

EXERCISE
REPORT

TRIDENT JUPITER 2019-1

INTEGRATING SPACE INTO NATO JOINT EXERCISES

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THE SPEED of technological advancements across the globe within the last 20 years has changed the Space environment significantly, in that it has become more congested, contested, and competitive. The proliferation of Space systems has led to new and sophisticated Space threats, which increase the risk to both national and global security, as well as commercial enterprise. The potentially negative impact on network control and security, as well as on system integrity and reliability, provide challenges across political, economic, civilian and military realms. Therefore, understanding and utilizing the Space domain is critical to NATO military planners and operators. The use of Space capabilities allows NATO to achieve both political and military objectives with increased effectiveness and efficiency. In order to increase readiness and awareness across the NATO Command Structure (NCS), the NATO Bi-SC Space Working Group has

supported major NATO exercises by providing a robust, relevant, realistic and increasingly complex Space operational environment.

TRIDENT JUNCTURE 2015 (TRJE15) was the first step in integrating Space effects in a major NATO exercise. During TRJE15, a limited number of Space-related injects were executed within the exercise, providing a limited picture of the Space operational environment. However, TRJE15 was a significant first step for NATO to recognize the critical role that Space has on operations. In using TRJE15 lessons learned, it became evident that Space would require a formalized mechanism for future integration into exercises. From there, Allied Command Transformation's (ACT) Transformational Activity (TACT) process allowed the working group to integrate Space within the TRIDENT Series of Exercises. This led to the introduction of Space as an "operational domain".

Within the framework of the TACT, the Space community develops "storylines", which are played in the exercises, leveraging Space-based data, products and services (DPS). Since 2016, the Space TACT followed two main objectives as defined in the Space Capability Integration Document¹: (1) to advance the inclusion of Space support in NATO planning and operations, and (2) to improve

Space knowledge throughout NATO. Both objectives utilize a lessons identified/lessons learned process, capable of providing relevant findings and observations to improve the coordination and level of interoperability.

BEGINNING IN 2018, Space was, according to doctrine, considered an element of the Crisis Response Planning (CRP) process. However, due to a limited number of dedicated subject matter experts (SMEs), the NCS was constrained to execute current procedures without meeting the operational domain requirements. The TACT status provides an efficient and effective means of mitigating this shortfall by allowing the Strategic Commands to request and use appropriate national resources and processes. However, this highlights another shortfall to effectively providing continued support on a long-term basis. This is evidenced by the limited number of Space experts assigned to NATO, inhibiting daily integration of Space regardless of how well integrated the domain is in exercises. Therefore, the Strategic Commands decided that Space would become a hybrid TACT (experiment) for the 2019-2021 training cycle to be able to pursue the effort.

This status offers sufficient flexibility to leverage national resources (to include SMEs),





TRIDENT JUPITER 2019-1, Space Response Cell. Photo by JWC PAO

helps maintain support from the NATO Joint Warfare Centre (JWC), and allows the community to conduct data collection, analyses and implementation of lessons learned.

THE TRIDENT JUPITER 2019-1 (TRJU19-1) Space team participated in all phases of exercise development and integrated Space into the applicable NATO processes. During the planning phase of the exercise, the team created a complex, robust and realistic environment, mirroring a fictitious peer adversary. In this environment, operational Space support coordination elements (SpSCE) manage applicable and relevant Space DPS for inclusion into NATO planning processes. SpSCE both inform and support all operational communities requiring Space inputs. TRJU19-1 provided an ideal setting to visualize how Space activities support both friendly and Opposing Forces. It should be noted that over half of the Space team participated in previous exercises (NATO or national), creating an unprecedented level of expertise. The Exercise Control community appreciated the level of knowledge.

The team, led by Allied Command Operations (ACO) and ACT representatives, consisted of SMEs from the NCS (Joint Force Command Brunssum, AIRCOM, LANDCOM), NATO Agencies (e.g. NCI Agency), Centres of Excellence (e.g. Joint Air Power

Competence Centre) and national entities. Spacefaring Nations included Belgium, Canada, Germany, Spain, France, United Kingdom, Italy, Netherlands and the United States, who supported both the exercise scripting and execution phases at the JWC. Several nations also provided support with Space DPS tailored to the exercise scenario. The TRIDENT Series of Exercises represent a major effort for the relatively small NATO Space community.

Proof of the team's success was that through the 180+ Space injects, across multiple storylines, the team increased Space awareness for all exercise participants. This is supported by graphical visualization of Space effects by using simulation tools such as the NATO Joint Theater Level Simulation (JTLS) and tools modelling GPS interferences. Finally, the team provided inputs to INTEL packages, counter-Space assets and maneuvers of red forces to create the best realistic Space environment.

In December 2019, Space is expected to be declared as an operational domain, and the integration of Space within exercises will continue to play a key role in advancing the NATO Space efforts and operationalize the organization's use of Space. Declaring Space as an operational domain will create a more robust and challenging exercise environment for the Training Audiences, enhance Space coordination processes and improve the level of understanding and expertise within the NCS.

Elevating the complexity of these exercises is critical to ensure NATO is prepared to operate in a denied, degraded, and disrupted Space operational environment. ✦

ENDNOTE:

- 1 Space Capability Integration Design Document, October 2019, TRIDENT JUPITER 2019-1

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