



SPECIFIC APPROACHES TO THE NORTH ATLANTIC ALLIANCE ACTION – OPERATIONAL LOGISTICS PARTICULARITIES –

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The analyses, assessments, decisions and actions taken as a result of the initiation and development of the armed conflict in Ukraine have led us to study the materialization of some of the Alliance’s operational objectives, starting with the nature of failures in providing the necessary logistical support to the aggressor forces, as well as in revealing certain aspects of the need for improvement in this area for NATO national and/or multinational combat forces operating on national territory.

Our approach is based on publications by NATO bodies, experts in the field, and procedures that are known, which will need to be greatly improved in the future. At the same time, our scientific effort has been focused on the need to pay more attention to operational logistics in the immediate future, precisely because of the increasing complexity of the operational environment through the intensive use, primarily, of drones and modern high-precision strike systems.

Under these circumstances, we have highlighted the need for logistics managers and their subordinates to be the first to act, proactively, to create the conditions of sufficiency, safety and resilience associated with the provision of logistics support, in order to achieve operational success for the combat forces.

Keywords: task forces; NATO Battle Group; operational logistics; Hub and Spoke Method; Linear Method;



INTRODUCTION

Complex operations of the future involve a range of capabilities, missions and relationships with holistic multi-domain effect (in the land, air, sea, space and cyber domains), which necessarily entails specialised, robust, flexible and resilient logistics forces, continuously adapted procedurally, technologically and functionally to the Alliance’s increased requirements and demands as a result of the unfolding armed conflict in Ukraine (NATO Standard, AJP-3.2, pp. 3-5). All this is in line with NATO’s Strategic Concept, under which appropriate plans will be developed and made available, employing a complex of capabilities suitable for deterrence, defence and the conduct of high-intensity multi-domain operations against the forces of competing opposing powers (NATO 2022, p. 6).

Within NATO, the Allied Command Transformation/ACT focuses its work on six key areas of interest, which reflects the leadership that is progressively, interrelatedly and beneficially changing the Alliance’s military posture. As it can be seen in *figure 1*, one of the areas of major importance in the transformation strategy is “*Logistics & Sustainability*” (Riga, 2018, p. 27). From this framework, it follows both the need and the possibility for the theoretical and practical development of operational logistics through “*innovation, transparency, flexibility and evidence-based objectivity and scientific rigour*” (ACT, 2021, pp. 9-10, 29, 33-34). It thus stands out the need to focus on transformational solutions with an emphasis on the development of specific capabilities to address deficits and gaps in the field (*NATO Concept Development and Experimentation/CD&E*, 2021, p. 4). As it is natural, the performance of operational logistics is progressively dependent on the skills of specialists, the viability of technological innovations and the reliability of intra- and inter-organisational information, for the continuous mitigation of those vulnerabilities of a physical-cybernetic nature and the necessary increase in functional resilience (Fenema et al., 2021).

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The scale of the offensive actions of the invading forces on the territory of Ukraine, on the one hand, and the necessary determination in the defence of the national territory by the armed forces of the aggressed state and the population, on the other hand, revealed, from the very beginning (after several days of fierce clashes) major weaknesses and deficiencies in the provision of operational logistical support by the Russian specialised forces, generated also by the failure to take into account the resistance of the Ukrainian population to the aggression.



Figure 1: Areas of transformation of NATO's military potential
 (https://m.facebook.com/NATO.ACT/photos/didyouknow-natos-allied-command-transformation-is-natos-warfare-development-comm/10155567147880686/?locale=zh_CN, retrieved on 12 September 2022)

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Thus, after tens and hundreds of days of offensive by all the Russian forces engaged in the “special military operation”, their complex action was doomed to failure, largely due to the impossibility of their own logistical structures (located at all levels of the invading Russian military organization, the forces services and inter-services) to intervene in a timely manner, according to the requirements and emergencies that arose, at the required times and places in the Ukrainian tactical-operational space (Skoglund, Ekström).



The continuing political and strategic changes and transformations that have taken place in NATO's thinking and action therefore point to a new conduct driven by Russian aggression in Ukraine, but kept within certain limits to avoid another world war. Under these circumstances, the adequate logistical support for national and multinational forces to act in situations of extreme danger for the defence of Romanian and NATO territory is and will continue to be very important.

The lessons identified from the conduct of tactical and joint operations in the Ukrainian theatre highlight a number of objectives and actions to be considered by the combatant structures and, above all, by the logistical support structures in order to achieve future changes and transformations with a view to effectiveness, efficiency and success in any operational situation that will engage them in future armed confrontations with opposing forces.

