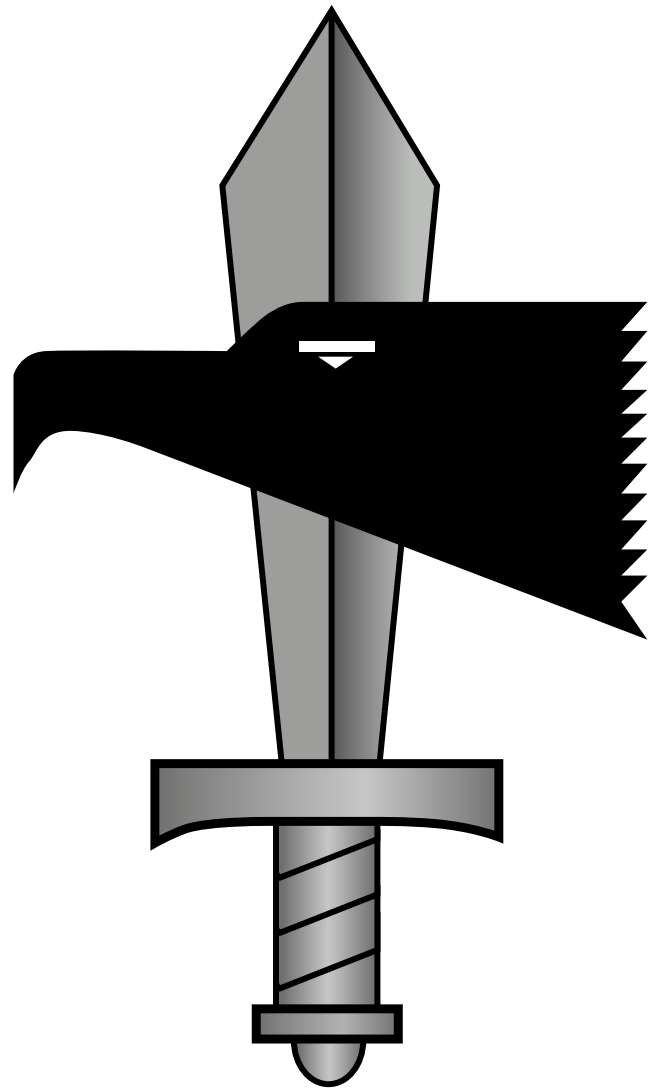


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**The Magazine of the NATO
Rapid Deployable Corps - Italy**



EAGLE METEOR 19





NATO Rapid Deployable Corps - Italy *Ubique Celere*

CONTENTS

- 1 **EAME 19 COMMAND POST CONCEPT DEVELOPMENT**
Lt. Col. **Andreas Büschenfeld**, German Army
- 2 **HOW TOPFAS (TOOL FOR OPERATIONS FUNCTIONAL AREA SERVICES) WAS USED DURING EX EAME 19 AND ITS POTENTIAL FOR WIDER EMPLOYMENT AT THE LOWER TACTICAL LEVEL.**
Lt. Col. **Marco URBANI**, Italian Air Force
- 3 **CRAST AS A SYSTEM TO MANAGE THE WORKFLOW**
Lt. Col. **Antonio TRIPODI**, Italian Army
- 4 **TRAINING NON-KINETIC ACTIVITIES IN AN ARTICLE 5 SCENARIO**
Col. **Thomas GREGGERSEN**, German Army
- 5 **WHY DOES NRDC-ITA NEED TO DEVELOP A REAR AREA CONCEPT?**
Maj. **Mauro DE MARTINO**, Italian Army
- 6 **THE CHALLENGES OF THE INFORMATION ENVIRONMENT IN A WAR FIGHTING SCENARIO**
Maj. **Fabio RANIERI**, Italian Army - Maj. **Angelo ARCANGELI**, Italian Army
- 7 **COMMAND AND INFORMATION SYSTEMS PREPARATION AND EXECUTION**
Lt. Col. **Richard LAPSLIE**, British Army
- 8 **WARFIGHTING BATTLE SPACE MANAGEMENT**
Lt. Col. **Luca TESA**, Italian Army
- 9 **CORPS REAR AREA OPERATIONS**
Lt. Col. **Cédric CHÉNY**, French Army
- 10 **UNDERSTANDING LOGISTIC AND MOVEMENT SUPPORT AT TACTICAL LEVEL**
Lt. Col. **Stephen FISHER**, German Army
- 11 **MEL/MIL (MAIN EVENT LIST / MAIN INCIDENT LIST) CHALLENGES IN A SELF-GENERATED COMMAND POST EXERCISE (CPX)**
Maj. **Luca TRACCO**, Italian Army
- 12 **TACAIR C2 AND AIR LAND INTEGRATION (ALI): HOW TO FACE THIS COMPLEX PROBLEM WITH A SIMPLE SOLUTION (WHERE SIMPLICITY DOES NOT MEAN EASY)**
Maj. **Mirko TRICHES**, Italian Army - Maj. **Pasquale MASONE**, Italian Army
- 13 **CORPS TROOPS: ACHIEVING THE REQUIRED ENABLING CAPABILITIES IN WARFIGHTING AND HOW TO INTEGRATE THEM INTO AN EFFECTIVE C2 CONSTRUCT**
Col. **Luigi TUFANO**, Italian Army



This year's 70th anniversary marks the Alliance's success in achieving and maintaining the political objectives set out in the NATO Charter. However, new threats and long forgotten challenges reemerge and again remind us of the importance of NATO's founding principle, Collective Defence. As such, Eagle Meteor 2019 was designed to revisit and refine our capability to respond effectively in support of this principle in an Art. 5 Operation.

The preparation required a shift in mindset, from Crisis Response Operations (CRO) which is common to our armed forces due to our recent operations, to a type of warfare almost unthinkable since the end of the cold war: Near-peer state level War Fighting accordingly. Our shift is aligned with NATO future capabilities.

A substantial effort of time and energy was required to re-focus on a wide variety of areas. Careful attention was paid to the challenge of self-generating an exercise at this scale to achieve our established training objectives. The core of our business, the decision making process and the kind of leadership required for a "traditional" land battle was thoroughly analyzed and tested.

The execution phase saw over 1800 soldiers from 18 NATO countries deployed to multiple locations in Italy and abroad. This complex deployment of affiliated and subordinated formations and units into the field and under the command and control of the Milan based HQ, represented one of the key challenges for the implementation of the final validation of the distributed command concept. It also proved the most important Command Post Exercise of 2019 for the Italian Army and its NRDC-ITA partners. It aimed also to test our capabilities to exercise C2 over all Corps enablers as well as to plan and execute Rear operations.

As such this special edition of the Everywhere Rapidly Magazine is fully dedicated to the 2019 Eagle Meteor exercise. The following articles were carefully considered and evaluated to reflect the considerable challenges faced and key lessons identified. Considerations include the light command post concept, the challenge of 21st century information environment management, Corps logistical support, the essential role of enablers and more, which all combine to reflect the complexity of Corps level war fighting operations.

Eagle Meteor is a significant milestone on a NRDC-ITA journey that started at the end of 2018, after a successful period as NATO's Reaction Force. This process is yet to be completed, but this magazine provides insight into the technical and conceptual developments that occurred along the way, as the HQ remains ready and effective and continues to improve to serve the Alliance.



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EAME 19 Command Post concept development

Lt. Col. **Andreas Büschenfeld**, German Army

EX EAGLE METEOR (EAME) 19/EAGLE LIGHT (EALI) IV served as the validation exercise for the HQ NRDC-ITA new command post concept in a high intensity warfighting scenario. The exercise validated that our C2 and command post concept is an appropriate and flexible solution to exercise Command and Control for all possible commitments within the Long Term Commitments Plan (LTCP).

Knowledge becomes capacity¹ HQ NRDC-ITA New Command Post Concept

The contemporary operating environment

The last two decades have seen rapidly increasing communication speeds relying on inter-linked global networks. Our personal and professional environments have become dependent on 24/7, web-based applications, almost unlimited information resources and the quasi-real-time transfer of data, money, etc. The recent unprecedented transformation of communication has also impacted the military domain as it becomes an integral part of the “virtual community”. This in turn has brought new challenges as user-generated content in the social media domain leaves a “user” not merely as a witness to a conflict. Every single person can become a reporter or play an active role in warfare by instantaneously broadcasting content, by sending money or by offering access to technology via a computer thousands of miles away or even “on the go” using a smart device. Today’s battlefield is not only “real” as it has been transferred to the virtual domain.

“In the contemporary operating environment, NATO forces will be involved immediately and without domain superiority in the simultaneous fights against networks of enemy systems operating across domains. An adversary operating in this manner defies the familiar geographic division of the battlespace ownership. Therefore, Deep Operations, the Support Fight, and Close

Combat against a peer adversary’s recon-strike systems and maneuver forces are concurrent and intrinsically linked to one another.”²

From the past to the future

Headquarters NRDC-ITA decided to amend its command post layout to meet the aforementioned challenges and to be ready to assume all possible roles from the NATO Long Term Commitments Plan (LTCP): the current Corps Role, as a Joint Task Force, as a NATO Response Force Land Component Command (NRF LCC) and as the new Multi Corps (MC) LCC.

The starting point was our previous exercise experiences when a large amount of personnel was deployed in EX EAGLE JOKER in 2014 and some of them in the Combat Readiness Evaluation (CREVAL) as NRF LCC in EX BRILLIANT LEDGER in October 2017 with one “Main” command post element. This “Main Heavy” approach required significant logistics and technical efforts as well as the related manpower for force protection. As we tried to envision how the various Command and Control (C2) functions would be stretched, we began to think about moving elements outside our area of operations, maybe outside the theatre without losing a “grip on the operation”. Besides being much less vulnerable to electronic warfare and conventional weapons, the personnel involved are not subjected to significant physical risk or placed in a psychologically challenging and stressful operational environment. This “human factor” clearly adds value when it comes to assessments, products and overall C2 capability.

The EAGLE LIGHT Exercise Series

To experiment and evaluate the new – “light”



– command post concept, a dedicated exercise series, EAGLE LIGHT, was launched in early 2018. The basic concept was to deploy an agile, scalable and mission-tailored command post model with a small footprint forward in the theatre allowing the majority of staff to remain in a distant location acting as the MAIN Command Element (CE). This idea meant resources; capabilities and expertise were a physical distance away from the “forward” area, with supporting staff deployed to perform their tasks relying on “reachback”. Reachback means being dependent on technology to bridge the distance between command post elements. The effects from collaborative work, interpersonal relationships and – in the worst case, if connections were lost – the lack of situational awareness had to initial-

ly be recognized and then mitigated.

In March 2018, HQ NRDC-ITA tested, within the perimeter of the UGO MARA Barracks, its new command post model: the Forward (FWD) CE comprised of a limited number of personnel located in a tent construction and the MAIN CE located in a hangar, which had already been used in previous training activities. As part of the iterations of the EAGLE LIGHT series, a vehicle based tactical command element (TAC CE) was designed and tested as an integral part of the “light forward”. Conceptually the FWD, if needed, the TAC and the MAIN CE inherit all C2 functions to fight the deep fight and to resource the close fight within HQ NRDC-ITA’s current Corps role. Rear area responsibility will remain with another command post body: the HQ REAR.



¹ “Knowledge must become capacity” – Carl von Clausewitz (Michael Howard and Peter Peret “On War”, page 97, Oxford University Press, USA (2007).

² Restoring the Balance – Corps Troops Vision for NATO’s Warfighting Corps Capabilities, as of 6 March 2019, Page 10.

Evolution through continuous evaluation

Every step of the exercise series was carefully assessed by internal and external subject matter experts. The Italian Air Force provided valuable aerial imagery and the Italian Special Forces took a closer look at concealment and force protection measures for our FWD and TAC CE. Electromagnetic emissions, as well as bandwidth consumption, remained the focal point throughout the multiple development stages of the CP concept.

Since the start EAGLE LIGHT, it became clear that, *inter alia*, our battle rhythm needed a holistic “makeover” to tightly connect our four command post elements. A “distributed battle rhythm” was created and thoroughly tested. As part of EAGLE METEOR, the daily and cyclic meetings and multidisciplinary working groups ran seamlessly, bridging hundreds of kilometres.

EAGLE METEOR – Exercising the new C2 concept

During EX EAGLE METEOR 2019 our headquarters CP concept faced its final layout and functional tests:

1. The FWD CE, including the TAC CE, lead by COM NRDC-ITA deployed to SICILY, comprised of few experienced staff members given 24/7 capability with a skeleton night shift. The FWD is designed to exercise predominantly Command and thus comes with limited Control functions. The TAC CE could be activated and moved to cover the relocation of the FWD or if COM NRDC-ITA perceives that he can take advantage in deploying this entity for a particular phase of the operation to a location where high-level engagement is deemed to be crucial.
2. The MAIN CE remained in its peacetime location in SOLBIATE OLONA relying on a permanently established and “ready-to-fight” equipped infrastructure in a hangar. In future operations this element could be deployed as well, remaining in a distant position inside or outside the theatre of operations. The MAIN CE, led by the DCOM NRDC-ITA, is comprised of all the remaining Command and the majority of the Control functions and acts as the reachback-hub for the forward command element(s).
3. The HQ REAR, deployed to BELLINZAGO NOVARESE, provided the rear security functions and de-conflicted all movements in the rear area of operations.
4. A small remainder of the headquarters stayed – and will stay in a “real” scenario – within the permanent HQ infrastructure at UGO MARA Barracks acting as the backbone e.g. providing human resources management as well as providing family support services.

“The corps conducts Command and Control in a challenging environment, with enemy recon-strike systems specifically targeting these valuable NATO capabilities. Therefore, the Corps headquarters elements must survive as it commands, controls, and communicates”³

Conclusion

Given our rigorous exercise program, our headquarters is convinced that our C2 and command post concept is an appropriate solution to exercise Command and Control for all possible commitments identified in the LTCP. The risks which come with the awareness that our rear – the locations of our FWD, TAC and HQ REAR – is our adversary’s deep have been appropriately answered by our CP concept. Knowledge truly became capability by creating a “reach-back mindset” alongside valuable synergy effects throughout the staff by working virtually within one Command Post divided across physically different locations. Having understood the process and trained extensively, exercise EAGLE METEOR was the successful final step towards the finalization of our Command Post Concept. We, as the members of the HQ NRDC-ITA multinational team, rely on our professionalism, knowing that we have the appropriate answers at hand to answer all future challenges.

About the Author

Lieutenant Colonel, German Army, Andreas Büschenfeld graduated in Business Administration at the Federal Armed Forces University Munich and joined the International Command and Staff College Course at the Military Academy of the German Armed Forces, Hamburg. During his career he served twice in the KFOR and three times in the ISAF mission in various functions. After his assignment as Commander of a Logistic Airborne Battalion, he worked in the Strategy and Mission Division of the Federal Ministry of Defence in Berlin. In October 2017 he joined the HQ NRDC-ITA in the position as Staff Officer 1 and head of the G3 Current Plans Section.

How TOPFAS (Tool for Operations Functional Area Services) was used during EX EAME 19 and its potential for wider employment at the lower tactical level

Lt. Col. **Marco URBANI**, Italian Air Force

TOPFAS proved to be a useful planning software tool during Exercise Eagle Meteor 2019 and the exercise demonstrated its potential to be exploited at the lower Tactical Level. It has further potential to improve information sharing between the Corps’ subordinate units.

Introduction

With NRDC-ITA readjusting its posture to meet the challenging demands of conducting war-fighting operations as a Corps Headquarters, there was an exciting opportunity to explore the potential for how the Tools for Operations Planning Functional Area Services (TOPFAS) could be exploited at the lower Tactical levels. Therefore, Exercise Eagle Meteor 2019 (EAME19) became the first chance for NRDC-ITA’s to test how we could use this tool, (primarily designed to support the Comprehensive Operations Planning Directive (COPD) planning process), to the tactical level to support the Allied Publication Procedure - 28 (APP-28¹) planning process. Furthermore, it provided an opportunity for attached personnel from subordinate units to understand the potential use of TOPFAS below the Corps level. Currently, as a result of training and investment, GRF(L) planners can use TOPFAS to enable efficient interaction between Corps HQ and the strategic level. Below Corps marks the current “frontier” between TOPFAS users and non-TOPFAS users. However, there are many advantages to sharing planning information below Corps level which could result in tangible staff benefits and improved operational effectiveness. This article will recap how NRDC-ITA used TOPFAS during EAME19 and will also analyse the opportunity to improve the use of TOPFAS between Corps level and subordinate units, by offering options as to how this could be achieved.

Background

In the first 40 years after the formation of NATO, military operational planning concentrated exclusively on the defence of NATO territory in Europe from a single adversary. NATO was a ‘one scenario’ alliance that only needed continuous refinement of a specific plan. With the end of the cold war, NATO had to revise the possible options, evolving towards a new concept of force deployments and peace support operations outside NATO territories. The need to establish standard NATO doctrine and planning procedures became a requirement and was given additional urgency due to additional nations joining NATO who previously used completely different planning processes. The basic steps in the planning process began to merge across different command levels. Currently in NATO, planning is typically conducted in parallel across all levels with close interactions throughout the command hierarchy. To improve these interactions Allied Command Operations (ACO) started developing TOPFAS, a planning software tool able to maximize the advantage of networking within and between HQs. Originally designed to support NATO Crisis Response Planning (CRP) at the strategic and operational level, TOPFAS has progressively improved, driven by the need to share information during parallel planning and is now routinely used down to the Component level.

³ Restoring the Balance – Corps Troops Vision for NATO’s Warfighting Corps Capabilities, as of 6 March 2019, Page 15.

¹ “Tactical Planning for Land Forces”.

Current usage

During the last few years NRDC-ITA has cycled through the roles of Joint Task Force (JTF), NATO Reaction Force (NRF) and Land Component Command (LCC), acquiring solid experience in the use of TOPFAS at the operational and tactical level.



Fig. 1 TOPFAS supports collaborative planning within the OPG allowing a common visualization of key planning aspects.

In preparation for EAME19, NRDC-ITA offered subordinate units an opportunity to participate in the TOPFAS User Practitioner Course run at the Ugo Mara Barracks. Although principally designed to enable Divisional staff to be confident with the main planning tool used during Crisis Response Planning (CRP), it also set the conditions for the TOPFAS Functional Manager to adapt the tool to better fit the requirements for conducting Tactical Planning for Land Forces outlined in APP-28. In particular the workspace was reorganized reflecting the 7 steps of the tactical planning process and the core planning team selected those diagrams most suitable for this process.

As EAME 19 was a bespoke NRDC-ITA exercise limited products were available to support initial planning. In addition, the ongoing upgrade program meant different software baselines further limited interoperability.

However, the use of TOPFAS by the Operations Planning Group (OPG) during EAME19 considerably enhanced the performance of the Headquarters during this phase. The collaborative characteristics of the system allowed the OPG to quickly put together, update and issue warn-

ing orders 1 and 2 to subordinate formations with the latest information from across the HQs Branches. In particular the production and updating of the OPLAN at the end of the CRP could not have been achieved so quickly or accurately without the functionality provided by TOPFAS. Although not used extensively due to time constraints, the maps and mapping capabilities

supported key aspects of planning, providing useful granularity and created an area ripe for further development and exploitation. The overall experience also highlighted several ideas on how to improve cooperation and the exchange of data with the subordinated units.

