

# Regaining the High Ground

## *A NATO CFSpCC Perspective*

*By Colonel Jonathan Whitaker, Chief of Staff, NATO CFSpCC*

*By Major Luke Stensberg, US Space Force, JAPCC*

### Introduction

Space is now a decisive theatre of operations for the Alliance. Once treated primarily as a benign enabler of activity in other domains, it is now actively contested and increasingly central to the success or failure of joint operations. For decades, NATO forces operated on the assumption that access to space-based capabilities, including satellite communications (SATCOM), positioning, navigation, and timing (PNT), and space-based intelligence, surveillance, and reconnaissance (ISR), would remain reliable and largely uncontested. That assumption shaped how the Alliance planned, fought, and invested. Adversaries did not share it. They observed NATO's growing dependence on space-enabled effects and invested in capabilities designed to hold them at risk.

In February 2025, as a visible expression of this paradigm shift, NATO established the Combined Forces Space Component Command (CFSpCC) as a Theatre Component Command (TCC) under Allied Air Command (AIRCOM) in a trial structure. Commanded by the dual-hatted Commander of AIRCOM, CFSpCC marked the Alliance's transition from being primarily a consumer of space data, products, and services (DPS) to an organisation able to plan, prioritise, and integrate space effects for the joint fight. Rather than assuming space support will simply be available, CFSpCC provides the mechanism through which Allied contributions are orchestrated, synchronised, and directed in support of multi-domain operations (MDO), even under sustained competition.

This article examines how CFSpCC responds to the challenges of maintaining NATO's freedom of action in the space domain. It explains why NATO's historic

*Close approaches between satellites, whether deliberate or not, underscore how the space domain is becoming more congested and contested.*

coordination model is no longer sufficient, how the transition to a component-level command enables space effects to be planned and employed deliberately, and what must still be done to ensure the Alliance can deter aggression and prevail when space is contested rather than assumed.

## From the 'End of History' to a Contested Domain

The domain's evolution is rooted in the post-Cold War strategic environment. After 1991, high-intensity conflict in Europe was widely viewed as unlikely. Defence budgets declined, and space capabilities were developed in an environment where access was rarely challenged. During operations in the Balkans, the Middle East, and Central Asia, space-enabled services became an assumed condition of warfare. SATCOM connected headquarters and deployed forces, satellite imagery delivered unprecedented situational awareness, and Global Navigation Satellite Systems (GNSS), such as GPS, underpinned precision strike and logistics. These capabilities became deeply embedded in NATO's way of modern warfare.

Near-peer competitors studied these campaigns closely. They recognised that space was not merely supportive but foundational to NATO's operational effectiveness, and developed anti-access and area denial (A2AD) postures that extended into the Space Domain.<sup>1</sup> Today, counterspace activities spanning electronic warfare, cyber operations, long-range fires, and dedicated counterspace systems can disrupt PNT, SATCOM, and space-based ISR, and target vulnerable ground infrastructure.

By 2019, the rapid growth of national and commercial space systems, combined with increasingly visible denial and disruption, made the status quo untenable.<sup>2</sup> As the former acting Commander of AIRCOM and CFSpCC, and current Deputy Supreme Allied Commander Europe (SACEUR), Air Chief Marshal Sir Johnny Stringer, observed, it had become essentially 'counterfactual' to deny that space required treatment as an operational domain in its own right.<sup>3</sup> The challenge for NATO was no longer whether space was contested, but how the Alliance would organise itself to command, integrate, and defend its use of the domain.

## From Coordination to Command

Before the establishment of CFSpCC, NATO's approach to space was largely one of coordination. Space equities sat in specialist cells that advised other headquarters, but space activities were not adequately prioritised, tasked, or synchronised as a domain. Space functioned as an enabler, but not as a peer theatre component responsible for shaping operational outcomes.

The stand-up of CFSpCC marks a deliberate break from that model. As a theatre component, CFSpCC exercises command and control (C2) over NATO-assigned space forces and capabilities, provides guidance to SACEUR on the employment of the effects within the domain, and synchronises national and commercial contributions into the Allied fight. Though embedded in AIRCOM, SACEUR has delegated to COM CFSpCC the same component level responsibilities as major NATO TCCs to deliver operational effects, not merely situational awareness.

---

***'NATO does not own satellites or command spacecraft in orbit. CFSpCC's value lies in brokering and orchestrating effects from national and commercial contributors.'***

---

However, as SACEUR's operational requirements for space continue to expand, CFSpCC must evolve accordingly. Theatre-level tasks require more than an operations centre; they demand a component staff able to plan, synchronise, assess, and sustain space effects across all joint operating areas. Establishing a credible space battle rhythm will ultimately require a staff construct comparable to other component commands.