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In designing and conducting our scientific research, we have taken into account that both the purpose and the established directions are centred on the names and contents developed in a balanced way, with novelty and relational status in the sequences of the paper. The achievement of the mentioned desiderata was made possible through the singular or mixed use of scientific research methods such as: identification and collection of data and information; analysis and evaluation; comparison; inference; elaboration.

ELEMENTS APPROPRIATE TO THE MODEL OF THE FUTURE SOLDIER. OPERATIONAL LOGISTICS IMPLICATIONS

The continuous changes of future warfare are driving the continuous adaptation of operational forces to counter a wide range of challenges and threats by framing, training and equipping them with new weapons and technologies (UK Army, *Army Restructuring*, 2021). As the weapons of the future become increasingly lethal through increased performance, it is clear that guaranteeing technological superiority on the battlefield will become impossible.

One of the major objectives of national and multinational operational development within NATO is the *future soldier project*, which has a direct impact on logistic support. It reveals a multitude of complex interrelationships and conditionings with the equipment (modern technical and weapon systems), thus meeting the Alliance's



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operational requirements of continuous assurance of the designed combat potential by achieving the desiderata of specific ergonomics, full effectiveness, operational flexibility and increased resilience.

According to the major objectives and strategies for the development and evolution of operational structures evident in developed NATO member states, the Future Soldier will be part of operational military organisations that are competitive, resilient and capable of countering the actions of opposing forces in any situation, terrain, season, weather etc. (UK Army, *Future Soldier unveils...*, 2021). This new type of soldier will have to operate, within established tactical structures, with highly capable technology (due to continuous technology and digitisation) and assessed systems in highly turbulent environments, driven by increased lethality, agility and protection. At the same time, he and the combat structures of which he is a part must continually adapt to the constraints of future operations, driven by the volatility of the strategic environment, fierce military competition between global and regional military powers, the proliferation of advanced combat technology, and the challenges of the information age and climate change (UK Army, *Future Soldier Guide*, 2021, pp. 3-27). Figure 2 shows a specific model of the future soldier in the UK Armed Forces.

Military experts say that future soldiers must be fully and continuously trained, including logistically, to acquire the fundamental skills and ability to adapt themselves and their organisation to changing and transforming operational requirements in order to fulfil their missions. To this end, on the basis of receiving adequate logistical support, both the future soldier and the future leader must meet the parameters of biological, physical, intellectual and psychological resilience, as well as demonstrate effective resistance to stressors (*French Armed Forces Update*, 2021, pp. 16-17).

Depending on the given missions, the future soldier, the combatant and logistic leaders, and their operational tactical organisations (lower and upper echelons) will effectively and efficiently reveal a predominantly *human-equipment (modern technical and weapon systems) relational approach*. Within this framework, there will be a continuous integration of the mentioned soldier into the specific mechanism of preparing and conducting tactical and joint operations,