Optimising benefits

One of the most difficult issues during the planning process is to build up a common understanding of the problem and gain a shared view of the solution. The challenge is even more complex if different planning groups are working from different HQs whilst conducting parallel planning. There are limited opportunities to meet in person and clarify any doubts and concerns. However, TOPFAS can do much to overcome this problem by allowing (entitled) HQs to access (or at least to read) in real time all the planning products of a higher/lower HQ, thus improving their understanding of the rationale behind a specific decision. This is not without a training 'overhead' and for this reason, NRDC-ITA started a program to train more personnel from both internal staff and its subordinated units.

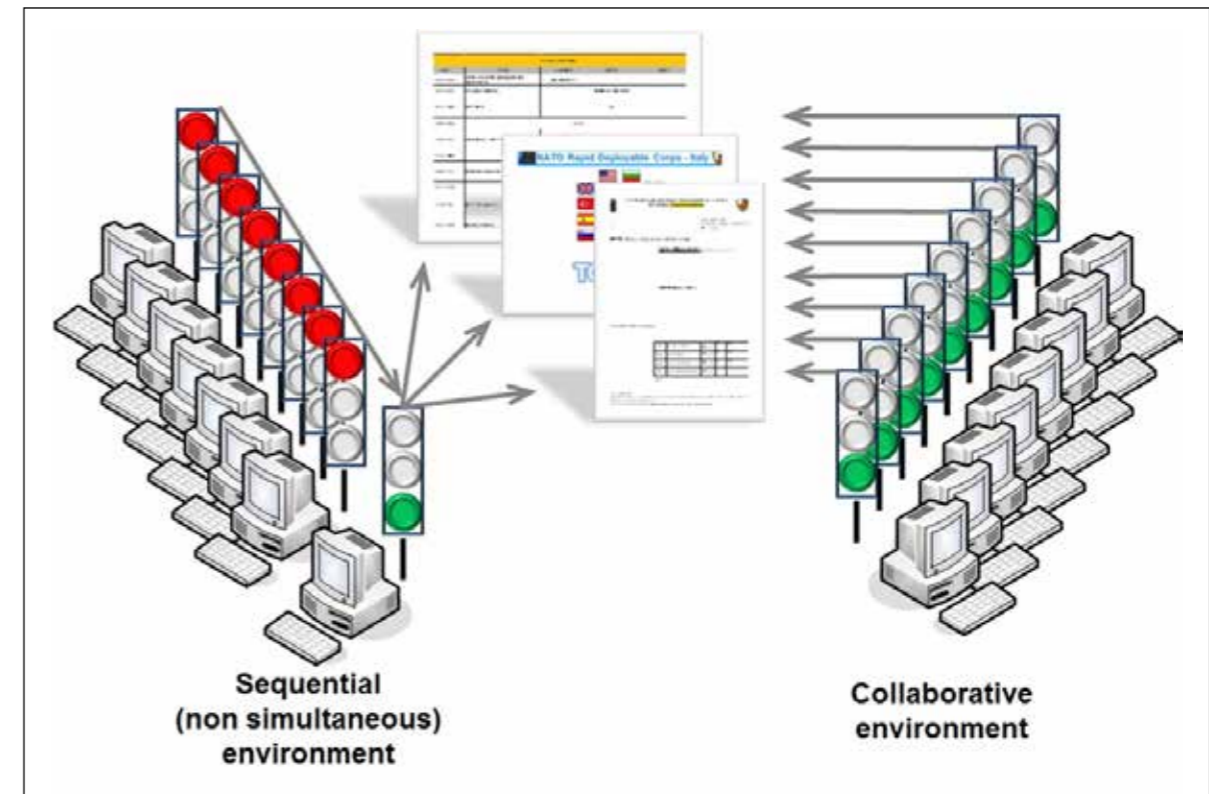


Fig. 2 The problem with only one user updating products at a time (sequential environment) Vs the advantage of TOPFAS users able to simultaneously modify all products (Collaborative environment).

Another benefit that could be further optimized if TOPFAS was used to span commands to the lower levels is the re-usability of staff products. A key feature of TOPFAS is the ability to create a planning object just once but enabling the possibility for all users to use it wherever they need. To better understand this concept, consider the

creation of an Action in an Operational Design. When an Action is created it's assigned a list of parameters, e.g. a name or the date it must be achieved. From that moment on everybody in the system may re-use that Action in any diagram they need; for instance, in the creation of a Synchronization Matrix. However, if an update



Fig. 3 TOPFAS planning products can be used to back brief and refine Command Direction and Guidance outside of a formal briefing environment.

is required, a parameter can be modified and the change is seen simultaneously everywhere. This not only saves time but gives essential consistency to planners whilst preventing duplication of effort.

A further strength of TOPFAS is the possibility for all members of a planning group to work simultaneously on the same diagram or document generating true collaboration. As it is not necessary to work sequentially but rather in parallel, this considerably enhances planning efficiency and simplifies version control. Clearly, to avoid system 'anarchy' the process managers need to fix some rules and give advice on how to better organize the group work. Nevertheless, if managed effectively, these benefits can work from Corps level down to subordinate commands and will increase operational tempo and maximize efficiency across the span of command.

TOPFAS delivers other advantages in the form of multiple plans and engagement spaces on a single server. This is useful when there are multiple plans for the same threat – or for different possible enemy courses of action. This eases some of the workload for the planners but even more so for the analysts. Consequently, any improvement that results in reducing the time pressure will be welcomed by all HQs. Additionally, any updates are simultaneously available to any other HQ that requires access to it.

The above are just some of the positive means by which NRDC-ITA at the Corps level might help its subunits to increase Operational Effectiveness at the lower level by exploiting TOPFAS. Briefly, they can be summarized as:

- Real time data exchange;
- No duplication of effort in producing planning products;
- Simultaneous collaborative areas;
- Common repository for operational plans.

Next Steps

We should not underestimate the initial difficulties of convincing subordinate units of the value of the TOPFAS tool and its downstream advantages. NRDC-ITA as the Corps HQ must help and encourage a positive change of mentality for those HQs that express an interest by developing a supportive process for them to follow. By actively working inside this higher HQ and following the planning process developed inside TOPFAS, Liaison officers who have been nominated to join this HQ for EAME19 and future exercises can give active and competent support to their units whilst at the same time gaining experience that they can share when back at their units.

By becoming more integrated in the collaborative process, the subordinate HQ will be better placed to appreciate the value that TOPFAS

could add to its own planning process, once implemented. Undoubtedly, this would be simpler at Divisional level rather than at Brigade level. At the really low tactical level, where the tempo is high, the use of complex networking software will require a high level of knowledge throughout the staff before it can be really effective. Nevertheless, the simple provision of Orders of Battle (ORBATs) at low tactical levels would greatly increase the reliability of actual data and this is a capability that TOPFAS readily provides, with commensurate advantages to Operational Effectiveness.

Lastly, an interface has already been developed to communicate with other Operational CIS at the higher levels, for example Logistic Functional Area Services (LOGFAS). Very probably there is scope to further examine how similar interfaces could be developed for improved compatibility and information exchange into existing, or future, Tactical CIS at the lower level, as well.

Conclusion

The use of TOPFAS during EAME 19 made a significant positive contribution to the HQs outputs and further informed our knowledge of how best to employ this tool in our current role. GRF(L) HQs can provide a good example and a strong point of reference, having already developed the knowledge and experience through the employment of TOPFAS in their different roles. For NRDC-ITA, in our role of Corps HQ, it will be immensely valuable to stimulate an interest in TOPFAS training and use within subordinate units. We are well positioned to provide high quality training to our subordinates, which will improve interaction and enable this Corps HQs to provide capable and operationally effective land forces that are ready for tomorrow's challenges.

About the Author

Marco URBANI currently serves as J5 SO PLANS in NRDC-ITA and is a Lieutenant Colonel in Italian Air Force.

CRAST as a system to manage the workflow

Lt. Col. **Antonio TRIPODI**, Italian Army

The transition process from the role of NRF18 LCC (NATO Response Force 18 Land Component Command) to Corps HQ (Head Quarters) was designed in the fall of 2018 by J7 Branch and based on the main sublines identified by the NRDC-ITA Commander for 2019. This recalibration was labeled as "Realignment to Corps HQ" LoD (Line of Development) 7, which later was renamed LoD 1. Although no certification was required, a working group named the Corps Re-alignment Steering Team (CRAST) was designated under the direction of DCOS OPS (Deputy Chief of Staff for Operations). For each subline, a branch-level OPR (Officer of Primary Responsibility), ACOS (Assistant Chief of Staff) J3, ACOS JFIRES (Joint Fires) and DCOM (Deputy Commander) Rear HQ were nominated. CRAST working groups had 44 permanent components from the HQ Staff.

For the recalibration process, a road map program was designed with milestones, deadlines, objectives and synchronization actions. The main activities that drove development were the Study Days in January and July 2019 which focused on preparing the HQ conceptually, in time for exercise Eagle Meteor 19 (October 2019).



A meeting of the CRAST.

The execution phase of the exercise would then serve as a conclusion and verification of all the studies carried out and implemented for the definitive realignment to the role of Corps HQ. It is worth noting the speed imposed on the whole process throughout all phases and that has allowed our transformation in a period of only 12 months. The information relating to Corps was collected from the main NATO organizations. Chief amongst these, it is necessary to highlight the benefit of those studies carried out by the ARRC (Allied Rapid Reaction Corps) that served as useful background. The benefits were briefed by ARRC representatives to the NRDC-ITA Staff during the Primary Study Day in January.

1 Recently published and with a dedicated BSN Annex.

The concepts

The constant guidance and direction carried out by the command Group facilitated the speed of all analyses and concepts and maximized the results, requiring solid concepts before the development or adaptation of SOP/SOIs (Standard Operating Procedure/Standard Operating Instruction). The following was achieved:

- Six new concepts drafted and implemented for the Corps HQ role: Deep OPS, Rear OPS and Battle Space Management (BSM) and Corps Logistic, CIS (Communications and Information Systems) and Engineer concepts.
- The Rear OPS and Corps LOG concepts were presented to the NATO Logistics community, during the LOG conference in Izmir (TUR) held in March 2019.

In relation to the concept of BSM, AJP (Allied Joint Publication) 3(C)¹ becomes the point of departure of NATO BSM doctrine. Its annex defines BSM as "the use of all necessary adaptive means and measures that enable the planned and dynamic coordination, synchronization and prioritization of activities across all dimensions of an assigned area of operations within the battlespace". In order to provide the proper approach for the requirements of NRDC-ITA HQ in the new Corps role, the BSM concept was developed from an interdisciplinary approach using NATO DOTMLPFI (Doctrine, Organization, Training, Materiel, Leadership, personnel, facilities and Interoperability) method as a framework. This process analyses each component for a specific capability individually, and in relation to the others, and it is the first step to follow in the capability development

process. Following deductive reasoning, the study starts by analyzing different assumptions to finally obtain conclusions that then defined the NRDC-ITA BSM concept.

In terms of Corps Rear Area Operations, there was a requirement for a concept of Corps Rear Area due to the fact that there is no NATO doctrine for Corps Rear Area. In this recognition NRDC-IT HQ Rear conducted a study to see how other NRDCs deal with the Corps Rear Area. The study showed different approaches from different NRDCs and accordingly the Commander of NRDC-ITA decided to produce a concept for Corps Warfighting scenario. As previously mentioned, the concept was developed and presented in the Logistic Conference in Izmir in March 2019, explaining how NRDC-ITA deals with the Corps Rear Area security focusing on LoC (Line of Communication) and critical infrastructure. The main purpose of rear area operation is to provide uninterrupted support to Divisions using HQ Rear and its assigned means and capabilities. Although the concept is approved there is still room for improvement, therefore HQ REAR SOP/SOIs related to the concept was tested during the exercise Eagle Meteor 19.

'Deep operations are operations conducted against forces or resources not engaged in the close battle'². It was clear that not only was NRDC ITA realigning to Corps but it was, simultaneously, rediscovering its full warfighting credentials. Who, why, where, when and with what were we going to fight the Corps Deep Battle was the question the working group posed itself. And through a process of reading, researching and then explaining so the working teams built up a group of subject matter experts from across the HQ who would, within their own branches or their own part of the PRSEA (Plan, Refine, Synchronize, Execute, Assess) process be able to inject their knowledge. Of course this is not a new issue – allies fought a Corps Deep Battle as recently as 2003 during the Second Gulf War. So the working groups were relearning what had been forgotten during the Counter Insurgency Years. Equally the HQ's Battlefield Study of the fighting on the Gothic Line allowed us to consider how the Deep Battle was fought in 1944 – and how we could apply it to today. The output was a codified Deep Operations SOP which has been drafted accordingly with the Deep Ops concept, tested during Ex Eagle Meteor 19 and then finalized as an extant reference document for the whole of the HQ to use.

SOPs & SOIs process

An ongoing activity throughout the year has been the establishment of a working group (J5 in lead) to manage the Corps Warfighting SOPs

² ATP 3.2.1, para 0229 'Deep Operations'.

³ Included to the NATO Long Term Commitment Plan (LTCP).

and SOIs process. It provided the NRDC-ITA Staff with guidance for the revision, harmonization and integration of the Corps SOPs/SOIs production. A key aim was to optimize, standardize and refine procedures and processes coherently across the HQ. In practice it provided a forum in which to consolidate progress, raise questions or points for clarification, exchange ideas and "best practice", resolve issues and sustain situational awareness. The detailed work on revision was done by, and between, Branches but to a common standard across the HQ. The implementation of a phased approach saw incremental deadlines for 1st and 2nd drafts throughout the year, timed to coincide with the start dates of exercise periods in which the documents could be validated. Accurate reporting and tracking of the progress of all documents has been pivotal in providing accurate management information to the command group. This has allowed SOP/SOIs to keep pace with each other and has set the conditions for the final approved documents to be published before end of 2019.

Conclusion

The CRAFT proved to be a useful tool during our realignment to Corps HQ role because:

- The CRAFT director centralized the coordination of all activities even though some concepts did not correspond to the responsibilities of his division.
- The command group was regularly updated, in detail, during CUAs (Commander Update and Assessment), MCBs (Monthly Coordination Board), etc. and specific briefings for the approval of concepts.
- The command group approved the development of new concepts as a precursor step for the revision of SOP/SOIs.
- The revision of all SOP/SOIs, closely controlled by J5, made it possible to validate their development during the different phases (preparation, planning and execution) of the Eagle Meteor 19 exercise.
- The Eagle Meteor 19 exercise was designed to take into account the observations and recommendations made by the CRAFT on the Primary Study Day, so it has met all the requirements to check, test and validate all the products.

As long as the sequence of different roles³ to be performed by this Headquarters is maintained, it seems advisable to maintain a Steering Team as the primary planning and management tool.

About the Author

Lieutenant Colonel Antonio TRIPODI currently serves as SO Liaison Coordination in NRDC-ITA.

Training non-kinetic activities in an article 5 scenario

Col. Thomas GREGGERSEN, German Army

This article identifies NRDC-ITA's key findings in response to the question: 'how to train non-kinetic activities in an Article 5 scenario'. The NRDC-ITA Influence Division's experience has been that achieving realistic and valuable training of non-kinetic activities requires careful consideration and the creation of an influence picture "before, during and after the exercise". This extended scenario enables non-kinetic activities to be conducted, allowing the Information Environment (IE) to be mature and well developed by the start of the exercise. In this respect, since the "influence time horizon" is longer even than at tactical level, it is a paramount to work on a long lasting background scenario which builds a history of perception. As a Corps Headquarters in an Article 5 scenario there is a need for us to be able to deliver both kinetic and non-kinetic activity in a coordinated and synchronized manner. For the Influence perspective this means we need to be able to plan and direct Actions rather than Effects.

Definitions

Article 5 is the basis for Collective Defence whereby an armed attack against a NATO member, in Europe or North America, is to be considered an attack on all members. In an Article 5 operation we must also consider - besides high intensity warfare - hybrid threats and non-kinetic activities such as information campaigns, cyber-attacks and the causing of civil unrest/IDP movements. Therefore, there is a need for our Corps headquarters in an Article 5 scenario to be able to deliver coordinated and synchronized kinetic and non-kinetic. For the Influence perspective, this means we need to be able to plan and direct Actions rather than Effects.

Training. Bi-SC 075-007¹ identifies training activity as occurring from: Phase 1 (Foundation Training including individual Training, Battle Staff Training and Seminars); Phase 2 (Crisis Response Planning) and Phase 3 (Force Activation, Deployment and Execution). For EAME 19 we have ensured that non-kinetic activities are part of all secondary steps of these training phases: from the individual training of our SME's in branches through the Key Leader and Battle Staff training up to the early integration in the planning phase of the exercise. In the execution phase, this creates an influence domain picture - coordinated with the operational picture – which allows realistic outcomes and the analysis of the results of the non-kinetic activities.

¹ NATO Collective Training and Education and Individual Training Directive.

² The description used by the United States Air Force.

³ It should be noted that kinetic and non-kinetic actions can have a lethal or non-lethal effect. For example, firing artillery (a kinetic action) into an open field will not damage property or kill humans (no lethal effect). However it may DETER or DEMONSTRATE (a non-lethal effect). Alternatively DECEPTION (a non-kinetic action) may result in putting the enemy in a place of our choosing, allowing us to DESTROY them (a lethal effect).

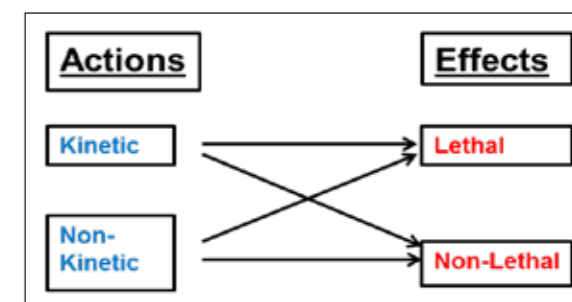


Fig 1: the relationship between Action and Effects.

Kinetic and non-kinetic activities. Kinetic activity: actions designed to produce effects using the forces and energy of moving bodies and directed energy, including physical damage to, alteration of, or destruction of targets. Non kinetic activity: actions designed to produce effects without the direct use of the force or energy of moving objects². As a Corps headquarters we are focused on conducting Actions in order to cause the Effects that we are directed to achieve by our higher headquarters. The diagram below (see Fig. 1) indicates the relationship that Actions have with Effects³.

Main considerations and examples for better training of non-kinetic activities

A) Preparation Phase

Involvement in the exercise planning process from the earliest opportunity. Participation by

suitably empowered and experienced staff from the non-kinetic Branches in Stage One (Concept and Specification Development) will make it possible to influence the Exercise Specification (EX-SPEC). Participation in Stage Two (Planning and Product Development) will allow the shaping of the Training Objectives and Main Events List / Main Incidents List (MEL/MIL). This was achieved during the planning phase of the Exercise by including Influence Division representatives in the Crisis Situation Update (CSU) and in the MEL/MIL Workshop, and by having Branch SME's participate in the Operational Planning Process (Phase 1) from the very beginning. As a result of this early engagement, non-kinetic serials were a deliberate action that fits into the exercise scenario.

Early development of the Influence Concept. Non-kinetic activity must be conducted in line with the Influence Concept. Without this, understanding of Influence activities in the exercise is poor. It is the bridge between HQs StratCom narrative for the operation and COM's intent, and provides direction and guidance on how the HQ should seek to influence target audiences. It is paramount to work on a long lasting-background scenario which builds on historical perception since the "influence time horizon" is longer even at tactical level. It also enables our Branches and other Divisions to understand the role of non-kinetic activities in achieving the end state and will also allow the creation of the pre-STARTEX information domain.