Against this backdrop, CFSpCC has focused on three priorities that underpin the transition from coordination to command: establishing coherent space C2, strengthening space support to operations and space-based ISR, and developing robust Space Domain awareness (SDA) as a core NATO capability.



*The CFSpCC consists of 40 personnel embedded across seven operational-level commands within the NATO Command Structure, with projected growth up to 73 personnel.*

### **Priority 1: Establishing Space Command and Control**

The first priority is to establish credible C2 for space operations at the theatre level. The stand-up of the NATO CFSpCC within AIRCOM empowers the Commander with the authorities of a TCC for the Space Domain. While the Commander of AIRCOM also serves as the Commander of CFSpCC, this role is executed under a distinct space mandate and supported by a dedicated cadre of space professionals. Co-location with AIRCOM enables the use of mature infrastructure and facilitates multi-domain integration, while the CFSpCC construct ensures that space effects are planned, prioritised, and directed with the authority and coherence expected of a theatre component, rather than treated as a subordinate function.

While NATO does not assume command over national capabilities, CFSpCC, together with the wider NATO space enterprise, develops a Combined Joint Statement of Requirements (CJSOR) aligned with SACEUR's operational phasing. This enables nations and partners to present space forces and effects in step with the Alliance's multi-domain battle rhythm across multiple joint operating areas.

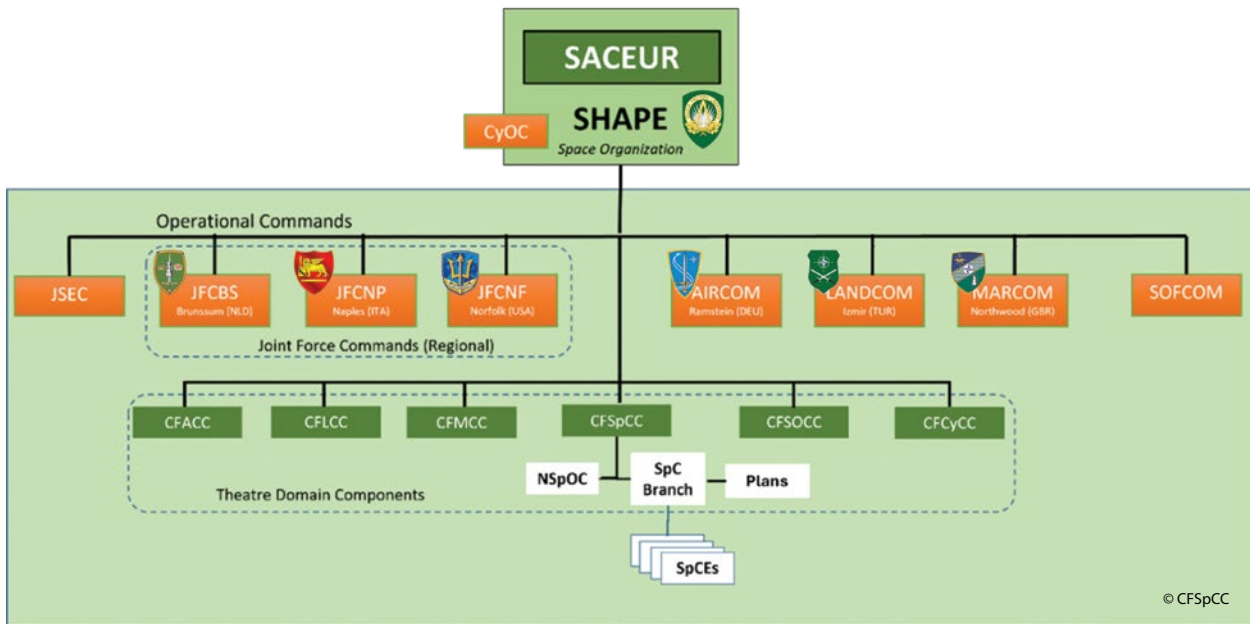
A critical enabler of this model is the routine integration of space into joint command structures. Space Coordination Elements (SpCEs) embedded within

JFCs and other TCCs extend CFSpCC's C2, ensuring that space effects are planned, synchronised, and assessed alongside other joint functions. This shifts space from reactive coordination to deliberate integration at the outset of any operational planning effort. It is of primary importance that space enablers are planned from the beginning to fully realise the combat edge that they provide.

It is worth noting that from a command perspective, the growing availability of space-enabled capabilities increases both opportunity and complexity. Proliferated architectures, particularly in Low Earth Orbit (LEO), provide greater resilience and capacity, but only if their effects are prioritised and synchronised through a coherent command framework. Unified space C2 is therefore not about owning satellites. It is about directing space-enabled effects in time, purpose, and scale in support of SACEUR's objectives. Only under such a framework can space be credibly commanded as a domain rather than merely coordinated as a support function.