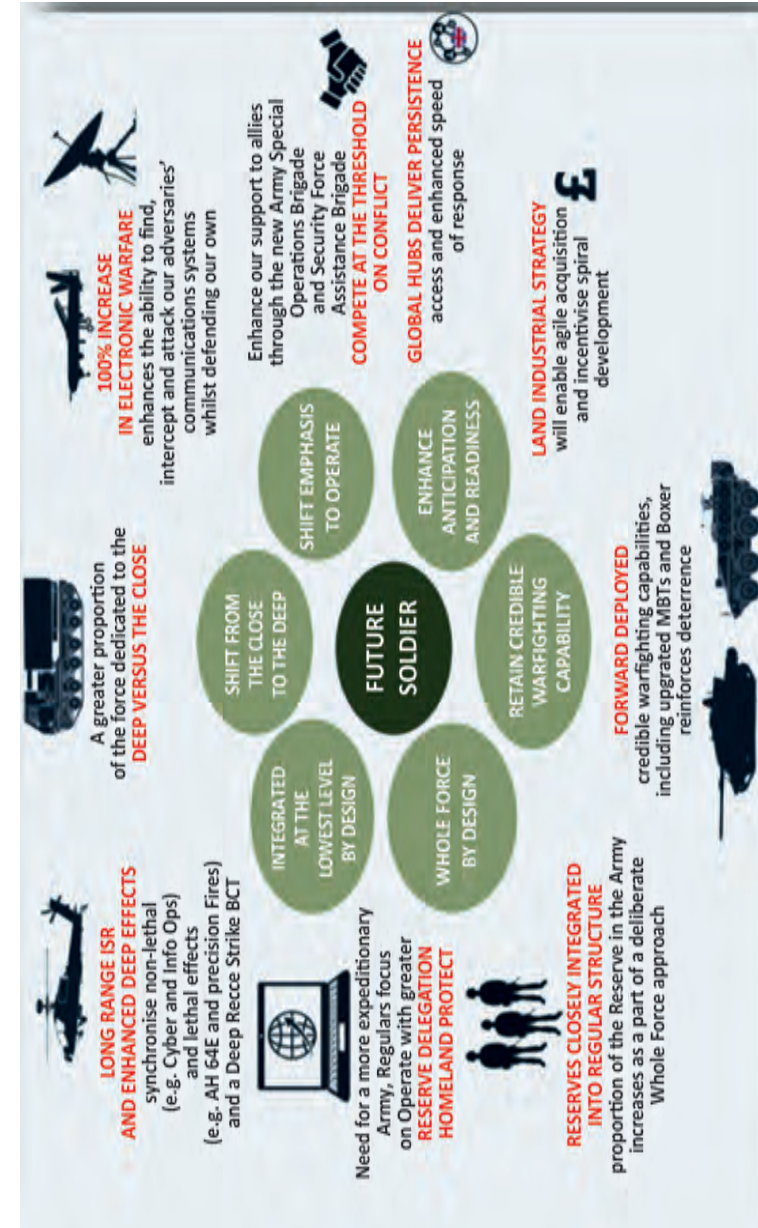


Figure 2: Projection of the future soldier in the UK Army (UK Army, *Future Soldier Transforming*, 2021, p. 9)





in order to avoid the effects of surprise, uncertainty, and to increase resilience, based on the comprehensive, constant and dynamic assessment of the actional risks, as well as on the effective and efficient ways of providing and protecting the necessary logistic support not only in operational concepts and planning but also in their implementation (Ib., p. 17).

To achieve the envisaged success in tactical and/or joint operations, the future soldier has a fundamental role through continuous training and education, equipping and the ability to use all modern equipment and weapon systems. It has immediate implications for the operational logistics of the combat structures in terms of providing the necessary logistical support (by functional area), according to the complex requirements established for the fulfilment of the missions assigned.

RECONFIGURATIONS IN THE NORTH ATLANTIC ALLIANCE OPERATIONAL SPHERE

Based on the operational concept, the combat agility of Alliance forces is revealed by their logistical potential, which is necessary to combine and move capabilities rapidly over long distances to conduct planned operations in austere, fragile environments with vulnerable critical infrastructure. To this end, the NATO Defence Planning Process/NDPP also sets out details for component nations to follow in order to identify risks and strengthen specific resilience by committing national and multinational resources according to Alliance availabilities (Transforming NATO Logistics, 2017, pp. 3-5).

Given the particularly important role of operational logistics, the range of its importance and action encompasses both the national side of a NATO member state and the multinational domain, as military partnerships with powerful (Alliance member) countries such as the United States of America, Canada, France, the United Kingdom and others have, over the years, have led to deployments of their forces to form Battle Groups/BGs under NATO auspices. Currently, there are 8 such structures, as follows: 4 BGs have been operational since 2017 on the territories of the Baltic states – Estonia, Latvia, Lithuania and Poland, based on the details agreed in 2016 at the NATO Summit in Warsaw; 4 BGs have been established and will be operational in 2022



on the territories of Hungary, Slovakia, Romania, Bulgaria – following the decision taken shortly after Russia’s invasion of Ukraine (NATO’s military presence, 2022). Each of these operational structures has a deterrent role and the important mission of increasing the operational level of national defence on the territory of the (Alliance member) country where they operate (NATO’s Forward Presence, 2022).

Therefore, since May 2022, in our country, the NATO Battle Group Forward Presence (BGFP) has been set up, with France as the framework nation (at its request), which has deployed a battalion, considered a “spearhead of the NATO Very High Readiness Joint Task Force/VJTF”. It also integrates support structures provided (on rotational basis) by Belgium and the Netherlands (Defense Romania Team, 2022).

Following the dynamics of events on the frontline in Ukraine, as of 20 January 2023, the multinational structures decided by NATO to be progressively established (after Russia’s invasion of the Crimean Peninsula in 2014) came under Multinational Corps Command South East (HQ MNC-SE, subordinate to JFC Naples), respectively: Multinational Divisional Command South East (HQ MND-SE); NFIU ROU (Force Integration Unit/Romania); NFIU-BGR (Force Integration Unit/Bulgaria). For the fulfilment of its operational missions in armed conflict, HQ MND-SE subordinates: Multinational Brigade Command Southeast (HQ MN BDE SE); NATO Multinational Battle Group (MNBG), led by France, is established and operates from the military base Cincu in Romania (Table 1); NATO Multinational Battle Group, led by Italy, operates from the military base Novo Selo in Bulgaria (Soare, 2023).