Handbook "The influence domain picture before deployment". For this reason Influence Division developed a Handbook with an information domain picture before deployment. The handbook was made available to all exercise participants before STARTEX. It provided information about the Host Nation (HN) Information Environment (InfoOps) including a detailed Media picture of the HN (PAO). Furthermore the document provided a picture of the HN civil environment (CIMIC/J9), the situation of the Police Force (Stability Policing) and gave an outlook about the Security Force Assistance (SFA) activities in the Transition phase. Furthermore we attached, to this handbook, instructions and orders from our higher HQs and Minutes from previous KLE's as a basic for the development of our own activities in these areas.

Influence Domain narrative for the "Road to Crisis". Finally, for the preparation phase of Ex EAME 19, we produced a video. This "Road to Crisis" is represented by a series of media events/opportunities, mainly conducted at political/strategic level, designed to build up the crisis at international level within the IE. It was developed in Social Media Posts/Tweets, Press Releases, Video interviews etc. created by NRDC-

ITA PAO and InfoOps in coordination with a detached Audio/Video team from the 28th PSYOPS Rgt (Psychological Operations Regiment). Altogether, conducting non-kinetic activities was enabled through the extended scenario, allowing the information environment to be mature and well developed by the start of the exercise and this helped the exercise participants to better understand the role of non-kinetic activities during the execution phase.

B) Processes and Coordination mechanism

Kinetic activities must be coordinated/integrated with non-kinetic activities. To be most effective, we must be able to plan and conduct both types of activities in a coordinated manner. During the exercise, this was conducted through the NRDC-ITA battle rhythm, enabled by refinement at the Corps Targeting Group (CTG), the Daily Activity Synchronizations Meeting (DASM) and the Information Activities Working Group (IAWG). The StratCom function is also key in achieving this coordination. StratCom provided the 'why and what' regarding what we want to do to the Information Environment, ensuring the vertical and horizontal alignment of information activities. The Influence Division addressed 'how' this shaping will be done, achieving this in an Article 5 operation especially with their capabilities in the area of InfoOps/PsyOps, PAO and CIMIC.

Civil Military Interaction (CMI). CIMIC is applicable for all types of NATO operations, where commanders are required to assess and analyse the civil environment. In particular for an Article 5 scenario CIMIC core functions (Civil-military liaison; Support to the Force and Support to non-military actors and civil environment) are executed with no change. The main difference between Article 5 operations and CRO is that CIMIC focuses more on supporting the forces. To support the mission objectives CIMIC must establish and maintain a robust Civil-Military network as early as possible. A high operational tempo and a changing situation demand continuous updates and situational awareness from CIMIC at all times. The population is a key factor that may impact our operation. The human terrain is as important as the physical terrain, and it is the non-kinetic activity that shapes this. During the Exercise CIMIC realized that negotiations with HN on the local level (foreseen for the Corps level) were time consuming and without quick decisions, which would have been necessary in line with the high tempo of our operation. Therefore the Corps HQ requested the transfer of authority for negotiations up to the highest level of the HN Government. After getting this Authority we were able, together with the HN Government, to set the preconditions for a successful end to our operation.

C) Lessons identified

During the exercise, StratCom Advisor (ADV), INF ADV and LEGAD ADV were part of the Forward Command Post and located in one working area. This centralization reduced - in line with the high tempo of the operation - not only the time for coordination of the activities in IE but also enabled the SME's to provide quick and prompt advice to COM NRDC-ITA and with this to shorten this decision making process. An example during EAME 19 was the development of mitigation measures for civilian casualties. This required immediate action from the HQ due to the expected negative reaction of the population. In a short timeframe and working fully with the Main HQ, a mitigation-measures concept was developed.

Create and maintain training links with 28 PSYOPS Rgt. In the IE the link to 28 Rgt is key for NRDC-ITA to form the core of our Psychological Operations Task Force (POTF). During the exercise 28 Rgt only participated - due to other commitments - with a small team which was integrated in the InfoOps Branch developing the PsyOps support plan. Therefore, during EAME 19 we were limited in our ability to produce more products to demonstrate the results of non-kinetic activities (e.g. leaflets, interaction in the Social Media area).

Public Affairs Office (PAO) exploited our operational success with tweets in the social media area (see Fig. 2). With this proactive and quick capitalization of our operational improvements in close coordination with PsyOps activities (decreasing the morale and will to fight, countering the propaganda of the opponent adversary), we were able to gain back the initiative in the IE.

Conclusion

As a Corps HQ in an Article 5 operation we are focused on conducting actions to concur in the achievement of the effects that we were directed to conduct by our higher headquarters. The Corps Commander has a range of kinetic and non-kinetic activities that can be used to fulfil the mission. Key to success is the ability to conduct both in a coordinated and synchronized manner, as well as the vertical alignment of messaging. When developing a scenario we have to ensure that it has a long-lasting background with a history of perceptions. Examples during our Exercise were: a Handbook with information about the IE including RoD's of KLE's, Minutes of meetings, and the development of an Influence Domain narrative for the "Road to Crisis". During exercises, especially when operating as a Corps headquarters, it is important that we



Fig. 2: Example for a Social media tweet exploiting our success.

are able to produce products to demonstrate the results of the non-kinetic activities that we have conducted. This can be achieved by reach back to Main headquarters or by appropriate subordinate units such as 28 PSYOPS Regt. The use of Social Media has the potential for further development. To conduct meaningful analysis requires a reach-back capability that is suitably resourced with personnel and software. We do not yet have the means to do this. We should develop this ability, allowing sentiment analysis and other activities to be conducted at Corps level. This is an area that can be developed by the newly formed Social Media section at NRDC-ITA.

The human terrain is as important as the physical terrain, and it is the non-kinetic activity that shapes this. During EAME 19 we realized that, in the Civilian-Military network, the delegation of Authority to negotiate with the higher level of the Government is important to improve the tempo of decisions in line with the conducting of the operation. The delegation of Authority in the framework of kinetic activities/manoeuvres e.g. transfer of authority for bridge demolition or delivery of minefields is equally important to the success of the operation. Based on our experiences during EAME 19 we have to finalize an SOI that helps to ensure that NRDC-ITA is better able to train non-kinetic actions.

About the Author

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Why does NRDC-ITA need to develop a Rear Area Concept?

Maj. Mauro DE MARTINO, Italian Army

As NATO's strategy has returned to the Article-5 focus since the 2014 annexation of Crimea, NATO's Tactical Commanders should reconsider the Rear Area as a necessary element of study during their planning and execution phases (Fig.1). This is why NRDC-ITA chose to develop a Rear Area Concept, within its own staff, for a Headquarters that is specialized in and responsible for the conduct of Rear Area Operations.

"That the rear of an enemy's army is the point to hit at should be obvious."

Maj. Gen. J.F.C. Fuller

A new-old strategic environment

In the aftermath of the Cold War, NATO saw itself less as a defence organization and more as a crisis manager beyond the Alliance's borders; something like an honest broker both with regard to Russia and to global security cooperation, as well as a political transformation agent for aspiring member states in Eastern and Southern Europe. While collective defence in accordance with Article-5 of the Washington Treaty remained the Alliance's *"raison d'être"*, it was regarded as a scenario that would never occur. The current condition could not be more different. It is undisputable that since 2014, the security situation in Europe has changed substantially. The European peace order that was established together with Russia after the end of the Cold War has ceased to exist – it has fallen prey to Russia's aggression in Eastern Europe. Moreover, hopes to establish cooperative security in the Middle East and also in North Africa have degraded by civil wars and terrorism. In the light of such drastic changes it is deemed essential to carry out the strategic reorientation of NATO or, more precisely, to adapt the strategic foundations of the Atlantic Alliance to the new situation; that an Article-5 conflict is again considered a possibility. As a cascade effect, this new perception went from the Strategic level through the Operational down to the Tactical level. For many years, in a CRO (Crisis Response Operations) driven military approach, Rear area operations were neglected or just ignored both mentally and spatially; now this is not the case

anymore, as the Alliance is confronting itself with a near peer adversary who has already demonstrated itself to be particularly skilled in delivering both a conventional and an asymmetric threat throughout the battlespace, the latter being particularly effective in disrupting a Formation's (Corps/LCC) Rear Area.

NRDC-ITA's boots on the ground

NRDC-ITA first acknowledged the necessity for a shift of mentality during the Summer Tempest Exercise 2016 as it was preparing for the HQ's NRF18 (NATO Response Force 2018) commitment. Following the lessons identified by NRDC-ITA's sister HQ, ARRC UK, in which the lack of a C2 (Command and Control) node for the Rear Area was identified, the NRDC-ITA Commander led the Staff through the planning process of an Article-5 operation using the first embryo of a

Rear Area Operations are evolutionary in character. As an operation progresses, the geographic location, command and control structure, and organization of the Rear Area will change.

HQ totally focused on planning and conducting operations in the Rear Area. This initial idea further developed due to significant efforts from our staff and culminated in 2019 during the Eagle Meteor Exercise. Returning to the basics of organizing the battlespace, this space is geographically divided into a deep, a close, and a rear area to ease planning and to decentralize execution (Fig. 1).

However, NATO's Tactical Commanders must always view the battlespace as an indivisible entity because events in one part of the battlespace may have profound and often unintended effects across the entire battlespace. Bearing this in mind, throughout the 2017 and 2018 exercises,

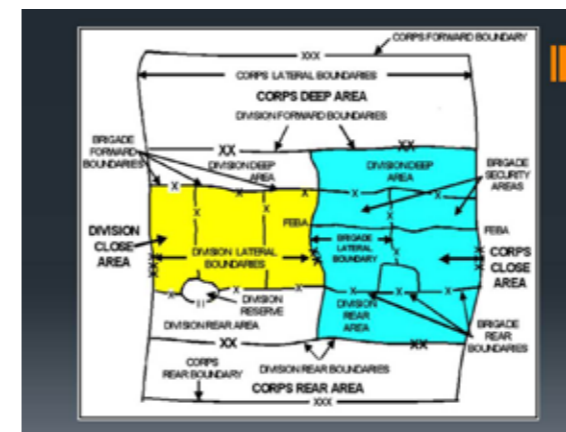


Fig. 1: The Battle Space.

in particular with the Staff elements belonging to JLSG (Joint Logistics Support Group), NRDC-ITA kept refining the Summer Tempest 16 concept for LCC's Rear Area first and then for the Corps' as well. With few to zero NATO doctrinal references about Rear Area Operations, NRDC-ITA Staff studied, in particular, the US Army's and the US Marines' doctrine, whose publications had not been updated since 1985 in some cases. These studies served to regain a common understanding in NRDC-ITA HQ that the overall purpose of Corps/LCC Rear Area Operations is to create conditions to preserve the Corps/LCC freedom of action for deep and close operations and to extend the force's operational reach. Consequently the Rear Area Operations are meant to provide security for the Lines of Communications and Critical Infrastructures as well as logistic activities and liaison with military, security and civilian authorities and agencies. The core business is to provide uninterrupted support to the entire force. This is done through the execution of main functions such as, but not limited to: *security, protection, coordination of base camp/base cluster defence, response force operations and lines of communication security, information collection, communications, sustainment, BSM (Battle Space Management), Infrastructure development, HNS (Host Nations Support), SFA (Security Force Assistance), FIT (Force Integration Training), Movement Control, CIMIC (Civil-Military Cooperation) operations, Liaison, ADA (Area Damage Assessment), CBRN (Chemical Biological Radiological and Nuclear) and PSYOPS (Psychological Operations).*

NRDC-ITA's approach

Focusing on the abovementioned core business and main functions, NRDC-ITA stated the need to have a Rear Area Concept whose cornerstone was the creation of HQ Rear. As per NRDC-ITA Commander D&G a part of NRDC-ITA Staff, previously identified to be JLSG HQ, also received the task of constituting the framework of a Command and Control structure entirely dedicated

to Rear Area Operations: *"....Rear Area Operations will be planned, coordinated and executed by an independent HQ (HQ Rear) appropriately staffed, equipped and trained to execute its task. For this purpose a package of forces will be assigned to HQ Rear Commander in order to enable him to accomplish his mission."*¹

In May 2019, just in time for the start of the Eagle Meteor 2019 Exercise planning phase, COM NRDC-ITA approved the "Concept of the Corps/LCC Rear Area Operations and Sustainment". The release of this concept clearly reaffirms the paramount importance of the Rear Area for a Tactical Commander; it also gives the instruments to all NRDC-ITA Staff to address the Rear Area issue during planning and for Rear Area Operations to be an integrated and continuous part of the planning process. As in Close and Deep Operations, a Commander must consider the effects of what is happening in his/her Rear Area in achieving the mission so he/she can effectively use all of his/her valuable resources. He/she must envision the organization and resources necessary to conduct a given operation at its peak, and then conduct reverse planning to support that vision. Simply said, the commander must *"begin with the end in mind"*, while also remembering that Rear Area operations are continuous and evolutionary in nature. As an operation progresses, the geographic location, command and control structure, and organization of the Rear Area will change. The Rear Area Battle occurs before, during, and after close and deep ops. Moreover, the disruption of critical activities in the Rear Area by enemy action can reverse an otherwise successful operation or degrade the effectiveness of the results achieved in the close and the deep.

Conclusion

The 2014 annexation of Crimea was a wakeup call for the Alliance and rear areas have been identified as a soft underbelly at all levels. The establishment of an Operational Command (Joint Support Enabling Command) in Ulm, Germany to enable the SACEUR's Rear Area further highlights the capital importance of this initiative. NATO Commanders must revamp the consideration that Offensive, Defensive, Enabling and Stability operations need constant, unhampered enablement from their Rear Area. To rephrase a well-known phrase: *"What happens in the Rear Area, does NOT remain in the Rear Area"*.

About the Author

Major Mauro DE MARTINO is a logistics Officer of the Italian Army. After completing 180th regular Course at Modena's Military Academy in 2003, he served for 11 years in a Logistics Regiment in different command positions. In

1 "Concept of the Corps/LCC Rear Area Operations and Sustainment" dated May 2019.

The challenges of the information environment in a war fighting scenario

Maj. Fabio RANIERI, Italian Army - Maj. Angelo ARCANGELI, Italian Army

The importance of the Information Environment (IE) within a NATO Article V operation was highlighted in the lessons identified during NRDC-ITA's Exercise "Eagle Meteor 2019" (EAME19). In contemporary operations we are challenged to maintain a connection between kinetic and the non-kinetic activities during military operations. Info Ops is one of the staff functions which provide Military Commanders with the tools and capabilities to shape the Information Environment.

Introduction

The ongoing and rapid changes in contemporary communications are facilitated by easy access to the internet and digital media. However, modern communication, with its inherent complexities is a double edged sword with multiple hidden threats and challenges that illustrate the importance of the IE.

Accordingly, because information spreads so rapidly and can reach every corner of our globe, spanning developed and developing states, managing perception is paramount. This is important because perceptions can rapidly evolve into a 'perceived reality' to an audience. In this context, military operations face a chal-

lenge. Changes in the global Information Environment offer both opportunities and threats to NATO and members states as potential adversaries try to leverage the IE to meet their political and military objectives.

During the biggest exercise of this year, Eagle Meteor, NRDC-ITA faced these challenges in an Article V scenario, in which a NATO member state was invaded by a neighboring enemy. This military adversary was able to exploit information tools and capabilities to gain and maintain the advantage in the information battlefield. This scenario was a return to the traditional near-peer conflict that NATO we've seen in the past, however, it faced the contemporary challenge of the aforementioned IE.

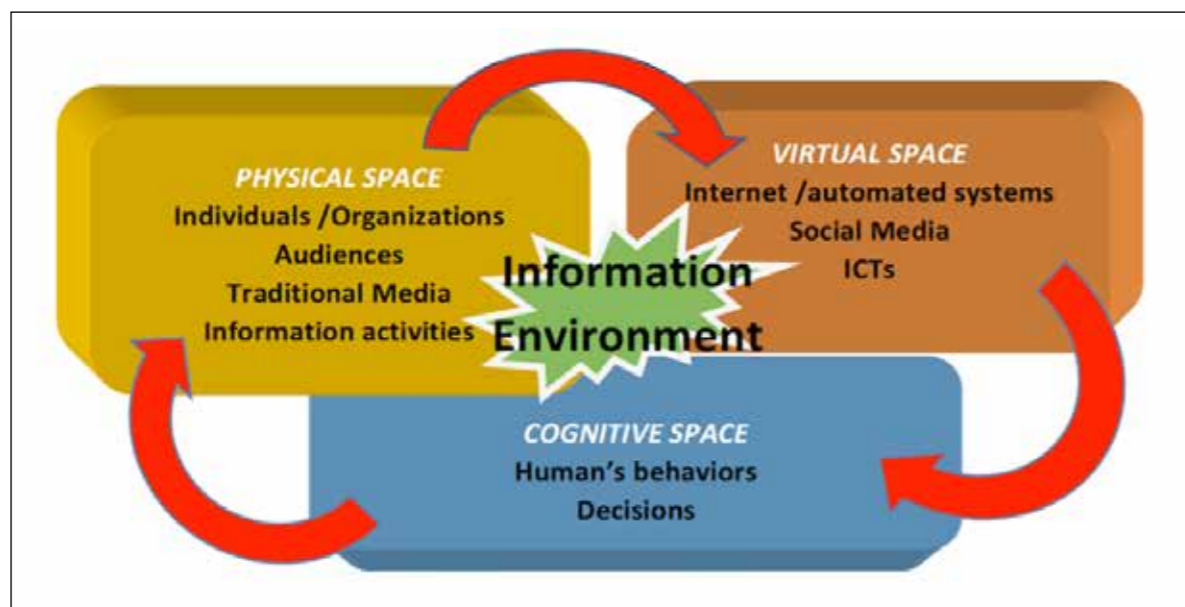


Fig. 1 - Physical, Virtual and Cognitive spaces.

The Information Environment: the battlefield for Information Activities

According to NATO doctrine, AJP 3.10 (2015), the IE is "an Environment comprised of the Information itself; the individuals, organizations and systems that receive process and convey the Information; and the cognitive, virtual and physical space in which this occurs."

Figure 1 illustrates the three spaces in which the human (cognitive), virtual and physical domains occur. The cognitive/psychological domain – where decisions are made, the virtual domain – where intangible activity occurs and the physical space - where it happens.

The IE cannot be neatly compartmentalized as planners attempt to do with the joint, operational and tactical areas of operations. An operational design depicts the interconnecting levels, but the IE doesn't fit such a model, because it is essentially the structure on which these levels and the way they are interconnected exist. Additionally the IE occurs prior to and after the start of any operation, meaning that understanding the cultural and historical context is vital in this domain.

Within a Headquarters, the synchronization of Information Activities¹ (IA), lethal and non-lethal effects, is key to ensuring a clear, credible and timely message is aligned with the NATO strategic narrative. Starting with the guidelines from the Political level through the Strategic and Operational ones, the Information Operations (Info Ops) through the spectrum of tools and capabilities it owns (PSYOPS, Military Public Affairs, CIMIC, EW) is best placed to coordinate and synchronize the related IA.

Eagle Meteor 19: an exercise in a war fighting scenario

EAME19 was a challenging opportunity to test how the IE should fit in an uncommon situation like an article V operation. The kinetic focus of such an exercise challenged the delivery of information activities.

Starting with the pre-exercise political and military emergency, Info Ops produced videos, twitter posts, press releases, statements and strategic declarations, all intended to the create a realistic IE in which EAME19 could be conducted.