### **Priority 2: Bolstering Operational Space Support and Space-Based ISR**

The second priority is to strengthen operational space support (OSS) to the joint force along with space-based ISR. OSS encompasses the planning, coordination, and



*A unified space command and control structure is critical for the Alliance, synchronising on-orbit activities with the rest of the terrestrial fight.*

delivery of space-derived DPS that enable commanders to operate with confidence under sustained competition. This includes ensuring access to SATCOM, coordinated PNT effects, electromagnetic interference assessments, and space-based intelligence that underpins operational decision-making.

The NATO Space Operations Centre (NSpOC) is central to delivering this support. It is the Alliance’s focal point for OSS, integrating national and commercial space inputs and translating them into operationally relevant outputs for intelligence, operations, and planning staffs across NATO. The objective is not to replicate national or commercial capabilities, but to ensure those capabilities are prioritised, synchronised, and delivered in a form that directly enables NATO MDO.

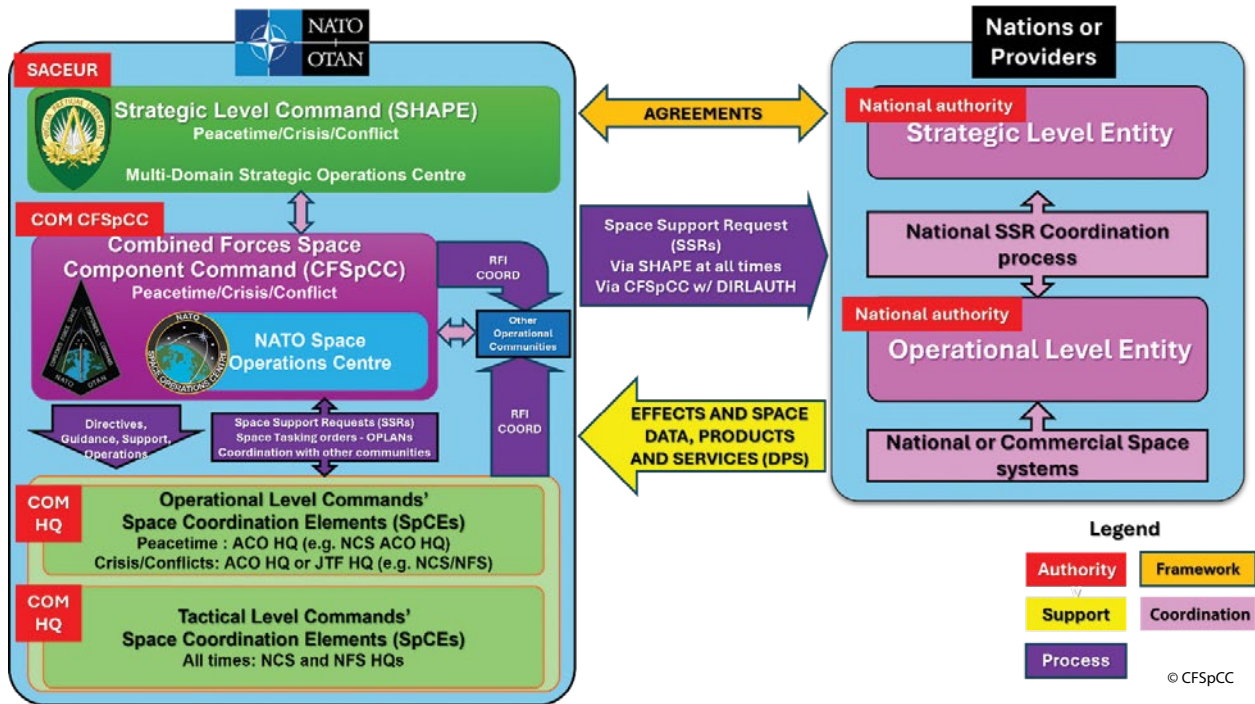
Space-based ISR is a critical contribution to the OSS construct. Alliance Persistent Surveillance from Space (APSS) is the primary mechanism through which NATO is strengthening its own space-based ISR posture. Delivered through a voluntary multinational contribution led by Luxembourg and supported by nineteen Allies, APSS is building a virtual constellation, Aquila, composed of national and commercial satellites and services that will provide persistent ISR, particularly in denied or high-risk environments. As APSS matures, the NSpOC will play an active role in coordinating, exploiting, and integrating APSS-derived outputs into NATO planning and execution. When fused

with other intelligence sources, these products support targeting, force protection, and scheme of manoeuvre across all domains.