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Table 1. An option for the composition of the NATO Battle Group located in Romania

Battlegroup led by France, operating in Cincu, Romania		
Contributor	Troops	Forces
France	550	1 x Infantry battalion
Belgium	248	Combined Arms Tactical Subgroup
Poland	230	1 x Mechanised company with enablers
United States	120	Cavalry troop
Approximate total troop number: 1148		



Following Russia's punitive actions in Ukraine, after Ukrainian forces damaged the bridge over the Kerch Strait, the President of France ordered the doubling of the combat potential of the aforementioned Battle Group (deployed in Cincu) by additionally deploying a "company of armoured infantry vehicles" and a "squadron of Leclerc tanks" in October-November 2022.

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According to published data, there is currently a "battalion under French command at the NATO training base in Cincu, with 700 soldiers – 620 French and 80 Dutch infantrymen – supported by another 300 French soldiers. The aim is to reach a total of 1,200 soldiers once the accommodation capabilities are completed". At the same time, Battle Groups comprising only US-trained combat forces are operating in Romania (*NATO fights in Romania...*, 2022)

In fact, the above mentioned decisions are based on the decisions taken during the NATO Summit of 29 June 2022 held in Madrid, when the Allies analysed and established the structural development of the Battle Groups (with NATO multinational status), from battalion size and function up to the maximum brigade level, according to the requirements and emergencies that are necessary from an operational point of view in the Eastern Flank of the Alliance (*Madrid Summit Declaration*), in order to prevent some syncope or crisis in terms of military potential. In this respect, the provisions of the *new NATO Strategic Concept* (adopted in Madrid) reveal three essential dimensions to be fulfilled by Alliance forces, namely: *deterrence and defence; crisis prevention and management; cooperative security* (Ib.).

According to the European Concept for Action and Support, a BG conducts operations in its own right or as a spearhead in order to prepare the battlefield in the conflict area for more comprehensive operations (European Union External Action..., 2017). So, in a war situation (according to established agreements), the BG will be located wholly or partially in the Joint Operations Area (JOA) intended for the national defence of the respective state both during preparation

and during the conduct of defensive actions. Therefore, the BGFP being subordinate to the HQ MN BDE SE can perform some missions and act with forces (having the appropriate hierarchical approval) in support of the National Joint Force in some (critical) areas of tactical operations (Francesco, 2015, pp. 535-563). Standard operating procedures (SOPs), cooperation and collaboration actions between BGFP and the combat structures within the (national and multinational) joint force are established in peacetime, taking into account the operational situation up to and after the (full) installation of NATO HQ on national territory (*Collective defence and Article 5*, 2022).

Therefore, as stated above, in addition to the BGFP, other NATO multinational forces are also engaged in the operation assembled on the national territory, and for this purpose there are still in peacetime appropriate multinational commands (corps, division and brigade level), the Joint Force Command (JFC), which during the armed conflict will be functionally augmented in order to fulfil the missions received from the Joint Alliance Command, operational in Naples (NATO Standard AJP-3, pp. 1-16 - 1-21).

NEW RELATIONAL APPROACHES TO NATIONAL AND MULTINATIONAL OPERATIONAL LOGISTICS

The transformation and modernisation of operational logistics within the Alliance requires, in our view, several key objectives to be kept in mind in order to increase the potential of the logistics support profile, such as: a complex level of responsibility, given the new demands in the provision of operational logistic support; high professional competencies in the field of logistic support, requiring skills progressively and continuously adapted to the new operational requirements; anticipative and pro-active conception and action of logistic managers and their subordinates; highly trained and experienced commanders at the head of logistic support large units, units, sub-units and formations; operational logistic support structures organised, equipped, prepared and sufficiently protected to provide optimal and continuous logistic support.

In the light of the above, we are of the opinion that the preparation and conduct of one or more tactical and joint operations at national



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level require an operational logistics with highly consolidated relevant operational capabilities (national and multinational), which can deter a potential adversary state before a crisis, with the ability to provide agile, robust and flexible responses during its (possible) manifestation. To this end, partnerships and agreements have been established between troop contributing nations and each Alliance state, supported by multinational forces integrated into the Battle Group, whereby optimal (specific) network systems and logistic capabilities have been established and made available to each other.