Additionally, to counter the enemy hostile information activities a comprehensive country book addressing the political, military, economic, so-

cial, information and infrastructure aspects of the various actors was produced. The country book focused on a "Road to Crisis" narrative that addressed the actions that lead to the start of the exercise. This was supported by a Political/Strategic level context with a specific focus on the Information perspective, including high level statements and declarations by NATO and Host Nation (HN) leaders, which gave the indications as to the narrative and core messages for the force, as well as the enemy narrative to counter. All this was made available to the Headquarters Staff prior to the start of the exercise to enhance planners understanding and raise the collective situational awareness of the IE.

During the execution phase we had many challenges to face, such the recreation of the IE and the time constraints and dynamism of the IE during the operations. Using different platforms (Facebook, Twitter) the Public Affairs Office (PAO) analyzed and assessed online trends, connections and the sentiment analysis of the communities that had interacted with our posts on the aforementioned digital media. Social Media analysis coordination with higher command was also linked with a bespoke piece of work undertaken by the PAO. PSYOPS also contributed, thanks to the Italian 28th Regiment, with a series of products were produced aimed at influencing our audiences.

These efforts allowed us to meet the challenges of propaganda, analysis and assessment and support combat operations with directed and tailored Information Activities.

But there was also something to improve. The dynamism of the operations was not always matched with the same dynamism in the IE. An article V scenario is mainly focused on large-scale kinetic activities and the importance of the information domain sometimes is underestimated.

Historically, effects in the IE are not at the heart of the operational planning process. In the future, by including Enemy/Adversary narratives and establishing early an Info Ops Red Cell and a Grey Cell (Non-state Actors, IC, NGO's etc) these narratives and their reactions to our activities could allow a more realistic approach to the IE.

We also learned a lot about our internal processes and how to improve our team. The integration of kinetic and non-kinetic activities in the planning process demonstrated that military operations should not be planned and executed without proper consideration of the potential unintended effects on the IE.

¹ Actions designed to affect information or information systems. Information activities can be performed by any actor and include protection measures. (AJP 3.10 ed. 2015).

The analysis and assessment of the IE is routinely to be a higher HQ responsibility and will not be delegated to the tactical units without a clear and synchronized Information Operation C2 structure. While tactical level Information Operations is to focus on the 'execute', IA must contribute to the operational IE assessment. A risk to refining IA at the tactical level is time, not having sufficient due to the demands of the operational tempo. IA are effective when policy and operations are well connected. They can mitigate the effects of weak operations but not overcome. Alternatively, when they are well connected IA can amplify the outcomes.

Finally, it is relevant to highlight the part that can be played by private companies in building a proper IE. Accurately integrated within the white/grey cell and, able to share best practice on how to operate in the IE in a war fighting scenario, external subject matter experts are able to raise HQ staff awareness in how to shape the IE. In the contemporary IE, perception becomes reality and we believe that whoever wins the IE will increase their probability of success during and after military operations.

Conclusion

The challenging and complex Information Environment of an Art. V operation, as illustrated in Ex EAME 19, is a difficult problem to exercise and manage. This is primarily due to the necessity of a clear road to crisis, able to set both the opponent and NATO narratives. To overcome this, the provision of an IE was supported by coordination of various relevant actors (PAO, Info Ops, Psychological Operations, Security Force Assistance, and Civil-Military Cooperation). Focusing on assessing and integrating Information Activities within the digital domain (blogs, Twitter, etc.) were important in understanding the impact of friendly and opponent Information Activities within the Area of Operations.

The current focus and attention of NATO on the analysis and assessment of Information Environment will connect all levels from strategic to tactical. The IE must be considered as a part of the entire operational environment since it represents a unique chance to develop training experiences far beyond the Crises Response Operations (CRO) mindset.

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About the Authors

Major Fabio RANIERI serves at NRDC-ITA as Staff Officer INFO OPS Targeting / INFLUENCE Division since September 2015. His previous assignment was at Joint Forces Command - Brunssum (NLD) Headquarters where he was also appointed as Staff Officer INFO OPS TARGETING for a three year tour (2012 to 2015). Throughout this whole period spent in his field of expertise he provided support to the NATO School Oberammergau as INFO OPS SME/Mentor for both the INFO OPS and the Comprehensive Operational Planning Course multiple times. MAJ RANIERI was deployed multiple times in IRAQ, Afghanistan and the Balkans (Bosnia, Albania, Kosovo).

Major Angelo ARCANGELI is a PsyOps Staff Officer by trade. He worked 7 years at the 28th ITA PsyOps Regiment from 2007 to 2014. In that period he served in Afghanistan and Kosovo. After that he served at the Supreme Allied Commander Transformation Headquarters in Norfolk (Virginia - USA) within the StratCom Capability Development team for 4 years (2014 to 2018). Now at NRDC-ITA he is appointed as Staff Officer Plans/KLE within the Info Ops Branch, Influence Division.

Command and information systems preparation and execution

Lt. Col. **Richard LAPSLIE**, British Army

Meticulous Command and Information Systems (CIS) planning, a detailed CIS Order and efficient deployment contributed to the success of Exercise EAGLE METEOR 2019 (EAME 19) through the provision of a robust, resilient distributed and flexible CIS capability.

Introduction

Others within this Edition of the Magazine have discussed the background to EAME 19. I will not repeat that information here; rather I will focus this article on the CIS which were deployed in order to allow Command, Control and Co-Ordination of NRDC-ITA, in the Corps Warfighting Role, subordinate units and also CIS to the Exercise Control (EXCON) and Higher Command (HICON). From a CIS perspective, the Corps Warfighting Role is the most demanding responsibility assigned to any NRDC.

Background and NATO CIS principles

Before I discuss the specifics of the CIS provision to EAME19, the reader should understand the basic NATO CIS Principles which allow for a common understanding of who is responsible for what. Doctrinally, CIS services must be de-

ployed from the "higher to lower, supporting to supported, left to right or clockwise" between formations, Command Posts (CPs), Command Elements (CEs) and Headquarters (HQs). The Federated Mission Network (FMN) concept is employed for the MISSION operational network to allow a seamless passage of information between the various CIS Levels. Simplistically, the NATO Command Structure will provide a NATO Level 1 Deployable Point of Presence (DPOP) which will connect NRDC-ITA to the wider NATO networks. Specifically for EAME 19, a NATO Level 1 DPOP was not available and therefore the NRDC-ITA EAME 19 CIS networks were isolated from the wider NATO networks. NRDC-ITA will provide the NATO Level 2 DPOPs to support NRDC-ITA Command Elements (CEs) and Headquarters (HQs) and the HQs of subordinate components, formations, units. CIS at the lower level, NATO Level 3 CIS, is provided by the Framework Nation of individual subordinate formations. This is represented at Figure 1.

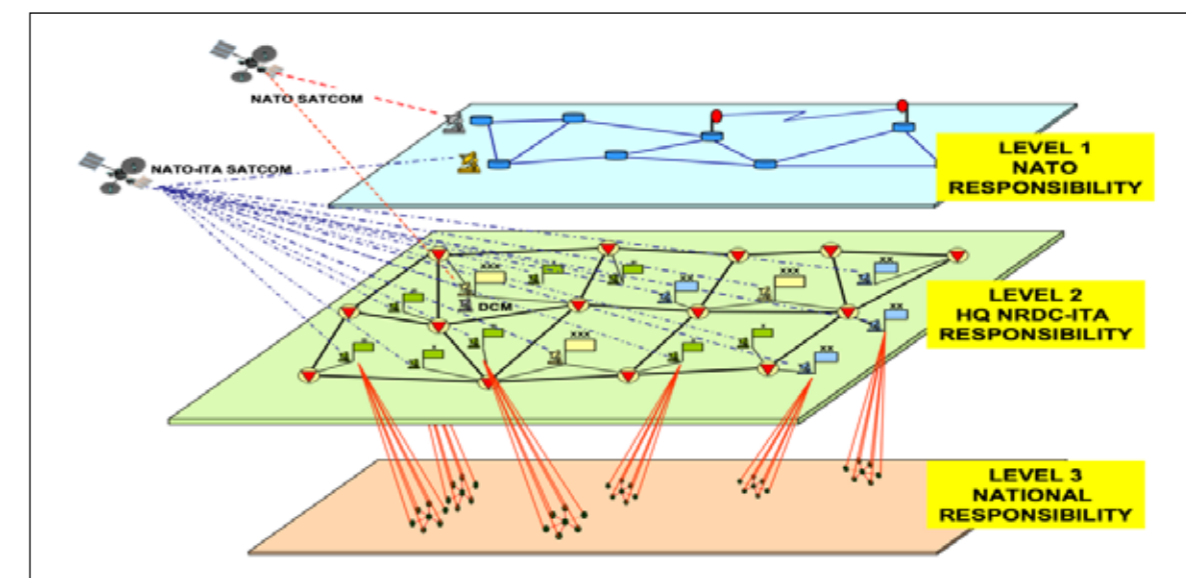


Fig. 1: NATO CIS Levels of Responsibility (SATCOM Illustrative Only).

EAME 19 – CIS preparation

Turning now to the actual CIS which was deployed to support EAME 19. The NRDC-ITA J6 Branch planned the Exercise CIS Concept and articulated this to the Signal Brigade/Support Brigade through a CIS Order, signed by the Chief of Staff (COS). In order to write the CIS Order, J6 needed to understand the Command Group requirement and match that against 1 Signal Regiment capability taking into account the Corps Manoeuvre Warfighting is the most demanding role, from a CIS perspective, undertaken by NRDC-ITA. It was immediately apparent that 1st Signal Regiment capability was insufficient to support the level of ambition and therefore 11th Signal Regiment, co-ordinated through the Italian Signal Headquarters, assets were also used. Other activities such as Cyber Defence, CIS Security, Electronic Warfare and Information Management are out with the remit of the J6 Branch; however, close coordination takes place with the responsible Staff branches to ensure these interests are considered by the CIS community.

Whilst exercising the NRDC-ITA distributed CP Concept, EAME 19 saw deployment to 7 separate locations. The MAIN CE and the EXCON in Solbiate Olona (Italy), the FORWARD (FWD) CE in Diga Lago Rubino (Sicily Italy), the Tactical CP (TAC CP) to Trapani (Sicily, Italy), REAR HQ in Bellinzago Novarese (Italy). Also, the LANDCOM HICON near Izmir (Turkey), the Deployable Air Command and Control Centre (DACCC) in Poggio Renatico (Italy) and the Friuli Division (The Vittorio Veneto Division has maintained the Friuli Division name for the purpose of the Exercise only). in Carpegna (Italy). Corps Troop elements of the exercise were co-located with either the NRDC-ITA MAIN or FWD CEs. The Tactical CP (TAC CP) was also considered for a possible deployment away from the FWD CE. The locations are shown at Figure 2.

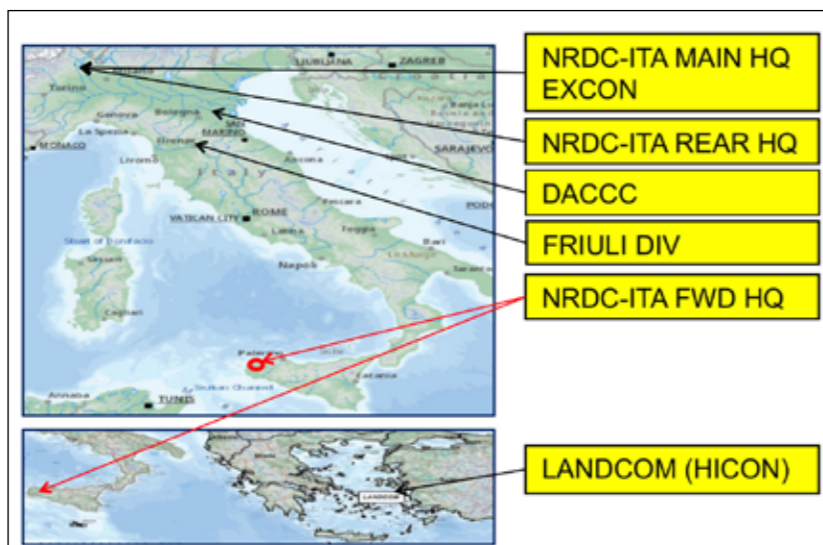


Fig. 2: Ex EAMR 19 Locations.

In order to support this expansive deployment, the 1st Signal Regiment capability was augmented by 11th Signal Regiment. Further, the deployment of the 7th Signal Regiment, providing Level 3 (National) CIS to the Friuli Division allowed for the FMN connectivity between the Level 2 and 3 CIS layers – hence providing a seamless CIS network from Corps to Division to Brigades. The EAME 19 CIS connectivity is shown in Figure 3.

Each location required a minimum of 2 separate main CIS data connections utilising, for redundancy, a separate CIS transmission route. For example, when 2 satellite connections were used, these were routed through separate satellites. In total, each location had Primary, Alternative, Contingency and Emergency communication connections, termed the PACE Plan. NRDC-ITA was responsible for the provision of this Level 2 CIS, providing all the related capability to the MAIN and FORWARD CEs and REAR HQ, EXCON, 50 users in LANDCOM and a Minimum Military Requirement (5-10 workstations) to subordinate units. As discussed earlier, Corps Troop enablers were co-located with the MAIN or FWD CEs.

In order to coordinate the numerous elements to the CIS Plan, there was a CIS Syndicate at each of the Exercise Planning conferences. This was the forum where the specifics of the CIS deployments were agreed and then incorporated into the CIS Order. The activity is of particular importance when CIS is required by both the exercised formations and those enabling the exercise to run. Self-evidently, the conferences allowed agreements to be made in order that NRDC-ITA CIS capability could move from Italy to Turkey. From a technical perspective, the conferences also enabled the 1st, 7th and 11th Signal Regiments, and also the Italian Army Signal Headquarters, to agree interoperability. In addition, J6 and 1st Signal Regiment personnel participated in all the Exercise reconnaissance activities in order to have thorough understanding of the ground.

The final part of the CIS planning was to direct, through the CIS Order, a thorough testing regime to ensure everything worked in barracks before deployment and also that the Level 2 and Level 3 FMN connectivity functioned. In order to replicate a real deployment, the FWD CE was tested in barracks and then deployed without any additional CIS testing. The FWD CE was successfully established in Sicily, as the staff arrived, without further CIS testing.

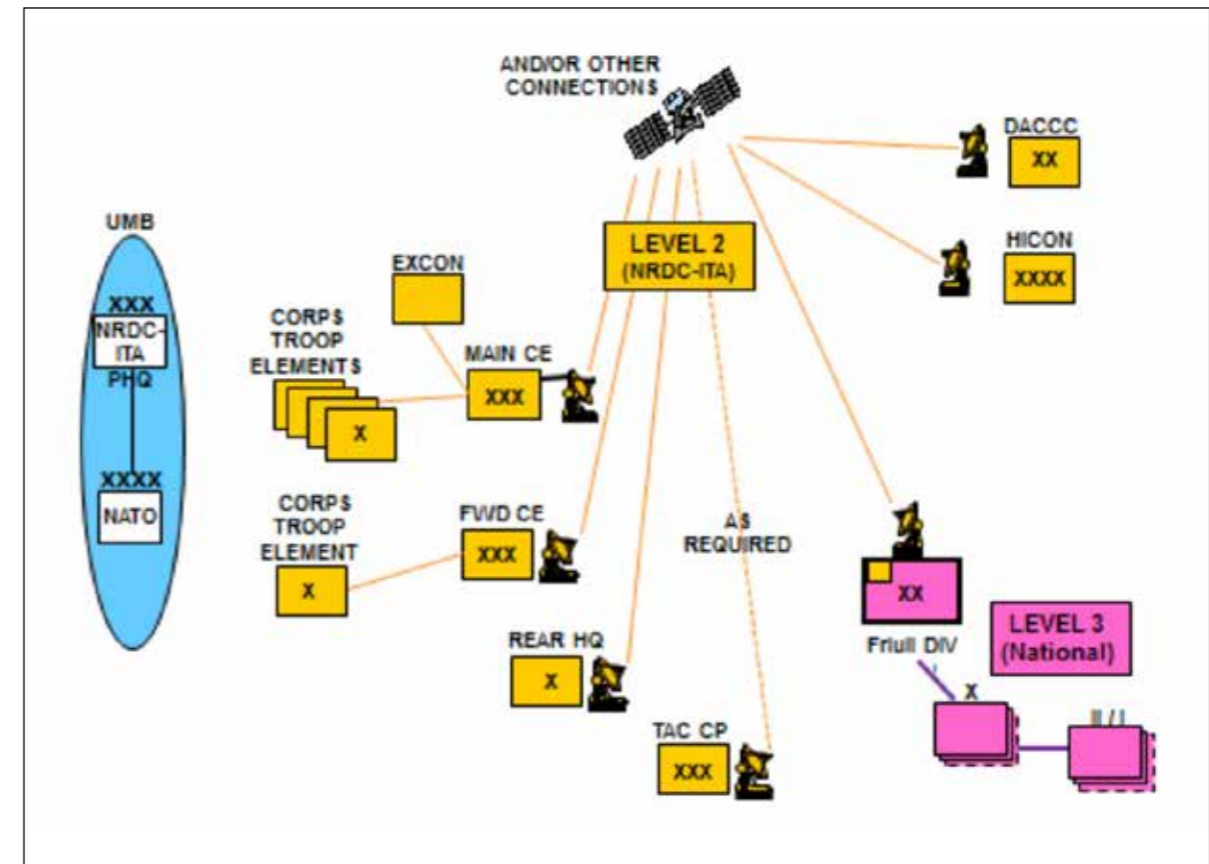


Fig. 3: Ex EAME 19 CIS connectivity.

EAME 19 – CIS execution

The deployment of the various CIS assets was coordinated through the CIS Order. I will not go into specific details however it is sufficient to note that CIS containers were dispatched timely for the CIS to be established in the various locations and, where necessary, to cross international borders.

The CIS support to Ex EAME 19, by 1st Signal Regiment, augmented by 11th Signal Regiment, was a great success. All locations were continuously connected with the correct CIS services. The PACE Plan was tested by artificially degrading CIS services to: first reduce satellite bandwidth, then close the main satellite to allow TACSAT usage only and finally to use radios. The Mission Continuity and Resilience Plan worked. The FWD CE was able to maintain a Common Operational Picture with the MAIN CE. Even through the intentionally degraded CIS period. Despite intentionally reduced communications, the FWD CE was still able to control the battle. Turning now to the FWD CE and TAC CP field deployment in Sicily. The FWD CE was able to establish in a wooded location which enabled an expanded set up where the CIS emitters could be remoted from the FWD CE staff locations, thus adding significant separation between the radiating elements and other parts of the FWD CE. TAC CP was also successfully deployed on a couple of occasions to ensure the Commander could operate from this CP. Indeed considerable

improvement was seen in the deployment time of the TAC CP. Although not tested, it would be safe to assume that the CIS could operate with equal efficiency in the urban environment and indeed one could argue that the deployable CEs and associated CIS could be further disguised in urban terrain.

Finally, the integration of NATO Level 2 and National Level 3 CIS, the connectivity between 1st and 7th Signal Regiments was also excellent allow a seamless flow of information from the Corps to the Division to the Brigade to the Regiment through the FMN protocols.

Conclusion

Ex EAME 19 was a great success and the excellent CIS contributed to this. The meticulous CIS planning by NRDC-ITA Staff coupled with the professional execution by 1st Signal Regiment, augmented by 11th Signal Regiment, allowed continuous CIS coverage and also the opportunity to test remote emitters and set up times. Finally, the FMN linkage between NATO Level 2 and 3 CIS layers was verified, with a very positive outcome. The National Level 3 CIS backbone was provided by 7th Signal Regiment.

About the Author

Lieutenant Colonel Richard LAPSLIE is the SO1 J6 Ops in NRDC-ITA. He has over 10 years of deployed operational experience.

