improvement of logistics education to include current NATO logistics initiatives and new concepts.
- Conduct of field logistics exercises focused on interoperability and standardization.

The results showed that less experienced states need experience (knowledge of policies, procedures, planning and implementation of logistics support and lessons learned from NATO missions) and help (especially in the areas of strategic movement and transportation, real-life logistic support, development of capabilities). Nations agreed that the limited resources, the slow development of national logistics capabilities, a limited number of prepared and well trained staff together with inadequate levels of interoperability have a significant impact on the eventual deployment on operations.

Experienced nations need to understand requirements in order to tailor their support. They are asking less experienced nations to develop their ultimate logistics capabilities to be able to meet national logistics tasks, and to develop niche deployable capabilities when possible.

All nations also require improving interoperability through improved knowledge of procedures and understanding of NATO logistics requirements. It is very important to improve mutual communication, cooperation and coordination of joint activities.

The conclusions of the working group, proposing recommendations and suggestions to improve multinational logistics cooperation and enhance interoperability were presented to the NATO Logistic Committee and subsequently approved as a NATO document [6].

6. New NATO Initiatives – Smart Defence and Connected Forces Initiative

For most nations, multinational logistics cooperation is the only way to successfully engage in joint operations. The changes in the strategic environment and in particular the current economic situation are the reason why NATO is looking for new approaches. NATO’s aims and values remain the same, but it is necessary to find a solution that would enable efficient sharing of capabilities, setting suitable defense priorities and better coordination of defense effort.

6.1. Smart Defence

The new approach represents a NATO Smart Defence program, which should ensure greater security for less
money by involving more nations into defense cooperation. Multinational cooperation is the most attractive and efficient option for achievement of economies of scale (not only NATO is considering sharing and common development of capabilities, the European Union introduced its Pooling and Sharing project aiming to sharing capabilities and the need for greater cooperation between its members).

Development and use of capabilities, of course, remain the primary responsibility of each nation. Nevertheless, at the time of decreasing defense budgets it is necessary to look for new approaches to build and maintain existing capabilities. Smart Defense should enable nations to better focus on national and common priorities. Within the framework of multinational cooperation with predefined priorities, nations could achieve capabilities, which they would not be able to achieve alone. This will lead to substantial savings, and improvement of interoperability. Requirements for the development of new and maintaining of existing capabilities only emphasize the importance and usefulness of multinational cooperation.

6.2. Connected Forces Initiative (CFI)

Main aim of the Connected Forces is to ensure that Allies will develop and maintain the ability to effectively collaborate with each other, and where possible, involve the partner nations.

The basic requirement is the same as the objective of interoperability – ability to communicate. This condition implies not only the use of the same language, but also the use of common terminology. At a higher level, it includes joint doctrine, concepts and procedures and the use of interoperable equipment and systems capable of operating over long distances and in hostile conditions. Another very important requirement for the mutual cooperation of forces is practical training, which requires joint training and exercises in sufficient scale and complexity, including both personnel, procedural, logistics and technical aspects. This approach logically leads to the next requirement, which is the validation of effort, which should include the standardization of capabilities and certification of results.

To meet these three basic requirements (communication, training and validation), CFI consists of three interrelated elements – advanced education and training, extended scope of exercises, and better use of technologies:

a) Advanced education and training – It focuses on individuals and small groups and concentrates on core requirements, the harmonization of the alliance and national efforts and to mitigation of shortfalls.

b) The extended scope of exercises – It provides basic tools for preparation of forces, development of interoperability, and validation of training, when required also for certification of headquarters, units and task forces.

c) Better use of technologies – It is a means to facilitate the ability of forces to cooperate and therefore proper use of technologies should be exploited whenever possible.

7. Conclusion

Despite the evolving strategic environment and the new emerging and more challenging tasks, logistics interoperability of forces remains a fundamental prerequisite for participation in joint operations. Therefore, NATO must examine ways to further improve the Alliance’s education, training and exercises, to effectively use technologies, and to develop cooperation whenever it is mutually beneficial.

The crucial question is how nations are going to develop, support and maintain their forces in the future. Each nation is developing its own logistical capabilities, which may affect the ability of NATO
Commander to effectively deploy and implement the plan for meeting operational challenges. One of the basic assumptions is timely, collaborative logistics planning, force planning and pre-planned, and developed multinational logistics, which will enable time needed to improve interoperability. The mutual collaboration and cooperation in multinational operations will lead to reduction of the number of logistics assets in the area of operations and the costs of provision of services. It will also minimize duplications of support capabilities, improve efficiency of logistics support, reduce the amount of required strategic transport and significantly reduce costs for individual nations.

REFERENCES