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The combination of national and multinational combat structures that will be integrated into the organic joint force structure established to operate on national territory under NATO's tutelage and leadership requires adequate logistical support (national and multinational in nature) in accordance with the operational requirements and demands of the Alliance. The design, planning and procedures for such (logistical) support must naturally involve robust, agile and flexible logistics forces that are constantly adapting organisationally and operationally, as required by the lessons learned from the armed conflict in Ukraine. To this end, the JTF J4 logistics module is responsible for developing and maintaining the logistics common operational picture (LCOP) or the recognised logistics picture (RLP). According to AJP-4.6, the Joint Logistic Support Group (JLSG) is responsible for the major contribution to the RLP together with the Host Nation, National Support Elements and Contractors, with whom it coordinates on a regular basis. In accordance with NATO's decisions in this area, the states that participate with capabilities in the multinational joint force capabilities that operate on the national territory are responsible for providing the bulk of the equipment, weapon systems and supplies required for their combat structures. Therefore, in order to produce more obvious RLP for the Joint Force Commander (JTF COM), the JLSG will conduct judicious planning and coordination of distributions for the remaining to be secured materiel, using its command-control (C2) authority over the NSEs so that they communicate accurate and timely information (Cornett, 2020, pp. 45-52).

Taking also into account the provisions of the "European Union Battlegroup Manual" (European Land Forces Interoperability Center,

2014, pp. 11; 28-29), we consider that each operational structure within a BGNATO (including the BGFP) is logistically self-sustaining (effective and efficient, according to the established interoperability requirements and procedures), through functionally integrated logistic support entities (based on the missions received and the capabilities provided by each nation participating in the constitution of the BG), with specific materials (ammunition, fuel-lubricants, spare parts and products needed for maintenance activities). They must be replenished periodically (following the execution of successive re-supplies), through transport operations, planned and carried out by the logistic support sub-units of the BG organic, using on demand sources (military and civilian) on national territory, for the optimal functioning (with the expected holistic effect) of the BG. At the same time, for this purpose, arrangements for the provision of certain types of (usually common) resources are implemented through the NATO-implemented Host Nation Support (HNS) mechanism (AJP-4.3, 2021).

Based on the above, it follows that, from an operational dynamic perspective, the BGFP will participate in the preparation and conduct of a joint operation on the territory of the Romanian state against opposing attacking forces in several phases, according to the projected response options. To this end, we consider that the BGFP will benefit from the necessary logistical support, appropriate to the structures (national and multinational) in its composition, not only through its own efforts, but also through the JLSG (functional in the 3rd line of logistical support), if there are possibilities to replenish urgent materials in critical situations (such as supplies, ammunition, fuel-lubricants, engineering materials, CBRN, communications and information technology etc.). *Figure 3* shows generically the replenishment flows by logistic support lines, according to operational requirements (at tactical level, the purple and green rectangles indicate generically - by the inscription inside – only the presence of logistic support lines 1, 2 and 3, as well as tactical and joint operations areas – without spatial delimitations).

The elements in *Figure 3* reveal, in national and multinational operations on the national territory where BGFP is also engaged, the combination of two methods of replenishment, namely: • Hub-and-Spoke Method and • Linear Method (adapted from Ekman, 2017, pp. 21-25).



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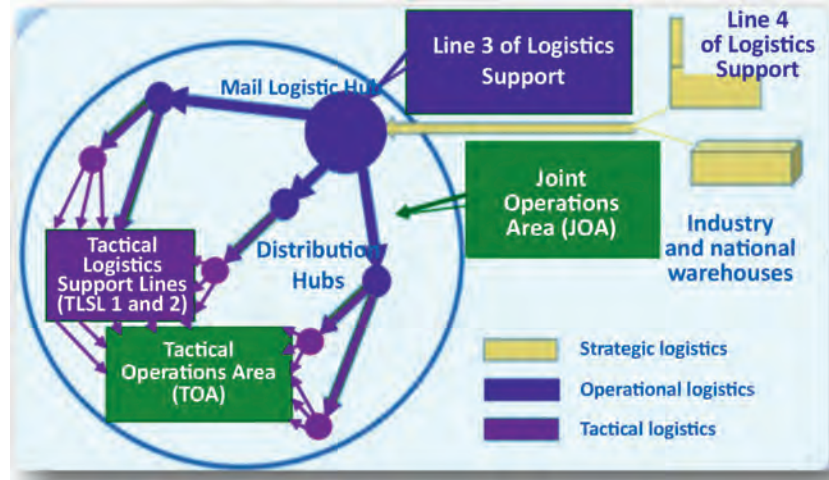