Warfighting battle space management

Lt. Col. Luca TESA, Italian Army

This article aims to highlight the importance of effective battle space management, capable of allowing the allocation of three-dimensional space to various users, avoiding friction, confusion and fratricidal fire; all on a priority basis and whilst harmonizing the requests of complementary and mutual support.

Introduction

In NATO doctrine Battlespace Management (BSM) is defined as “the use of all necessary adaptive means and measures that enable the planned and dynamic coordination, synchronization and prioritization of activities across all dimensions of an assigned area of operations within the battlespace” (AJP-3/C, V.1, Ed. Feb 2019). Effective BSM ensures the appropriate allocation, to various competing users, of three-dimensional space and the electromagnetic spectrum, over time. The goal is to maximize coordinated and synchronous operational effectiveness, while avoiding confusion which can lead to risk to mission and/or the force. At the same time as reducing fratricidal risk, the likelihood of collateral damage to local infrastructure and population is also reduced. Therefore BSM has to be considered as an active

process, requiring proactive planning, as well as reactive execution, to cope with changing battlespace situations. These changes might involve the dimensions of land, airspace and time, as well as all potential users, such as Air, Aviation, Air Defence, Unmanned Air Vehicles (UAV) and Artillery. In order to better understand how the challenge of BSM was conducted by NRDC-ITA, acting as a Corps HQ, on Exercise EAGLE METEOR 2019, it is useful to break it down into the four functions of planning, refinement, synchronization and execution. The challenges were especially acute as a result of the distributed command post concept being tested by the HQ. This trial saw one light, mobile Forward Command Element (FWD CE) designed to have high survivability in an austere environment, dedicated to the execution function; and one supporting Main Command element (MAIN CE), responsible for planning,

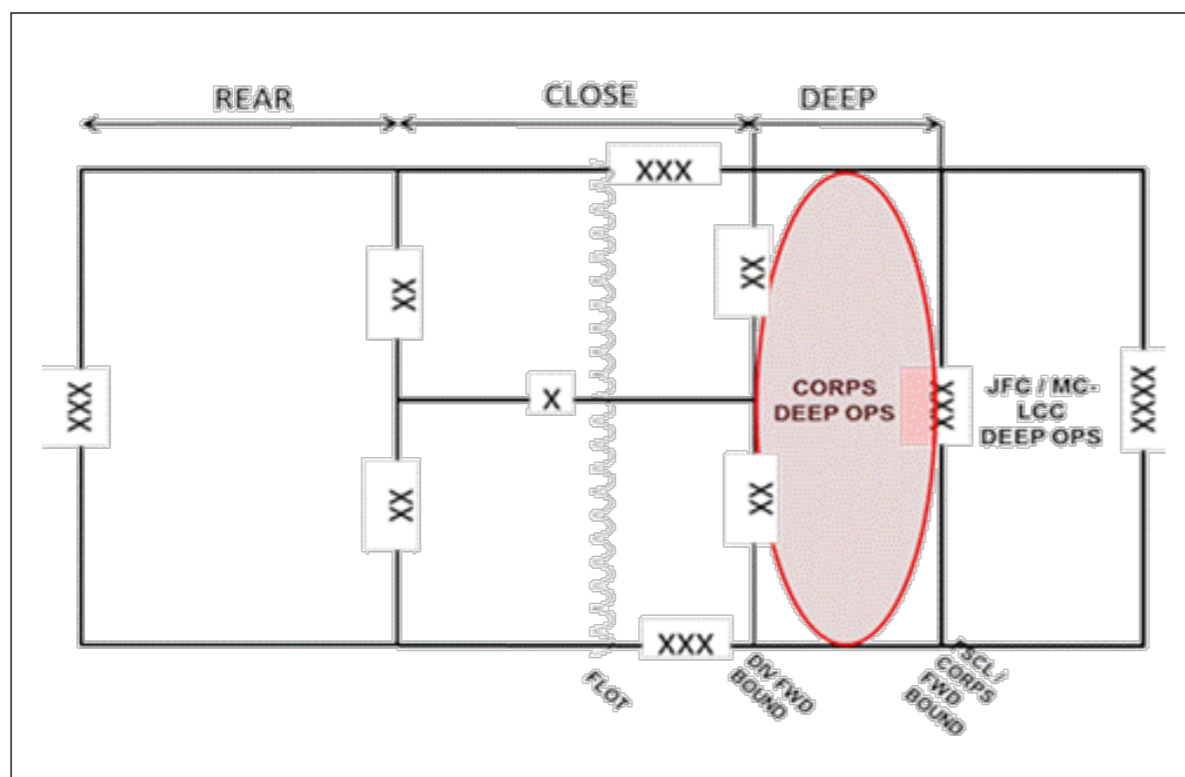


Fig. 1: Corps Deep Operations.

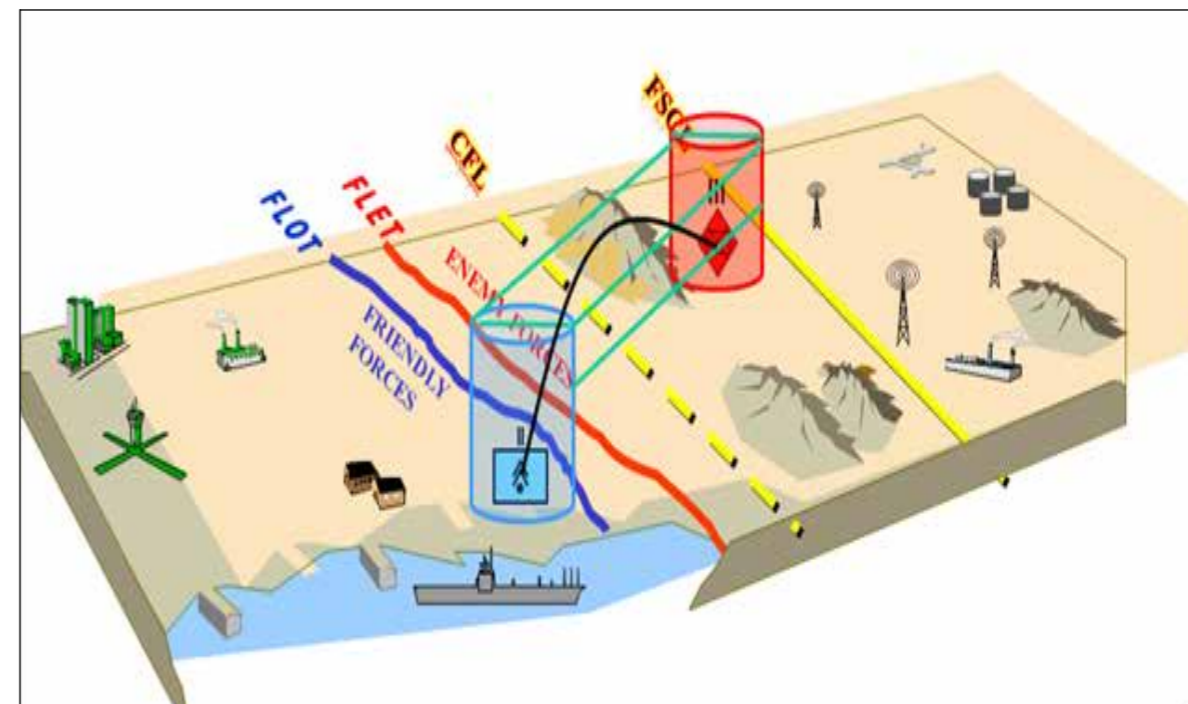


Fig. 2: Goalpost.

refinement and synchronisation. The EAGLE METEOR exercise construct, was set within the “Occassus” scenario and involved a NATO article 5 mission, in a high intensity warfighting environment.

BSM planning

The NRDC ITA staff initiated the planning process by evaluating all factors affecting the allocated Battlespace against the tasks received. Successively an array of supporting effects to the Commander's designated end-state was devised by the staff. These were defined as necessary activities to be carried out within the Battlespace requiring coordination, possible restrictions and/or limitations. The outcome of such a complex phase is the BSM annex to the OPLAN, developed by the G3 BSM Section. The BSM annex also sets the geographical framework, providing the Forward Line of Enemy Troops (FLET) and the Forward Line of Own Troops (FLOT) and breaks down the Corps' Area of Operations into Close, Deep and Rear (Fig.1):

- CLOSE: assigned to the combat Force Elements bearing the brunt of the enemy actions along the FLET;
- DEEP: where the deep operations against enemy forces were to be conducted, aimed at shaping the fight in the CLOSE area;
- REAR: where combat support activities were carried out with the purpose of either sustaining the operations in the CLOSE or the DEEP and ensuring the safety of installations and lines of communication.

Next the Corps' Close battlespace was subdivided and allocated to the subordinate units

(Divisions). The divisional commanders were delegated a bespoke set of authorities and responsibilities designed to allow each to complete their assigned mission. In addition a BS model also informed the Joint Fire Support plan conceived by the JFIRES Branch, in close cooperation with the G3 BSM and the Tactical Planning Liaison Elements (TPLEs) of the Subordinate Units. Its aim to deliver the necessary required kinetic effects in time and space consist with the Commander's intent.

The latter is fulfilled by means of the manoeuvre as a combination of movement and fires, being executed both on the ground and in an airspace shared with multiple users, mostly belonging to the air domain. Airspace usage was thoroughly planned, in order to allow synchronised simultaneous activity, reducing the risk of friction and fratricide. To that end G3 ASM, JFIRES, G2 IS-TAR, G3 AVN and AOCC (standing JFAC liaison element embedded into Corps) conducted integrated planning to designate the appropriate set of airspace coordination means (ACMs), allocating airspace volumes and effectively de-conflicting in both time and space. Amongst the variety of available ACMs the JFIRES Branch along with the JFAC planned a series of measures to bring to bear all organic and joint assets such as:

- A Coordination Level (CL) to give freedom of movement to rotary wing assets;
- A High Density Airspace Control Zone (HIDACZ) built above the Close Area (from the FLOT to the Divisional CFLs), to grant priority to the high volume of Divisional and Brigades' fires. This required close coordination of AOCC, Joint Fire Support Elements (JFSEs) and fielded units' Tactical Air Control Parties (TACP) to safely route in CAS (Close

- Air Support)¹ assets;
- GARS² based surface kill boxes for conducting A.I. (Air Interdiction)³ missions shifting the airspace with land component as required and via daily ACO (Airspace Control Order).

However these measures would not suffice for the timely delivery of long range deep fires since land based indirect fire systems such as the MLRS employ trajectories with an apogee up to 80000 feet above the ground level. As a consequence additional coordination measures were required and planned in advance. These took the form of dormant ACMs, to be activated when needed to grant response fires (see goal posts in Fig. 2).

Similarly, air corridors necessary for UAVs to reach NAIs (Named Area of Interest), designated by the Collection Plan for the surveillance and acquisition of objectives, and for attack helicopters to execute A.I. activities were provided in the plan.

In this framework the synchronization and integrating activity conducted by the Corps Targeting Group (CTG) on a daily basis was of paramount importance. The CTG released a Target Engagement Matrix (TEM) which detailed the effect to be achieved on a target, with the effector, the related acquisition asset, the area where the target was to be affected (a.k.a. Target Area of Interest) and the given timing; thus achieving the necessary synchronization in space and time. Spatial and time locations provided by the TEM also led to the activation of specific airspace coordination measures.

Execution

When moving from planning to execution the difficulties with BSM increased. No plan survives contact with the enemy and the BSM Plan is no exception.

The dynamism of the operation involved, at times, significant changes. These could not have been pre-planned and required dynamic and agile thinking under considerable time constraints. Such challenges included:

- The opposing unit is detected in a different position from the assumed one (problem of space);

- The opposing unit appears where expected, but in a different time than predicted (time issue);
- The opposing unit appears in the intended place and on schedule, but the intended asset to achieve the planned effect is not available (problem of assets);
- An unexpected opposing unit suddenly appears on the battlefield.

The described deviations required specific measures in order to be effective. Therefore, at the Operations Centre (OPSCEN) of the FWD CE, under the direction of the Joint Fire Support Element (JFSE)⁴ Direction Cell and in close collaboration with the OPSCEN Director, individual corrective actions were required to be coordinated and necessitated subject matter intervention. These included the following:

- An Artillery Cell, for the use of indirect fire (providing location of unit, fire control data (including the apogee of the trajectory) and how much airspace is requested in height);
- An AVN Cell, including the AVES Brigade Liaison Officer, for the use of attack helicopters (identification of the unit, if any, already in flight and available, its position and the flight corridor necessary to reach the target);
- G2 ISTAR, for the re-tasking of the target acquisition assets;
- G3 ASM for the allocation of the volumes of space in the third dimension to be reserved for both the target acquisition assets (in most cases UAVs) and the designation of assets for engagement;
- AOCC to coordinate the activation of ACM with the JFAC.

Critical information, such as the precise positions of friendly units in the third dimension was essential in order for the clearance of fires, as well as the allocation of space by JFAC in a timely fashion. This was found to be essential to cope with the fluidity of the Current Ops picture. Capitalising also on experience gained during previous NRDC-ITA exercises, specific procedures were applied by the JFSE to reduce up the time required for the clearance of fire. By ensuring close cooperation between the JFSE, G3 BSM and the JFAC liaison officer within the OPSCEN, this allowed effective dynamic procedural control of the airspace⁵, predominantly activating pre-planned goalposts, or by covering

a required trajectory by activating adjacent goalposts simultaneously.

This became more relevant due to the ability of the enemy to employ highly mobile long-range artillery, utilising the technique of “shoot and scoot”. The need to compress to the time between acquisition of an enemy launcher, from counter fire radar, and the reaction of our own artillery assets (known as the linking the sensor to shooter) is essential for an effective counter fires intervention. Of course this also required the clearance of the appropriate airspace, which often involved an inevitable delay. For that reason, during the planning phase, set of Call For Fire Zones (CFF)⁶ were identified, with goalposts planned from the AMAs where artillery units tasked to counter-fire were deployed.

To sum up, all the required possible ACMs to allow for the quick clearance of fire process were identified in advance, approved and inserted, both in the daily ACO and the Integrated Command and Control System (ICC). This enabled the simple activation of the necessary ACM, specific to the call for fire. This prevented the need to spend time drawing and sharing new ACMs with the JFAC. Key factors contributing to this success was the availability of a shared Air Command and Control system, i.e. the ICC, to the both the JFSE and G3 BSM, to enable dialog with the AOCC and JFAC LO in a shared environment.

Conclusion

The integration between the G3 BSM and the Joint Fires Support Element in the planning, synchronization and execution phases (within the OPSCEN), coupled with the focusing on Terrain and Airspace management by the ASM, were the key factors which enabled the coordination and synchronization of force elements. In addition, the availability of the ICC in the JFSE alongside the G3 BSM and the careful planning of all the possible ACMs needed to execute fire, contributed to speeding up the clearance of fire process.

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ATP-3.3.5.1 Joint Airspace Control Tactics, Techniques and Procedures (A), Ed. Apr 2016;
AArty P-5 (A) NATO Fire Support Doctrine (B, V.1), Ed. Nov 2015.

⁶ A CFF is a radar search area from which the commander wants to attack hostile artillery system. It is placed around an enemy fire support position identified on the basis of the intelligence preparation of the battlefield and other target indicators. It provides the most responsive priority for fires from the radars.

About the Author

Lieutenant Colonel Luca TESA currently serves as JFires OPS SO1, Operations Division in NRDC-ITA.

Corps Rear Area Operations

Lt. Col. Cédric CHÉNY, French Army

For the past two years, NRDC-ITA dedicated the time and energy to internally establish the framework of a Headquarters specializing in and responsible for the conduct of Rear Area Operations. This concept was tested and approved during Eagle Meteor-19 (EAME19). But what kind of Operations is our HQ Rear conducting?

During Exercise Eagle Meteor - 19 (EAME19), conducted at the end of October 2019, the Corps Rear Area Operations concept was tested for the first time. This concept was developed in 2019 as Line of Development (LoD) 1: Realignment to Corps. The Corps Rear Operation issue is an important topic since there is no NATO doctrine, but controlling the Rear Area is one of the most important operations to be conducted to provide uninterrupted support for Corps warfighting activities. Of note, this article will not focus on the entire spectrum of capacities owned by HQ Rear.

The NRDC-ITA HQ Rear is the Headquarters (HQ) designed to be deployed in the Corps Rear Area. In an Article 5 scenario, such as OCCASUS which was used for EAME19, the Corps was deployed with three Divisions facing a peer-level enemy. HQ Rear was deployed in non-linear/non-contiguous battle spaces where the biggest threat was an asymmetric and unconventional adversary. In this environment, the HQ Rear's mission was to ensure stability and security in the Rear Area, which was paramount for all Corps Operations. To execute this mission, 10 units were under Operational Command (OP-

COM) of HQ Rear and all Units which were in the Area of Operation (AOO) were under Tactical Control (TACON). This article will focus on two of these units and on one functional area.

The subordinate units are infantry battalions and the Civil-military Cooperation (CIMIC) Company and the functional area is the HQ Rear Host Nation (HN) HN/CIMIC branch embedding the Host Nation Defence Forces Cooperation & Coordination Centre (HNDF C2 Fusion Centre) composed of officers from Host Nation (Armed Forces) representatives. During the exercise two sub-phases were conducted: sub-phase 2b SHAPE and sub-phase 3a DEFEAT.

The HQ Rear could perform its mission by combining two capabilities, presence on the ground with Infantry assets and consolidation of the links with the HN through an innovating Fusion Centre:

- The dynamic approach, which was probably the most obvious and expected. Indeed, all along the above mentioned sub-phases, the infantry battalions performed patrols with their armoured infantry vehicles demon-



strating the agility and determination of the deployed NATO forces and then providing optimism to the local people and deterrence to the potential opponents. Daily, 840 kilometres, during phase 2b and 1780 kilometres during phase 3a, were patrolled by HQ Rear infantry units. In the meantime the same units were ensuring the security of Critical Infrastructure, such as railway stations, hospitals, and power plants.

- The second approach, less visible or less known by the public, was the use, at the HQ Rear, of the HNDF C2 Fusion Centre. This experimental Centre shared the same space as the CIMIC/HNS Branch. The Centre offered COM HQ Rear as a permanent link to the local authorities and armed forces present in the Rear AOO. These bonds, developed during the operation facilitated the various necessary interactions that an HQ can encounter during operations. In fact, the HNDF/C2 Fusion Centre provided a coordination platform to counter non-linear threats in the REAR Area. It was a rapid response coordination tool to complement existing coordination arrangements. It provided a physical space dedicated to facilitating the interface between NATO and the Host Nation Defence Forces to have an accurate picture of the civil environment in the Rear Area. The Centre had personnel from local Defence Forces, local police and border security and local Emergency Services and was able to operate 24/7. Within EXCON, the

Grey cell represented the Host Nation civil and military environment; they were the counterparts of this Centre and replied to any questions to the Centre, so they could transfer this information to the responsible branches at HQ Rear. The Centre also supported requests from the CIMIC/HNS Branch and the CIMIC Coy to make appointments for meetings with Local Authorities.

Conclusion

In this Article 5 scenario, despite the large AOO, the high amount of Land Lines of Communication and Critical Infrastructure to protect and secure, the HQ Rear could fulfil its mission thanks to the combination of a dynamic approach and the close links and synergy generated and maintained by the creation of the Host Nation Defence Forces Cooperation & Coordination Centre, which was a real added value for the HQ Rear.