Figure 3: A view of specific logistic support line flows in joint and tactical level areas of operations with national and multinational forces (Adapted from Skoglund et al, 2022, p. 102)

The first method involves, for the purpose of replenishment (according to the criteria of necessity, timeliness and protection), a large number of specialised structures: (a) the hub from Line 3 of logistics Support – represented by JLSG; (b) the hubs from Line 2 of logistics Support – represented by divisional logistics support execution structures (similar); (c) the hubs from Line 1 of logistics Support – represented by brigade logistics support execution structures (similar) and battalion-level logistics support execution structures (similar). Figure 4 shows a configuration of the method at the tactical level, namely the demand and replenishment flow relationship between a brigade Logistics Battalion (Logistics Battalion/LOG BN) with a battalion Logistics Company/Log Co and then with its subordinate Battle Supply Points (BSPs).

The second method (Linear Method) is evident when a limited number of logistic support execution structures are involved in the execution of the replenishment process, namely: a) supply points of (similar) combat companies (similar) from which materials are transported (as required) to the platoons of the organic; b) the material or logistic support echelon (when formed) for the purpose of resupplying a small number of tactical combat structures acting in isolated directions (at brigade or battalion level).

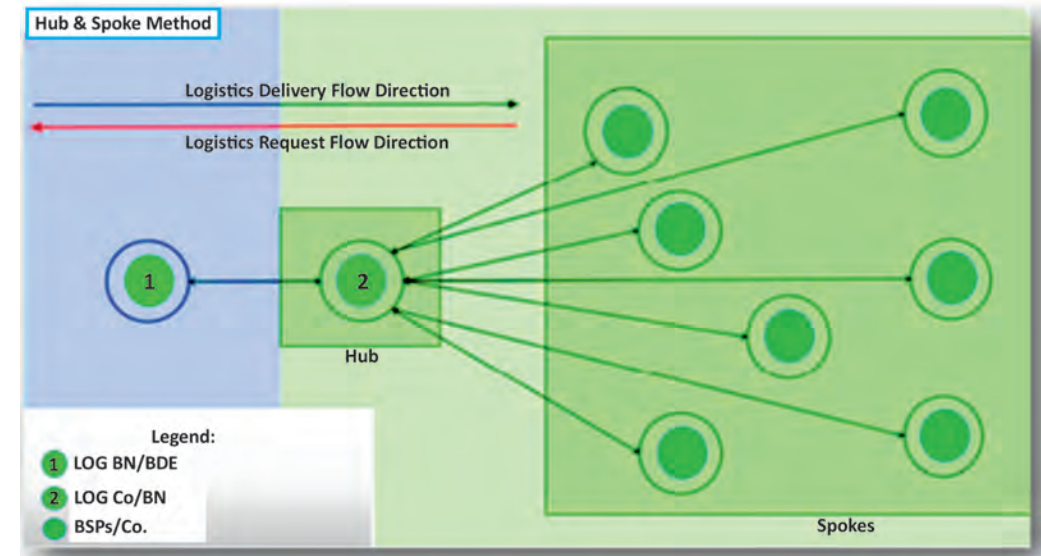


Figure 4: A generic view of the Hub-and-Spoke method at tactical level

Figure 5 shows (only generically) a model of the demand and re-supply flow system between the logistics battalion of a brigade (national or multinational) with the logistics company of a battalion, continuing with the combat supply point of a company subordinate to it, then with platoons and groups.