About the Author

Lieutenant colonel Cédric CHÉNY is a logistic and movement Officer of the French Army. After completing the Combined Armed School course in Coëtquidan in 2001, he served for 7 years in a Logistic Regiment in different commanding positions. In 2009, he was appointed as Staff Officer in the French Land Forces Command, and in 2014 in the Rapid Reaction Corps France. Appointed in 2018 to NRDC-ITA, he has taken part in all the NRDC-ITA Exercises.



Understanding Logistic and Movement support at Tactical Level

Lt. Col. Stephen FISHER, German Army

EAGLE METEOR 19 offered an opportunity to Understand, Plan and Execute the Sustainment of a War-Fighting Corps on an Article 5 Operation. It exposed areas of improvement or gaps in knowledge and also allowed for the testing of new logistic concepts.

Sustainment is the lifeblood of a fighting force. It is about getting the right resource to those involved in the battle at the right time. History reminds us that operations fail if the sustainment plan fails. A failure to provide enough rations and winter horseshoes doomed Napoleon's advance towards Moscow in 1812. This summer Maj Shöner described in this magazine¹ how the German Spring Offensive of 1918 culminated² as German logistics lacked the agility to sustain Divisions that had rapidly broken through Allied Lines and advanced some 60Km across a 70Km frontage.

This is as applicable now as 100 years ago despite technological advances. As Western Europe faces a resurgent threat from the East, old truths about sustainment, forgotten over nearly two decades of campaigning, have to be relearned. This time, however, we will have to project mass even further East, stretching our lines of communication even further into a potential theatre of operations that may well be denied to us.

Exercise EAGLE METEOR 19 (EAME19) offered an opportunity to understand these challenges at the tactical level. Support Division's task was to sustain and connect a realistic scenario related to warfighting Corps within a Multi-Corps Land Component. NRDC-ITA had to operate in an allied territory, reliant on sustainment being sourced from Sending Nations or contracted solutions from within or outside the Host Nation. We could not have complete control of either of these avenues; strategic lines of communication belong to the Sending Nations coordinating with the JLSG and contracts and Host Nation Support were planned and coordinated by the NATO Support and Procurement Agency (NSPA).

Logistic Support

Most of G4's work was completed in the Planning stage; taking the Commander's plan and his priorities and developing a way to enable the Campaign. In the Execute phase the branch settles into a routine of crisis and then consequence management. It reacts to changes in the plan due to enemy action, unforeseen friction in the rear area or an alteration to the Campaign Plan via a branch plan or CONPLAN. NATO aspires to pursue Collective Logistics³ and in some ways, such as fuel and water, can achieve this but in reality logistics remains largely national business. 2 GRC and 3 (UK) Divisions were supported by their National Support Elements (NSEs). The Friuli Division was supported by the ITA CSS Brigade which doubled as the ITA NSE. The Divisional Commanders were given their mission and their G4 staffs worked out how to enable the Divisional Plan. This was then sustained by the respective NSEs whose convoys would be deconflicted by our Movement Operations Centre (MOC). It was interesting to discover that our plan (Annex R to the OPLAN), created by a US Army logistician, mirrored US logistic doctrine which did not necessarily reflect how GBR and GRC conduct business. Being self-generated, EAME19 lacked the resources for fully manned response cells from the actual Divisions to advise us otherwise. In future exercises the branch must speak to subordinate formation logistic staffs to get an understanding of their capabilities, something that, if for real, would have naturally happened. A further consideration should be whether to actually embed logisticians in the G3/5 cell. A lack of PE manning precluded this on EAME19 but being



Fig. 1: VTLM Lince from 1^o Bersaglieri Regt being refuelled by Canadian and Slovenian Troops in Latvia.

organic to the Refine process would give the G4 representative intimate knowledge of the direction that the campaign was heading and provide a certain amount of logistic conscience.

Movement

At Corps level, Movement support involved close coordination with operational commands (MC LCC, Joint Logistic Support Group (JLSG), Joint Task Force HQ) and the Host Nation. Elements of the Theatre Route Network, specifically the Main Supply Route (MSR) NANDU, ran through our area of responsibility (AOR). The JLSG had delegated control of the Corps Route Network to NRDC-ITA and it was our MOC which co-ordinated all Corps and NSE sustainment traffic across that network. The challenge then came to deconflict Tactical movement within the Divisional areas of operation. Tactical movement of the Manoeuvre Brigades took priority and the Divisions owned the space. Sustainment convoys would have to synchronise with movement priorities provided by the MOC in line with the Commander's priorities. The swift and safe movement by day and night of Force Elements throughout the Corps AOR required close attention to detail before any offensive and defensive actions. This resulted in precise planning involving the Corps movement officer and an adapted C2 and tailored movement support organisation which was able to react to delay, diversion or attrition to the route. The MOC worked closely with the Engineer, Military Police, Battlespace Management and G3/5 branches and greater integration with either the Engineers or G3/5 will be desirable in future.

A brief word on LOGFAS. The use of LOGFAS

was markedly better this exercise than on previous occasions. Increased visibility of the system was provided by EVEWeb which, when opened up as a read-only snapshot directly from the browser, aided in reference. The wider profile uploaded to the system benefited all users albeit some formations profile and holdings were woefully light in detail. All movements were planned and plotted on LOGFAS.

Italian CSS Doctrine

EAME19 allowed the draft ITA CSS Doctrine to be tested. The most visible expression of this doctrine was the ITA CSS Brigade. Acting as the ITA NSE it provided third line support to the Friuli Division and second line support to the Corps Troops. The most useful aspect, however, was the fact that it was directly under the command of the Corps Commander as the SENI-TOFF (Senior Italian Officer) in Theatre. This meant that not only could the Brigade be used by the COM to support national forces but also as a means to solve issues across the Corps as he saw fit. An example of this was when two British MLRS Batteries from Corps Artillery were moved to 3 (UK) Division's AOR to provide General Support Reinforcing fires. 3 Division were unable to support these Batteries at second line from their own assets. Corps HQ was able to direct the ITA CSS Brigade to plan to reach forward into the 3 Division AOR to deliver ammunition to the Battery 1st line transport assets. The authority to task the CSS Brigade could come from NRDC-ITA COS or even be delegated down to DCOS Support for routine matters. During the Tanker Drivers' strike, the COS was able to sign off a FRAGO directing the Brigade to collect fuel

1 Maj J Shöner DEU-A, Jt Fires, Lessons from the Past may Guide Today's Deep Ops Challenges, Everywhere Rapidly, Edn 27, Jun 19.
2 Carl von Clausewitz, On War – Culmination Point; the point where a force can no longer achieve its objective due to a lack of supply, the actions of the opposing force or a requirement to recuperate.
3 AC/305-D(2010)0015, 2011-2020 NATO Logistics Vision and Objectives.



Fig. 2: NATO Convoy heading South on 'MSR FOX' approaching the intersection with 'MSR CAT'.

from a bordering Allied Nation as this became, de facto, an ITA national task for the benefit of the entire Corps.

Contractor Support

The ubiquity of the Contractor on the battlefield is a part of modern warfare and actually has been for centuries. The Royal Navy's Victualing Board became adept at the use of civilian contractors in support of Military operations.

The British Fleet was sustained between 1793 and 1815 by these contracts worldwide gaining a considerable advantage over the French.⁴ In recent campaigning experience the US ratio of contractor to service person has been 1:15. As forces become leaner contractors can provide essential services to keep a force running, from cooking and cleaning to fuel delivery, maintenance and even security. If viewed through the prism of an Article 5 operation, however, there is the risk that Contractors may leave an area

of operations if they deem the threat to life to be too severe. Contractor deaths are rarely reported and the asymmetric nature of modern warfare means that nowhere is really safe for the contractor; the US Department of Labor reported that by 31 Dec 13 a total of 1582 contractors had been killed in Afghanistan.⁶ We saw this reflected in the scenario when Organised Criminal Groups aligned to Occassus intimidated the Tanker Drivers who provided the Corps with fuel precipitating a strike and a potential fuel shortage. If contractors, who have been providing functions that NATO Forces no longer train for, decide to pull out, who will provide those services if none of the military are trained to do so?⁷

It is difficult to introduce Contractor play to an exercise and as a rule enabling contracts are assumed. We must not be lulled into this sense of entitlement despite contracting normally belonging in the Joint space. There will be a great deal of competition for a limited number of Host Nation contracts. The eNRF may not be the 'only show in town' and it remains to be seen if NATO has the deepest pockets to dominate the contractor space on operations.

Cyber

The electronic environment is the glue that holds western militaries together. We can no longer assume that our connectivity may be contested, it may be effectively denied. Western adversaries have successfully enacted significant cyberattacks on TV5Monde in France and both the German and Ukrainian power grids⁸. A cyberattack on the Allied country rail network during EAME19 caused little impact on sustainment. It could well have, however, brought the trains to a standstill for longer just when the trains were our solution to the Tanker Drivers' Strike. An attack on our GPS signals or RFID asset tracking systems would cause significant disruption to supply. We should not only think of the theatre that the Corps is operating in; the Home base is vulnerable as Germany has experienced.⁹ Cyberattacks on Critical National or Military Infrastructure at Home such as the power grid, the Joint Support Chain or the SPOD could have serious consequences on nations' ability to sustain forces in the field.

Conclusion

EAME19 proved to be an effective test bed to understand the sustainment of a warfighting Corps. If we pick apart the logistic activity we

can see that on operations of this nature HQ NRDC-ITA would have been able to enable the campaign plan. That is not to say that it would not be a challenge, as we have discovered in the article, but with a full complement of staff and a great deal of hard work real war-fighting sustainment is achievable. The G4 branch would benefit from embedded G4 staff from the Divisions and certainly Artillery and Engineer logistic specialists would add efficiency to our output. Greater synergy with G3/5 is also essential. We must continue to follow NATO's developments to achieve 'speed of assembly' across Europe. Lessons from the UK's Op TRACTABLE, Oct – Nov 2019, and JFC Brunssum's DEFENDER 20, Mar – May 2020, will be worth studying to understand how strategic movement will affect our own plans and to retain the Jointmindset for when NRDC-ITA becomes a Joint Task Force again.

Development of ITA CSS Doctrine will benefit from lessons identified by both the Corps HQ and the ITA CSS Brigade. This is a brand new approach for the Italian Army; it is a sensible one and must be encouraged. Finally we must recognise how operating in an environment vulnerable to offensive cyber and a potential scramble for contracts will affect our sustainment. While we must trust to others within NATO to solve these macro problems we must identify how to mitigate the challenge from our own resources at the tactical level.

If NRDC-ITA is to remain fleet of foot and be able to deploy 'everywhere rapidly' then the Corps must, along with the wider NATO, 'focus on the engine-room of war: logistics, logistics, logistics'.¹⁰

About the Author

Lieutenant Colonel Stephen FISHER was assigned to HQ NRDC-ITA in March 2019 and is the SO1 G4 Current Operations within the Support Division.



Fig. 3: Contractors move a Bradley M2A2 off a rail flat.

⁴ R Knight and M Wilcox, Sustaining the Fleet: War, the British Navy and the Contractor State (2010).

⁵ Commission on Wartime Contracting in Iraq and Afghanistan, 2009.

⁶ Defense Base Act Cumulative Report (09/01/2001 – 12/31/2013).

⁷ The Royal Logistic Corps Foundation Review, 2018-2019.

⁸ The Future Conflict Operating Environment out to 2035, RUSI Occasional Paper June 2019, P Roberts (Editor).

⁹ Ibid.

¹⁰ Lt. Gen. (Retd) B Hodges, A Schaltuper, In Defence of Logistics, New Europe 15 Feb 2019.

MEL/MIL (Main Event List / Main Incident List) Challenges in a self-generated Command Post Exercise (CPX)

Maj. Luca TRACCO, Italian Army

NRDC-ITA HQs Command Post Exercises (CPXs) are normally driven by the MEL/MIL tool. The use of it is demanding and presents several challenges to include realism, stakeholder involvement, intensive use of Subject Matter Experts (SMEs) and Observer Trainers (OT) teams through the entire MEL/MIL development process. The final part is an analysis of the burden placed on Exercise Control (EXCON) by MEL/MIL dynamic scripting and the realistic use of Opposing Force (OPFOR) during exercise execution.

Introduction - Why we train

“Train as you fight” is the *mantra* carved in stone for military training. This simple and apparently obvious sentence guides all military preparation, from the strategic level to the smallest tactical command or units. Moreover, the Education and Training (E&T) pillar, including exercises, helps convey a clear and strong message of NATO’s capability while simultaneously demonstrating the Alliance’s resolve in the international landscape. The common desire is to realistically test preparation and readiness to conduct the full spectrum of the tasks and missions, from full-scale conflict to stabilization operations. To accomplish this demanding task, NRDC-ITA HQ plans and conducts its yearly Collective Training¹ and Exercises (CT&E) to ensure it is efficiently and effectively prepared to fulfil an assigned mission at any stage in accordance with NATO’s Strategic Direction and the Commander’s vision and guidance. The burden of the HQ’s training effort reaches its culmination when it prepares and conducts a self-generated Command Post Exercise (CPX). This was the case during EAGLE METEOR 2019

(EAME 19). This exercise was aimed at maintaining the capability to synchronize and conduct high-intensity operations as a Corps HQ, exercising Command and Control (C2) focused on Divisions, combat and combat service support enablers, as well as other units in a NATO Article 5 Collective Defence Joint Operation.

Events and Injections - Building the narrative

During the long and demanding process to build such an exercise, the conduct of the operations naturally represents the “call of truth” of all the preparation delivered in time. The main tool to manage and control a CPX is the MEL/MIL process. It includes a database generated from scratch for each and every exercise and structured on main events developed to help achieve the Exercise Objectives (EOs). Each main event will have one or more incidents that are presented to Training Audiences (TAs) by means of injections. The MEL/MIL should encompass the complete timeline of the exercise. This instrument is one of the most powerful tools

DEFINITIONS

EVENT: a major occurrence or a sequence of related incidents. Events should be targeted at achieving the Exercise Aim and Objectives.

INCIDENT: actions or situations that provide greater clarity to an event. Incidents should be targeted at achieving Training Objectives.

INJECTION: the way of bringing an incident to the attention of the players.

MEL/MIL Terminology following BI-SC Collective Training and exercise Directive 075-003.

¹ Collective Training, by definition, includes procedural drills and the practical application of doctrines, plans and procedures to acquire and maintain tactical, operational and strategic capabilities.

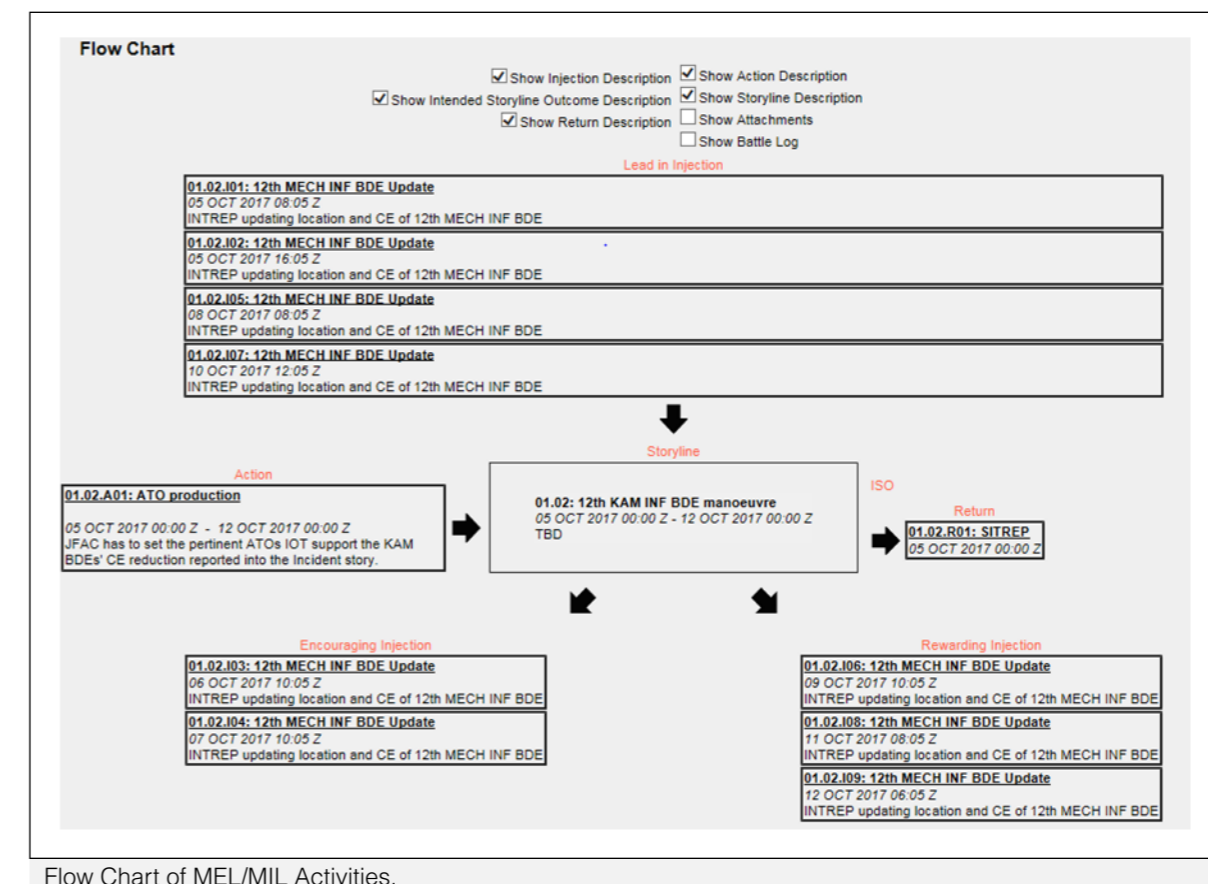
to steer any CPX to meet the given aim, EOs and Training Objectives (TOs). To do so in the most appropriate way, early and advance preparation is required. Nevertheless, even if events and incidents are detailed, articulated, connected, tested and exploited comprehensively for all TAs, a feeling of incompleteness may affect any exercise participant just a few days after the ENDEX (Exercise END). Hence, speculation about MEL/MIL products and deliveries is almost inevitable. The main reason is because the MEL/MIL process has some inherent difficulties. While it is a fact that most HQ staff have taken an active part in the exercise, only a select few participated in the MEL/MIL development process. Therefore, it is always useful to understand some of the main challenges of the MEL/MIL approach, without getting into technicalities.

First of all, the MEL/MIL has to be determined **realistically** and inspired by the reality of the chosen scenario and the operational environment. The MEL/MIL manager and scripters – key players during the entire process – should have consistent knowledge of what is really happening around the world and what could be faced by HQs if deployed anywhere in an international crisis. A lively imagination is the necessary state of mind to combine existing everyday occurrences and geopolitical events into a fictionalized exercise scenario while avoiding political sensitivities. Moreover, every Branch needs to have a clear understanding of the exercise aims in order to identify clearly the related and relevant training objectives. One can only aim at the centre if one

can clearly see and knows the target. This is a very demanding and long term effort that should be permanently conducted at staff level. For this reason, **stakeholder involvement** to determine detailed and achievable TOs is a realistic, consistent and irrefutable pre-condition for the success of any exercise. These objectives are one of the pillars, alongside the development of scenario modules and TA’s OPLANs and OPORDER, to build the most effective exercise possible. Subsequently, when the MEL/MIL process comes to the injections writing session, the risk of jeopardizing the effectiveness of the entire construct is high. Writers must be selected wisely; they should be chosen from among the most skilful and experienced personnel, in order to properly train their colleagues in the different functional areas of the staff. Only with years of practice and technical knowledge does a writer become a qualified **Subject Matter Expert** (SME) capable of foreseeing the implications and connections among injections and understanding if they trigger the branches according to the requirements and are instrumental in achieving the stated training objectives.