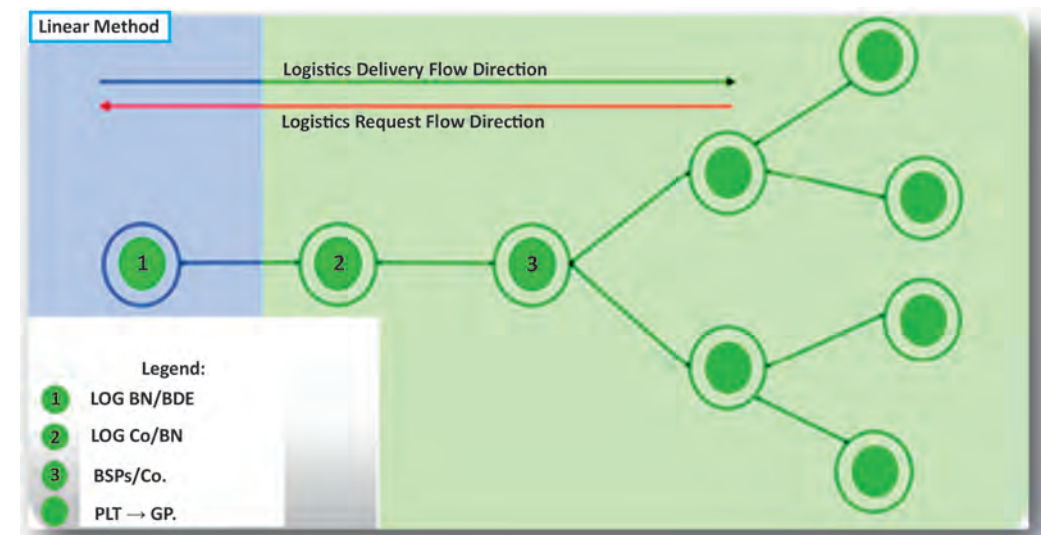


Figure 5: A generic picture of the Linear Method at the tactical level



In current and future hybrid and asymmetric armed conflicts, homogeneous or heterogeneous groups or clusters of highly trained and educated warfighters (within the same platoon and/or company level tactical structure or not) may act on command in nonlinear defensive operations against opposing forces, similar to the ongoing actions in the war in Ukraine.

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On the Ukrainian front the smallest participant actionable entities (from tactical combatant and/or special operations structures) are usually teams (consisting of 3 fighters) flexible and trained for high precision strikes with strike systems – HIMARS known as *M142 high mobility artillery missile systems (HIMARS becomes even more lethal in Ukraine...2022)* or similar, against invading Russian forces. It follows, obviously, that even at this level the distribution flows are configured in a *Hub-and-Spoke* system by the replenishment “on demand” or “pull” process.

If we analyse the use of drones by the defence forces of our neighbouring state in violent confrontations with invading Russian forces, we notice the effectiveness and efficiency of their use by operators from specialised structures that are logistically supported according to what has been revealed above (Radio Free Europe, 31 October 2022).

The efficacy and effectiveness of the use of the two mentioned methods are dependent, in my view, on the effective realization of two essential criteria: a) *the real distribution potential of the logistic support execution entities* (structures) intended to respond to the received requests; b) *the response time to the re-supply requests* (received from the operational forces) by the logistic support execution structures.

It follows from this, according to *figures 3-5*, that the upper logistic nodes (involving the *Hub-and-Spoke Method*) have a high logistic potential (with associated risks), because they can support, with the necessary resources, a greater number of large units and units than the lower logistic nodes, corresponding to lower tactical echelons (involving the *Linear Method*). However, given the *demand response time*, it will increase or decrease depending on the distance to be travelled (safely) by the transport columns with resources for military beneficiaries, and is therefore higher at higher logistics nodes and much decreased at combatant unit and sub-unit related nodes (Kress, 2016, pp. 167-173).

In real operational situations, round-trip transport circuits (on transport runs for each night or day for which they have been planned) are carried out from the hubs highlighted in *figures 3-5*, necessary to support the combat structures of the respective joint and/or tactical force (with specifics for resupply, evacuation, maintenance or medical support). For operational purposes, under performance conditions, I consider that communication, visibility and protection measures must be taken for each transport circuit.

As outlined, in support of the proper functioning of the JLSG and supported logistics structures, the concept of Operations Logistics Chain Management (OLCM) is implemented at the strategic level of the Alliance. Thus, the OLCM provides the practical means to make concrete NATO and member state specific processes, procedures and tools useful for collaborative logistics planning, prioritisation, synchronisation and coordination of activities during the preparation and conduct of operations (in a national and/or multinational context), to increase the speed and efficiency of the actions of specialised logistic support structures and to reduce wastage of resources and therefore costs (Riga, p. 27).

During the conduct of the multinational joint operation on national territory, both the battle group and the other subordinate Allied forces of the LCC (Land Component Commander) of the NATO JFC (*Collective defence and Article 5, 2022*) (established for the conduct of the multinational joint operation on national territory and operational after a certain period after the outbreak of an aggression) will have the appropriate operational logistics structures integrated. Their placement (conceptually and practically) in the multinational area is determined



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by the origin and employment of the specific capabilities required to accomplish missions by the combatant structures they logistically support in tactical and/or joint operations. Therefore, we are of the opinion that, according to the doctrinal provisions and agreements concluded, both Romanian logistic support structures and those of NATO member states forces will carry out integrative processes and actions (AJP-4.6, 2018, pp. 1-3) as well as cooperative (Madrid Summit Declaration, 2022) horizontally and vertically specific (through national and/or multinational functions) ones (Wenqiong, Yangyang, Haiyan, pp. 281-283), according to the SOPs of the major units and/or organic units to which they belong, in order to achieve the objectives of the joint force and reach the established operational end state.