Modify and adapt How to cope with reality

During the execution of an exercise, it might happen that the TA does not react to the injections as expected by the writers so as to meet the TOs. Consequently, establishing a team of **Observer/Trainers** (OT) is paramount to pro-





MEL/MIL Scripting Activities.



MEL/MIL Injection in action.

vide feedback on the effective match between the expected outcomes and the actual processes conducted, including the actions taken, and the products developed by the respective branches. The OT's observations allow the EXDIR (Exercise Director)² to "feel the pulse" of the exercise and adopt any adjustments required if the desired outcomes are not sufficiently consistent with the expectations. Timely analysis of the observations collected provides immediate verification for the EXCON³ as to whether the training opportunities are perceived, achieved or not. Owning that information, the EXCON can undertake dynamic scripting in order to re-address the TOs that were not fully achieved by the TA.

Therefore, only a well-structured and fully manned EXCON can manage MEL/MIL **dynamic scripting**⁴ with close real-time adapting, reiterating and adjusting of injections so as to allow the TA to re-exercise the process and develop the appropriate products as expected in accordance with the TOs and the Commander's guidance. In order to shorten the time gap between the reception of an observation and sustaining or rewarding injections, there is a need to create a structure that might be extremely demanding in terms of means and personnel, especially given the tendency to re-establish a "culture of readiness" by introducing a 24/7 battle rhythm in the exercise. A balance between EXCON manning and dynamic scripting expectations should be coordinated and agreed at higher commander level well in advance of the execution phase of the exercise. Additionally, on a wider NATO exercise discussion table, an expanded, more active and dynamic role of the **OPFOR** (Opposing Forces) team is under evaluation. Having a team that is not merely responding to pre-scripted action but able to act and react to TA decisions could be an opportunity to introduce a free-thinking

enemy in Force-on-Force training environments during a CPX. This possibility would place an additional burden on the MEL/MIL development process, to the dynamic scripting and EXCON manning, all preconditions to realistic play.

Conclusion

In summary, the MEL/MIL is a critical aspect in order to challenge the Training Audience and achieve the Training Objectives, marking the success of a CPX. This is of paramount importance when the latter is self-generated, because additional efforts to build up the EXCON lie with the Headquarters. However, by selecting appropriate personnel, it is possible to train the HQs realistically and dynamically, so as to address all of the Commander's expectations and the specific training objectives.

About the Author

Major Luca TRACCO currently serves as J7 Exercise Planning Staff (EPS) in NRDC-ITA HQ.

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² Exercise Director is responsible for the overall direction and control of the Exercise Control (EXCON) organization.

³ EXCON is the term used to describe all of the participants during the conduct of CT&E activities that are not in the TA and thus are under the control of the EXDIR. EXCON usually includes: EXDIR support staff; Exercise Support elements; the Exercise Center (EXCEN) composed of situation control elements (scenario, RFI - MEL/MIL management, CAX and OPFOR) and the Response Cells (higher - HICON -, neighboring - FLANCON - and lower - LOCON - forces, non-NATO entities and Grey Cell).

⁴ A process, conducted by the EXCON, to modify the original set of MEL/MIL and/or create new injections in order to react to training audience play during CPX execution.

TACAIR C2 and Air Land Integration (ALI): how to face this complex problem with a simple solution (where simplicity does not mean easy)

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In recent decades, NATO principally managed CRO (Crisis Response Operations) like September 11 attacks and War on Terror. Contemporary international challenges nowadays require NATO to be more focused on combat operations and a near-peer adversary.

Current Allied doctrine calls for airspace control to lie with JTF COM (Joint Task Force Commander), which normally delegates the JFAC (Joint Forward Air Controller). Leading at the higher air component echelons rather than delegating to the highest land forces warfighting echelon (Corps) might result in elongated response times. Furthermore, there is a common belief among the CAS (Close Air Support) community that the APCLO (Air Power Contribution to Counter-Land Operations) desk in an MJO/MJO+ (Major Operations) scenario cannot handle the C2 workload associated with integrat-

ing CAS assets into a large-scale battle. During the past year and a half, NRDC-ITA has fully committed its staff to the development and implementation of a Joint Fire Support Element's Operations Cell (JFSE OC). As the execution element, fitted to either host or link up with the tactical air command and control element, the JFSE OC is delegated the task to manage the land airspace, allowing for the most efficient delivery of joint effects, when and where needed within the Land battlespace. Exercise Eagle Meteor 2019 offered an outstanding and challenging arena in which to test TACAIR (Tactical Air

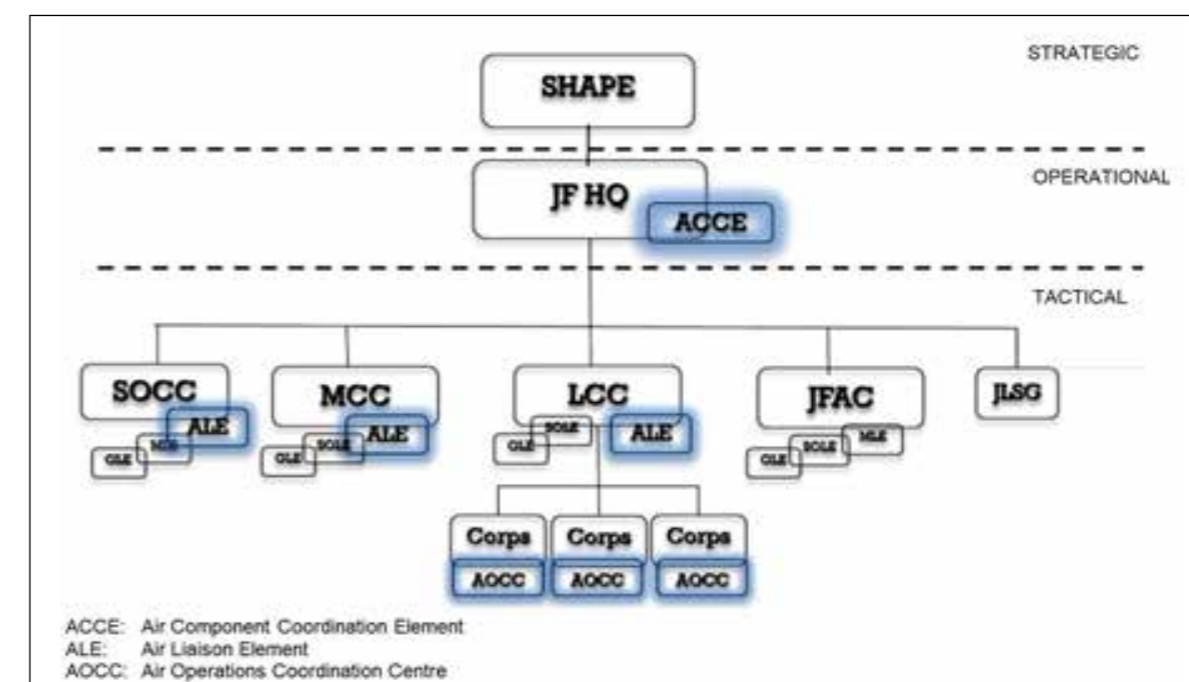


Fig. 1: Air Liaison in MJO+

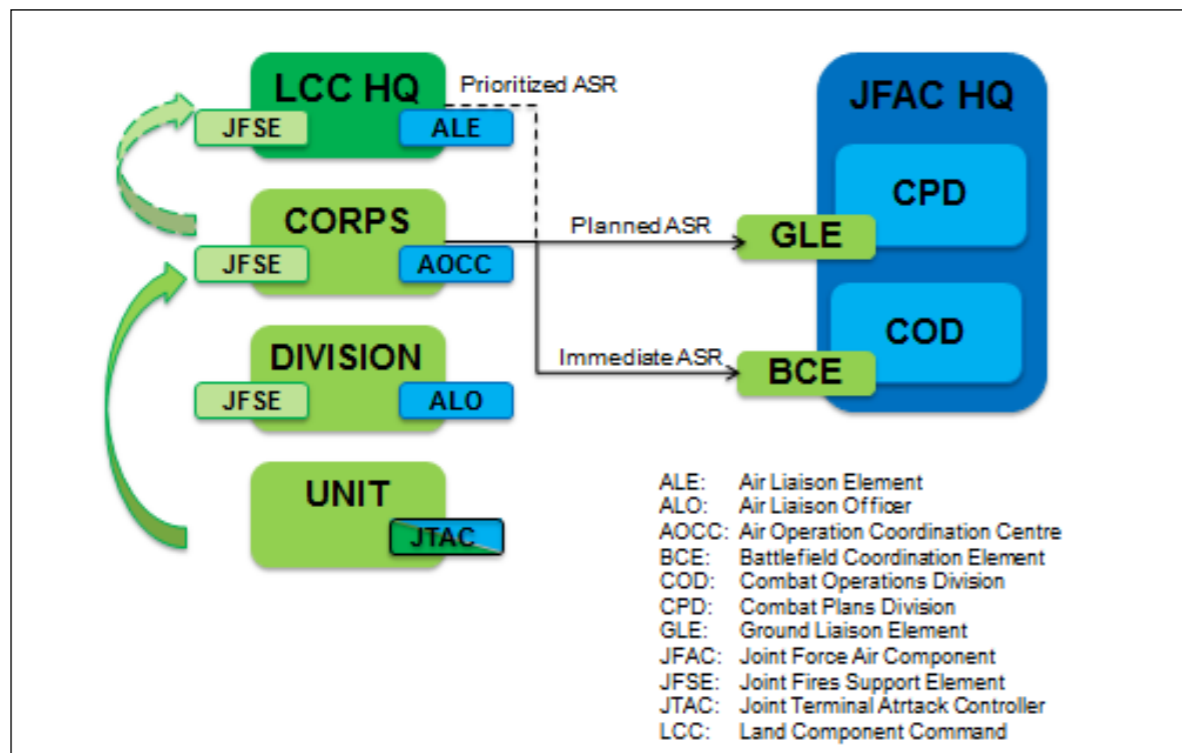


Fig. 2: Air support process.

Control) C2 in a warfighting (ART5) scenario.

New strategic and operational challenges call for innovative concepts of operations, doctrine and Tactics, Techniques and Procedures (TTPs). Non-permissive operational environments are rising due to the new geopolitical landscape and military competition (i.e. Ukraine and Syria). In fact, near-peer opponents have developed anti-access/area denial systems and electronic warfare capabilities. The threat is real and tomorrow's war will not look like those we have fought in recent years. The war fighter community should shift in thinking about Counter Insurgency (COIN), where we had air superiority, to prepare combat operations against a near-peer enemy in a complex battle environment. Without any doubt, Air Land Integration (ALI) in multi-domain operations will be one of the keys to success.

Air Command (AIRCOM) is the only Air Entity in the NATO Command Structure (NCS). It is comprised of four major entities: the Headquarters (HQ), two Combined Air Operations Centres (CAOC) and a Deployable Air Command and Control Centre (DACCC).

HQ AIRCOM includes the core of a Joint Force Air Component HQ (JFAC HQ) that, with adequate reinforcement and augmentation, will provide Command and Control (C2) for air operations from its static location to support joint operations up to Major Joint Operations plus. The Air Operations Coordination Centre (AOCC) is the only formalized NATO coordinating entity

at Corps level (fig. 1). The AOCC provides air expertise and integrates the liaison and coordination functions related to air operations including, but not limited to APCLO, coordination of air defence assets such as mobile integrated air defence units, army organic air defence, coordinated airspace procedures, and airspace control. In addition, *"when delegated the authority, the AOCC should be able to re-task/re-role/redirect airborne assets, provide target updates, and launch ground alert aircraft on-call for the ground manoeuvre commander, as required"*. In reality, AOCCs are not currently equipped or manned to handle execution tasks. The AOCC's core task is to assist the Corps with Air Support Requests (ASR) and Airspace Control Means Requests (ACMREQ).

Current Allied doctrine calls for airspace control to lie with JTF COM which, normally, delegates to the JFAC. Retaining clearance and control at the higher air component echelons rather than the highest land forces warfighting echelon (Corps) might result in a lengthened clearance and response time, hindering a land force's ability to execute fires in a timely manner. ALI should facilitate the simultaneous execution of rapid indirect fire clearance while maintaining 100% de-confliction of CAS and Intelligence, Surveillance, and Reconnaissance (ISR) assets. Furthermore, the air support process goes from the Joint Terminal Attack Controller (JTAC) to the JFAC throughout Battalion, Brigade and Corps screening (fig. 2). There is a prevailing feeling among the CAS community that the

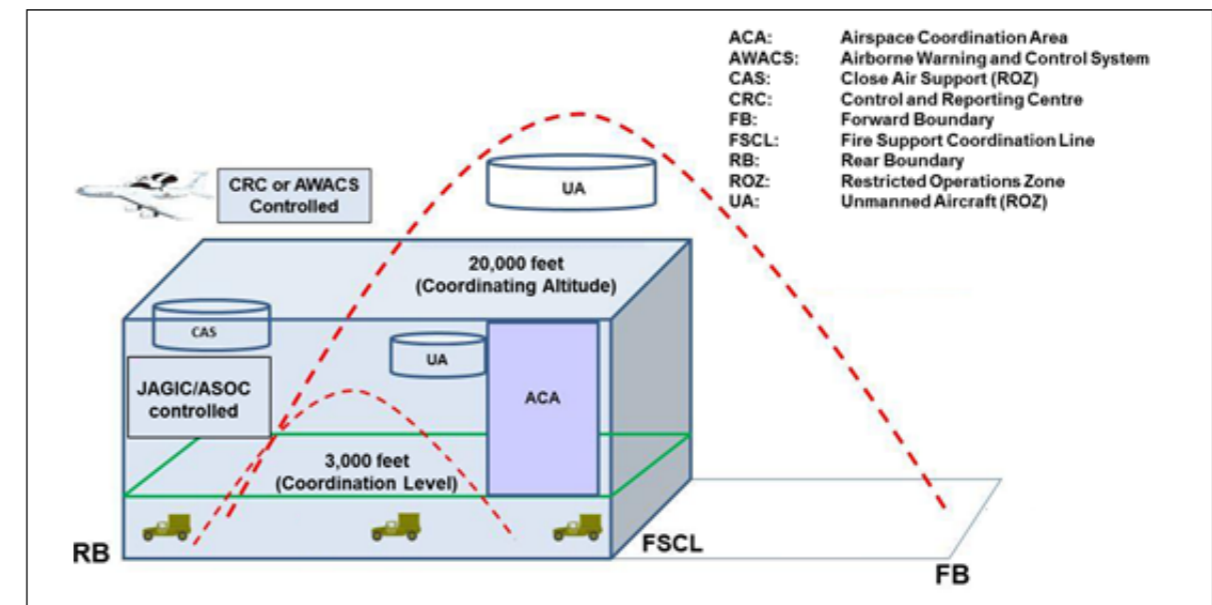


Fig. 3: JACIG assigned airspace.

NATO Airborne Warning and Control System (AWACS) and JFAC APCLO desk officers in an MJO/MJO+ scenario might not be able to handle the C2 workload associated with integrating CAS assets into a large-scale battle. Further, key battlespace information passage to facilitate CAS operations in a high-threat environment may quickly outstrip the capacity of centralized Control and Reporting Centres (CRC) / Combat Operations Division (COD) desk officers.

Looking at the best practices in NATO countries, the Joint Air-Ground Integration Center (JAGIC)² represents a successful example out of NATO C2 architecture. The JACIG is a modular and scalable centre designed to fully integrate and coordinate fires and air operations over and in the division commander's Area of Operations (AOO)³. The JAGIC includes fires support cell, airspace element, Army aviation, JTAC and Air Support Operations Center (ASOC)⁴ members. The addition of the ASOC provides the Airspace Control Authority (ACA) with a trained, equipped and capable "blue" element delegated for airspace control. Through ASOC members, the JAGIC can de-conflict and clear all airspace users including Unmanned Aircraft (UA), CAS assets and indirect fires. Therefore, land forces will not be required to contact external agencies to manage assigned airspace. However, everything that travels outside the JAGIC airspace (i.e. the trajectory of artillery higher than 20,000 feet) still needs coordination with higher echelons (i.e.: AWACS or a CRC)⁵ (fig. 3).

Indeed JAGIC is not a planning organization; it

is designed for execution tasks and it is capable of synchronizing joint fires and safely de-conflicting the use of airspace within the AOO as well as reducing the time taken to clear airspace and shortening the CAS kill chain.

Returning to NATO doctrine, from the Land Component perspective, the key issues remain the timeliness and assurance in the delivery of air effects, including CAS and ISR, to ensure that they are integrated into the plan. Confidence in timeliness and assurance requires training, education and 'air mindedness' within the Land Component, which is why over the last one and a half years NRDC-ITA has fully committed its staff on the development and implementation of a Joint Fire Support Element (JFSE) as the element fitted to plan, refine and execute joint fires.

By either hosting or linking up with air command and control elements, the JFSE is delegated to plan for and manage the Land airspace, thus allowing for the most efficient delivery of effects, when and where needed within the Land battlespace. Such an endeavour requires each component to integrate staff into their respective HQs at the lowest practical tactical level. This integration of staff allows collaborative planning to be conducted and enables synergy between the planning requirements of each component. NRDC-ITA coordinated its efforts with the NATO Deployable Air Command and Control Centre (DACCC), to attain the necessary

1 ATP 3.3.2.1 (D) v1 "Tactics, Techniques and Procedures (TTPs) for Close Air Support (CAS) and Air Interdiction (AI)", dated 11 April 2019.

2 See: JAGIC Handbook, edition 2017.

3 It should be noted that US Army Technical Publication (ATP) 3-91.1 states that the JACIC will be located at the senior tactical echelon. In a scenario employing the Corps as a tactical role, the JAGIC may be located at the Current Operations Integration Cell (COIC).

4 ASOC is capable of distributing CAS and Air Interdiction (AI) assets, and to control airspace using procedural control (separation in space and time).

5 Source: "The JAGIC ATP 3-91.1/AFTTP 3-2.86 review and update" - 2019 CAS Symposium, Norfolk- Virginia.

level of integration of capabilities throughout the Exercise Eagle Meteor 19. All appropriate HQs (component and formation) were able to continuously assess the impact of their current and planned activities on other battlespace users. This could only be achieved by the use of integrated staffs, with appropriate connectivity to their parent component.

The DACCC provided for both a JFAC response cell and embedded elements within NRDC-ITA AOCC, we were able to trial current doctrine within a high intensity warfighting scenario, reaching peaks of an high operational tempo. The exercise occurred without major setbacks thanks to integrated planning and an air space management arrangement that enabled primacy of land organic indirect fires within a bespoke volume of air space called HIDACZ (High Density Air Space Control Zone). Divisions and Brigade could utilise their fires without further coordination with the Air Component, other than when Air Power was integrated by means of dynamic-procedural control, provided by an external CRC and terminally by the JTACs on the ground. Conversely, all long range fires outside the HIDACZ would be cleared through the Air Component as the overall ACA. It was in these instances that the high tempo and consequently the time required to clear airspace became a critical factor for both components' operators. During Eagle Meteor 19 the organic tactical air command and control element (ASOC-type), augmented by elements from the JFAC, was delegated the authority to re-task air assets allocated to NRDC-ITA but still had to lean on an external Air C2 Entity to control airspace because it is currently neither manned nor equipped to satisfy those responsibilities.