In the design and execution of NATO offensive operations over long distances from home base, referred to as expeditionary, the national and multinational forces involved will be supported by appropriate operational logistics. Depending on the conditions, mobility parameters and constraints of each operational situation, logistic support must be provided in line with the mission requirements of the combatant expeditionary forces. Within this dynamic operating mechanism (in a large space to be cleared or occupied with many risk factors and increased uncertainty), supply, transport and distribution systems with robust, sufficient, flexible and resilient capabilities must exist and operate continuously (Ti, 2022, p. 2). Therefore, tactical operational structures (national and/or multinational) will face increasing challenges from enemy forces in fulfilling their assigned missions [under conditions of “freedom of action, concentration of effort and economy of resources” (French Armed Forces Update, pp. 10-11)], in carrying out their own protection and movement actions as a result of complex destructive actions by the adversary using sensors, robots, UAVs and high-performance surveillance, targeting and precision systems (UK Army. *Future Soldier Transforming*, pp. 3-16).

Adapting, through reconfiguration and modernisation, operational logistics to the specifics of future expeditionary operations is driven by achieving the coordinates set to achieve the success envisaged in all phases of operations planned and conducted by the combatant forces. To this end, regular flows of resources and services are required to be made available by multinational modular logistics support structures and forms, such as: National Support Elements/NSE; Role Specialist

Nation/RSN; Logistic Lead Nation/ LLN; Third Party Logistic Support Services/TPSS; Multinational Integrated Logistic or Medical Support Units/MILU; Multinational Integrated Medical Units/MIMU; Joint Logistics Support Group/JLSG; Mutual Support Arrangements/MSAs; Host Nation Support/HNS; Centralized contracting (AJP-4, Edition B, Version 1, 2018, pp. 2-1, 2-8; Finabel Coordinating Committee, 2013, pp. 12-13).

Accordingly, the appropriate functional mechanism for the complex and continuous provision of reliable, timely, effective and efficient (national and/or multinational) logistic support must be sustainable, i.e. to have a high potential to support all warfighters, equipment and fire systems in the tactical areas (districts) of operations integrated into the joint area of operations, as well as in the whole area of operations. Furthermore, it should be borne in mind that the operational logistic support effort (involving the essential determinants, i.e. demand, dispersion, duration, distance, as well as the prevalence of supply-based system, versus distribution-based system) will be amplified by the less or non-linear and more or totally non-linear configuration of the tactical and/or joint land forces posture (given their potential), which will consequently make both the logistic support lines and the related communication system more vulnerable (Ib. , pp. 2-3; AJP-4, Edition B, Version 1, pp. 1-8; 3-1, 3-4).

CONCLUSIONS

In accordance with the specific criteria of effectiveness, efficiency and interoperability, the North Atlantic Alliance has established the forces and resources required in both the northern and southern parts of its Eastern Flank. In this large-scale operational framework, Romania benefits from the support of significant forces from several NATO states, among which the United States of America and France stand out for the importance of the participatory effort. In this defensive mechanism of major importance, a special role will be played by the logistical support of combat forces with national and multinational status established to be engaged for the defence of Romania’s territory, which is defensively defined as a NATO responsibility, in the face of any aggression. Therefore, the structural, systemic, effective and efficient reconfiguration of the fighting forces for the war of the future is based



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Ongoing technological, robotic, digital and other challenges and developments appropriate to future warfare confrontations are driving transformations in the military supply chains for normal functionality and increased agility, robustness and resilience against attacks by aggressive hybrid forces using advanced manned and unmanned destruction equipment and systems.

on the design, preparation, equipping and continuous provision of everything necessary for the soldiers of the armed forces destined for this war.

Ongoing technological, robotic, digital and other challenges and developments appropriate to future warfare confrontations are driving transformations in the military supply chains (which also integrate economic operators supplying goods and/or service providers in the tactical and/or joint area of operations) for normal functionality and increased agility, robustness and resilience (in line with the speed of armed conflict) against attacks by aggressive hybrid forces using advanced manned and unmanned destruction equipment and systems.

The increased and complex logistic support needs of operational forces are and will be driven by the continuous evolution of equipment in line with the national military strategy and the dynamics of operational requirements. Under these conditions, there are required military logisticians specialised in the management and execution of operational logistic support, possessing enhanced skills appropriate to the continuous evolution and changes in the mechanism of preparation and conduct of operations at the tactical and joint levels, which must be continuously sustained at the required parameters of sufficiency and resilience, in order to respond promptly, effectively and efficiently to the challenges, threats or aggression of any adversary.

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