Despite the ALI process proving efficient there is still room for improvement aimed at modelling the current doctrine to better face the challenges posed by a modern complex and denied battlespace. Since a JAGIC like solution, to ensure the capability to efficiently manage the Land Airspace, remains largely aspirational, due to its demanding requirements that would heavily bear down on NATO's contributing Nations, the doctrinal solution which is being looked at by AIRCOM is an enhanced AOCC able to fulfil most of the JAGIC execute functions. To that end NRDC-ITA and the DACCC have maintained strong links to better exploit the lessons identified during Exercise Eagle Meteor. In doing so it is hoped that their common aim of NATO undertaking the indispensable evolution from current doctrinal posture to a warfighting mindset can be achieved. The NATO Joint Lessons Learned Centre (JALCC) is also looking into ALI

within NATO and as such its representatives attended EAME19 to better understand current ALI systems, with the view of providing a study for the forthcoming ALI NATO doctrine.

Conclusion

The cooperation with the DACCC confirms that different perspectives must be mutually understood if friction is to be avoided. Such understanding is best promoted by the Air Component having early involvement with and subsequently detailed understanding of the Land Component plan and thus being 'land aware.' Equally the Land Component must understand the roles, capabilities, limitation and priorities of air within a joint campaign and how to exploit these assets for tactical effect. In short, all components must train, plan and execute in a collaborative manner. The best means to achieve this goal is the close cooperation that NRDC-ITA and the DACCC have endeavoured since late 2017 in running mutual ALI workshops⁶ to promote understanding and share expertise. The way ahead can only be the transformation into ALI courses to ensure, as previously mentioned, standardization across NATO because as General Bernard Law Montgomery said, *'If you can knit up the powers of the Army on land and the powers of Air in the sky then nothing will stand against you and you will never lose a battle'*.

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Corps Troops: achieving the required enabling capabilities in warfighting and how to integrate them into an effective C2 construct

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The methodology behind the construct of the Enablers CP (Command Post) Concept at Corps level is important to understand their structures, functions, capabilities and deployment experiences in a warfighting scenario such as EX EAGLE METEOR 2019.

A new challenge for the Enablers

The current geopolitical climate includes unpredictable developments and the continuous technological advances require an effective modern military instrument that can respond to an adversary with equal technological capabilities (a near peer enemy). It is therefore necessary to reduce the footprint (logistic requirements and electromagnetic and thermal signatures) of C2 structures by setting up smaller CPs that are easily and rapidly re-deployable, increasing their readiness and survivability. In light of this, NRDC-ITA has developed a specific Corps CP Concept which allows staff to operate from different C2 nodes: MAIN CE (Command Element), FWD CE (Forward Command Element) and REAR HQ (Headquarters). These different nodes are designed to integrate Corps Troops C2 elements (ISTAR/EW, Air Defence, Artillery, Logistics, Engineer and Aviation). Therefore in February 2019, Operational Land Support Forces HQ and NRDC-ITA started, a process to find a pragmatic solution to integrate specialist C2 elements into the Corps organization with the ultimate aim to execute its functions and deliver the required specialist support in accordance with NATO Capabilities and Codes. The main idea behind this initiative was to avoid the deployment of autonomous Enablers CPs. This would save significant quantities of equipment, material and human resources and also reduce the visual, thermal and electromagnetic signatures without decreasing CS (Combat

Support) and CSS (Combat Service Support) CP capabilities to exercise C2 over supported units, improving their readiness and effectiveness. To summarize our challenge: HOW TO MAINTAIN NATO REQUIREMENTS, IN TERMS OF OPERATIONAL OUTPUT, WITHOUT DEPLOYING MULTI-AUTONOMOUS HEAVY CPs IN A WARFIGHTING SCENARIO?

A possible solution

As a result, to ensure a continuity of C2 in all phases of an operation, the specialists supporting Commands will have their own C2 structure integrated in the Corps C2 nodes (MAIN CE, FWD CE and REAR HQ). They exploited force protection, CIS system, logistic support and all operational functions already available within the Corps that could be partially or totally centralized. Corps HQ Staff will maintain the planning, the refinement and the overall execution phase of the Commander's intent, while the Enablers CP's main task is to translate that concept of operations in the battlespace, providing a detailed degree of coordination at tactical level and maintaining manoeuvre's operational tempo. CS and CSS CPs operate according to the Corps Tactical DMP (Decision Making Process) and in line with a BRC (Battle Rhythm Cycle), normally set to a four days rotation, taking part in the Corps HQ Working Groups and Boards. The enablers CPs are primarily distributed in two "locations", the Main Command Element and the Forward Command Element capable of covering all the principal domains and the core process phases.

⁶ ALI Workshop educates and familiarizes Action Officers at the cross-component interfaces on a Joint approach to planning and executing, through a series of lectures and practical exercises.



Fig. 1 A meeting carried out during EAME19.

Even though the main tasks of the MAIN CE are planning and refining, while the FWD CE is mainly executing, there is a partial overlap and redundancy to allow a back-up capability if one of the CEs becomes inoperable. In general, key elements working in the MAIN CE execute the following functions: 1, 2, 4, 6 with a robust 3/5 while LNOs/SMEs (liaison Officers/Subject Matter Experts), with the main duty to advise the Commander and follow current operations, are plugged-in the FWD CE. Commanders and the DCOM/COS (Deputy Commander/Chief of Staff) of the Enablers Commands will find their place in the MAIN CE or FWD CE depending on the assigned missions and on Corps Commander D&G (Direction & Guidance). In such a construct it was meaningful to clarify the different roles covered by the Corps Troops Commanders and by the Corps HQ Branches' Chiefs, the former informing the Commander about capabilities and Status of Forces of their units, the latter to advise him on Enablers maneuver development. This kind of organization required refining existing and establishing new procedures such as SOP/SOI/R2 (Standard Operating Procedures/Standard Operating Instructions/Reports & Returns) to empower the entire DMP and create a synergic integration amongst the Staffs. To fulfil this initiative, Specialist Commands participated in a series of preparatory activities for the EX EAGLE METEOR 19, producing the aforementioned SOP/SOI/R2 documents and defining roles and tasks of their own staff elements within the Corps CE as defined below.

Artillery C2 Node

The Italian Army Artillery HQ includes an Artillery Brigade staff support cell (Artillery Cell) as one of the subordinate organizations that contributes to the staff work of the NRDC-ITA JFSE. It is responsible for:

- delivering qualified support to Corps planning process in particularly JFSE planning;
- issuing tactical orders to the subordinate units;
- synchronizing and integrating Artillery fires in support of operations in the Corps AOO (Area of Operations);
- contributing to the conduct of the Land Targeting process in close coordination with all the other involved actors;
- coordinating the request for, allocation and distribution of Air Power contributions to Land Operations;
- supporting the combat assessment process.

The Artillery CP concept, although envisaging unity of intent and vision, foresees its functions to be performed in two different locations: the MAIN and the FWD. In the MAIN, the focus will remain on planning, refinement and synchronization activities. In the FWD (depending on the characteristics and requirements of the assigned mission, the CP could be physically attached to the OPSCEN (Operational Situation Center) or located in a separate Artillery Brigade CE) where the focus will remain on execution activities. In general, the Artillery Cell personnel are deployed as follows:

- Plans and Targeting specialists in the MAIN CE;
- Operations in the FWD CE.

The Artillery Commander, as the Chief of Fires and principle advisor to Corps Commander, will be normally deployed in the FWD CE.

Air Defence C2 Node

The ADA (Air Defence Artillery) staff is distributed amongst the MAIN CE (about 40 units), the FWD CE (only SMEs) of the Army Corps and through LNOs for the coordination with JFAC (Joint Forward Air Controller), ITA NSE (National Support Element) and the Army Corps units with organic air defence assets. Inside the MAIN CE, the ADA C2 elements are organized in two cells (located into expanded modular containers ISO20): Current Ops and Future Ops. The Brigade Commander, normally delegated by the JFAC Commander for the operation of the EA (Engagement Authority), is located in the Current Operations Cell where the management of fire orders occurs. The ADA Brigade after the TOA (Transfer of Authority) is placed under OPCOM (Operational Command) of the Army Corps Commander. The ADA Commander holds the Tactical Air Defence Control of the subordinate units. The C2 structure can be:

- centralized mode, when exercised by the JFAC;
- decentralized mode, when exercised by the Current Ops Cell within the CP. In this case, it must be planned during the planning phase;
- autonomous, when exercised directly by the fire units.

Engineer C2 Node

The Engineer Brigade C2 Node is plugged-in to the NRDC-ITA CP with the ultimate purpose of supporting the NRDC-ITA Commander with specific engineer expertise. The expertise is primarily related to military deployment and manoeuvre in a war fighting scenario (i.e. to establish and maintain the infrastructure required at designated AirPorts and SeaPorts of Debarkation, Deployable Operating Bases and along essential theatre Lines of Communication). Additionally, the Engineer expertise can also be related to asymmetric threats (sabotage and use of IEDs (Improvised Explosive Devices) as well as critical infrastructure destruction/deterioration). The C2 structure of the Engineer Brigade mirrors the C2 structure of NRDC-ITA in its Corps role with the following C2 nodes: MAIN CE, FWD CE (plus TACTICAL CE) and REAR HQ. The two main C2 Elements are distributed in two locations: MAIN CE and FWD CE, allowing for the partial overlapping and redundancy for a back-up capability if one of the CE is not operational. The Engineer Brigade key elements are embedded into the MAIN CE and the FWD CE. NRDC-ITA will integrate the Engineer Brigade Commander as NRDC-ITA MILENG (MILitary ENGINEering) advisor and they will exercise Command and Control over Corps Engineer Assets (Engineer Brigade) and will have coordinating authority over assigned Engineer assets. The Engineer Brigade DCOM will ensure Command continuity if C2 from MAIN CE degrades and is responsible to deliver



Fig. 2 A view of part of the Engineer C2 Node.

specialist engineer expertise and maintain direct C2 over depending/assigned engineer units in the FWD and TCP (Tactical Command Post) in case of communication failures with MAIN CE. He also directs the FWD Engineer CP component supported by G3 Engineer SO/Engineer Brigade LNO OPSCEN and NRDC-ITA Engineer Operations Officer. The MAIN CE takes over C2 functions for a limited time while FWD CE is re-deploying in accordance with manoeuvre development. The Engineer Brigade is under OPCOM of NRDC-ITA Commander and it will exercise OPCOM over subordinate/assigned units. If required, the REAR HQ may request engineer support from the Engineer Brigade. In such a case, an adequate Task Force will be deployed TACOM/TACON (Tactical COMmand/Tactical CONTROL) to the REAR HQ to fulfill an operational requirement. The reach-back function will be assured from the home-base.

CSS Brigade CP

The CSS Brigade HQ/NSE has to be considered as a logistic HQ with 2 or more operational subunits. This cluster is expected to be collocated with the MAIN CE in the AOO or at another site. At the very least, the main subordinate units must be placed in the AOO (generally in the Rear Area). The CSS Brigade/NSE Commander is “double hatted” as the Italian Logistic Theatre Commander and Italian Logistic Advisor for Corps Commander. The main cluster’s functional areas are:

- ITA Logistic Theatre/CSS Brigade Commander;
- G1;
- G2;
- Logistics/Operations;
- Future Logistics/Operations.

The CSS Brigade/Cluster is under Senior Italian OPCOM and will have NSE/TSG (Theatre Support Group)/CSG (Corps Support Group)/Corps ROLE 2E (Enhanced) under OPCOM. Additionally, there is a national technical relationship between the CSS Brigade/Cluster and higher home base authorities and Italian Division/Brigades G4 and, also, a national interface with the NRDC-ITA G4 for the coordination of the NATO manoeuvre with the national logistics manoeuvre and for the conversion of orders from the NATO C2 structure to the national one, with particular reference to the orders to be given to the CSG. The Cluster is to perform the main following core functions:

- provide to Corps Commander (through Italian side of Support Division) a RLP (Recognized Logistic Picture) of national resources related to 3rd and 2nd logistics line;
- planning, refining and execution of C4 (Command, Control, Coordination and Cooperation) in national logistic manoeuvre

into the Corps AOO under direction of Corps G4 staff;

- provide inputs to strategic and operational planning activities as required, to improve logistics prioritization to meet Corps Commander operational objectives;
- monitor, in close coordination with Corps G4, the logistic status of subordinate units, verifying that they meet the sustainability requirements, including the material readiness;
- facilitate coordination, as required, on behalf of IJO (Italian Joint Operational) HQ (COI Difesa), between Italy and HNs (Host Nations). Monitor and analyze the logistic situation in theatre. Report status as necessary to IJO HQ and other stakeholders;
- monitor and control Italian logistics units movement and coordinate and de-conflict strategic movements within and out the JOA in close coordination with Corps J4 staff;
- support JLSG (Joint Logistic Support Group) HQ in identifying shortfalls or surpluses in the HN enabling capabilities against operational requirements for deploying and support options to address them.

ISTAR C2 Node

The ISTAR (Intelligence, Surveillance, Target Acquisition and Reconnaissance) Brigade is organized into a Brigade CP, with TOC (Tactical Operation Center), Operations, Plans, Analysis, Logistics/CIS (Computer Information System), Personnel and Administration Cells). It can execute the following functions:

- coordinate ground surveillance and reconnaissance missions (e.g. patrols, scouting, screens, observation posts) within an AIR (Air of Intelligence Responsibility) with subordinate Battalions;
- plan short range airborne surveillance and reconnaissance within a defined AIR at different levels, being able to support NRDC-ITA manoeuvre units;
- collecting, processing, geo-locating and exploiting signals from RF (Radio Frequency) communications and non-communications systems (e.g. radars) to generate ESM (Electronic Support Measures);
- obtaining information and intelligence from human sources and identifying and countering security threats posed by adversarial human intelligence gathering at the Corps level.

The ISTAR Brigade plans, refines, synchronizes and executes its own assets and operations to provide intelligence collection on the basis of NRDC-ITA G2 D&G and priorities and in close coordination with NRDC-ITA G2 IRMC (Intelligence Requirement Management and Collection Management). It also processes, fuses

and exploits received imagery, data, information and intelligence as appropriate to meet the divisional information requirements, producing and maintaining the Corps portion of the JIPOE (Joint Intelligence Preparation of the Operational Environment) and disseminating information/intelligence products to other users. Its activities are conducted to answer CIRs (Commander’s Information Requirements) and update the COP (Common Operational Picture), supporting the Commander’s decision making process. In order to integrate these efforts inside the Corps organization, ISTAR Brigade key elements are embedded into the MAIN CE and the FWD CE .

Aviation C2 Node/CP

The Italian AAVN (Army Aviation) CP can be tailored to the mission. Aviation, depending on the unit employed or the operational requirements can operate in various configurations to carry out the following roles, both as a maneuver unit or CS unit:

- Transport. Delivering forces and material quickly and with minimum delay;
- Attack. Performed by dedicated Attack, Armed Reconnaissance or Armed Utility Helicopters, to gain and maintain a desired degree of control of the battle area by targeting fielded adversary ground forces and the infrastructure directly supporting them;
- Direct and Control Fires. Providing support to surface forces;
- RSTS (Reconnaissance, Surveillance and

Tactical Security) acquiring, interpreting and exploiting information through sensors such as electro-optical devices, FLIR (Forward Looking Infra-Red) systems and employed with ASE (Aircraft Survivability Equipment), armored protection and weapons;

- Specialized Tasks. Providing specific capabilities through the following missions: C3 (Command, Control and Communication) Support, Personnel Recovery and Delivery of Smoke;
- Reserve.

The AAVN CP will establish direct links with the Corps HQ and is composed with:

- Commander and Staff;
- LNOs;
- Supported/Transported Unit Commander;
- Attachment and detachment;
- SMEs.

Differently from the others enablers, the AAVN CP will be deployed as single element not necessarily attached or close one of the Corps nodes CEs. Normally it’s located at an airport, if available, in the Corps AO or close to an area with specific characteristics required for aviation operations.

EX EAME19

In the context of this new concept of “fast and light CP”, EAME19 was planned and executed to increase effectiveness and survivability within the framework of realignment to Corps activity in an Article 5 Operation. It was the first real opportunity for the Army to train



Fig. 3 A night shift at the MAIN CE.

Enablers Commands in a Joint-Combined context at the Corps level, executing a full range of military warfighting missions. In preparation for this important exercise, CS and CSS HQs were engaged as partners in all the planning phase of the EAME19 to practice and improve information exchange and information management procedures. Additionally, as a secondary training audience, the enablers influenced the exercise design to achieve their internal training objective during EAME19. With the collective operational experience in the NRDC-ITA staff and Enablers, realism became an integral part of the scenario. We ensured that training addressed the core skills required for all of the above-mentioned CP structure. In light of this, a specific Information System Concept was designated by the NRDC-ITA J6 and Signal HQ for the Operational Land Support Forces, to connect all the Enablers CE located in the different nodes and with the Corps HQ. CS and CSS CEs, deployed per the exercise construct, played a series of injections that stretched the staffs 24/7 operations in accordance with the Corps BRC. The exercise tested new procedures (SOP/SOI/R2) and tactics to support the whole Corps maneuver and develop the role of the Corps HQ on the Deep battlefield. With this purpose, SMEs from the C2 Node were involved in multiple Working Group/Boards, with their expertise and knowledge of the real capabilities and the status of Core Troops contributing to a clearer and detailed Corps COP (Common Operational Picture) and to answer CCIRs (Commander's Critical Information Requirements) supporting the DMP. Alternatively, the Enablers C2 Node exploited rapid information sharing and reduced decision times for planning, and issuing tactical orders to better support maneuver. Of note, the targeting process, with the strong involvement of the Artillery and ISTAR representatives, was better managed due to the expertise of the Artillery and ADA elements. The ISTAR Brigade, which was completely integrated within C2IS (Command and Control Information System), provided appropriate intelligence support to the MAIN and FWD CEs, including Subordinate Units (Divisions and Brigades). Additionally, the Brigade directed and integrated all ISR (Intelligence, Surveillance and Reconnaissance) sources while supporting the intelligence cycle and using the information provided by the embedded CE. The new C2 logistic architecture concept depicted above, adopted for the first time during EAME19, was successfully tested with the main advantage of providing the Corps Commander the logistic status within the JOA. Frequent and detailed information sharing was necessary between the elements deployed in the MAIN and FWD CE due to the necessity to both provide NRDC-ITA Commander and the staff with appropriate and updated information

and to deliver clear orders to the subunits. The Engineers and AAVN units made significant efforts during the exercise due to the multiple tasks/roles as described in the previous paragraphs.

Conclusion

EAME19 was a significant step forward within the concept of Corps warfighting. The expansive exercise created the space for innovative ideas that increased the knowledge and understanding of all participating units. It demonstrated that an integrated CP is more effective and that "interoperability is key", by implementing standardization down to the lowest level as well as harmonizing national doctrine to NATO doctrine. While the exercise was successful there is still work for us in the future. A number of shortfalls in terms of capabilities, materials and procedures were identified, that require additional work to implement identified solutions into our structures and organizations. The lessons learned highlight that we will require tighter coordination amongst all actors involved in a force deployment. We are fully confident that this new construct, tested during EAME19, will help us plan and execute any operation against any adversary.

About the Author

Colonel Luigi TUFANO currently serves in Operational Land Forces Support Command of Italian Army.

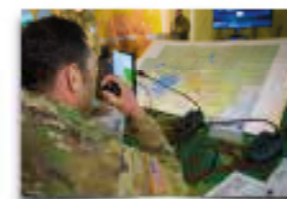


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