**Priority 3:  
Developing Robust Space Domain  
Awareness for NATO**

The third priority is to develop robust space domain awareness (SDA) as a core NATO capability. SDA underpins the Alliance’s ability to protect space systems, preserve freedom of action in the domain, and make informed operational decisions. NATO’s approach to SDA has evolved from simple ‘traffic management’ to active threat characterisation. As adversaries deploy sophisticated counterspace capabilities, from ground-based jammers to co-orbital inspector satellites, NATO’s priority is timely attribution. We must be able to detect, identify, and attribute hostile acts in space at the speed of operations.

To achieve this at scale, NATO has operationalised a federated model that bridges national and commercial data. A primary enabler is the US Joint Commercial Operations (JCO) cell. With NATO’s transition to common funding for the JCO later this year, the Alliance will integrate a global commercial sensor network directly into the NSpOC. This non-classified layer allows for rapid, shareable early warning of adversarial activity that was



The diagram above demonstrates how agreements, support requests, and effects harmonise together to fuel OSS within the NATO Space Enterprise.

previously trapped behind national classification barriers. Ultimately, a credible SDA capability reinforces deterrence by demonstrating to any potential aggressor that their actions in the dark of space are visible, attributable, and part of the Alliance’s collective defence calculus.

### Translating Intent into Action: The Roadmap to Readiness

Credible deterrence means that the Alliance must fight through the contested Space Domain and deliver joint effects at scale. To achieve this through actionable deliverables, two primary efforts are of particular importance: the Mission Essential Task List (METL) and the Space Campaign Plan (CAMPLAN).

The METL establishes the baseline for mission success. It is a rigorous, bottom-up taxonomy that defines exactly what the Component must be able to do to meet SACEUR’s requirements, from providing shared early warning to ensuring SATCOM resilience in a contested environment. By clarifying readiness against these specific tasks, the CFSpCC can provide higher headquarters and the North Atlantic Council (NAC) with an objective health check of the domain.

Supporting this is the Space CAMPLAN, which serves as a long-term roadmap. It harmonises disparate efforts, such as the Commercial Space Strategy, Space Domain Action Plan, and the APSS programme into a single, coherent timeline. More importantly, the CAMPLAN identifies the gaps where mission requirements outpace current resources.

As the CFSpCC matures, these efforts have exposed three critical enablers that must be addressed to ensure NATO maintains its high ground advantage:

1. Commercial integration,
2. Force structure and command relationships (COMREL), and
3. DDA Plans and policy alignment.

### 1. Commercial Integration: Capabilities, Not Satellites

NATO does not own satellites or command spacecraft in orbit. CFSpCC’s value lies in brokering and orchestrating effects from national and commercial contributors, effectively serving as NATO’s Space Commercial Integration Cell.



© Fanny Chesiere, AIRCOM Public Affairs Office

*SDA implies not only detecting and tracking objects on orbit, but also characterising their intent and potential impacts to Allied operations.*

CFSpCC’s philosophy for commercial integration is to be agile in contracting and flexible in capability integration through a NATO marketplace in order to rapidly deliver existing or prototype space data and effects directly to joint force users. This agility is a strength that will allow CFSpCC to evolve combat capability while operating from prototypes rather than awaiting perfect deliveries of systems of record. For NATO, the environment can be the system of record, but the data will continuously evolve. It is akin to the modern approaches the US Space Development Agency has taken, or those a company like SpaceX takes, with operational test and development cycles.<sup>4</sup>

## 2. Modernised Force Structure and COMREL

The most sophisticated technology is irrelevant without the human architecture required to exploit it. As former acting CFSpCC Commander, Air Chief Marshal Sir Johnny Stringer has noted, the return on investment in space depends entirely on the workforce capable of directing it.<sup>5</sup> Currently, the CFSpCC operates in a trial structure, an arrangement designed to test the initial concept of a space component. However, the rapid expansion of the SDA mission, onboarding of complex ISR architectures like Aquila, and soon-to-be-delivered mission systems have pushed this provisional structure to its limit.

To move beyond coordination and achieve true C2, the CFSpCC must evolve into a full staff construct. A TCC cannot remain in initial operating capability; it requires dedicated S1-S10 directorates that operate at the same tempo as our Land, Maritime, and Air peers. Without this professional staff depth, the CFSpCC risks becoming a bottleneck rather than a facilitator for SACEUR’s objectives.

This evolution is not merely about headcount; it is also about command relationships (COMREL). The forthcoming Space C2 Concept of Operations (CONOPS) will define the enduring authorities and workforce requirements needed to sustain a 24/7 space battle rhythm. This includes establishing the CFSpCC as a primary space intelligence node for NATO, ensuring that space-derived indicators and warnings flow directly to the NAC and frontline commanders alike. Realising this vision requires the Alliance to move past trial status and commit to a permanent, resilient force structure that reflects Space’s status as a decisive operational domain.

## 3. DDA Family of Plans and Policy Alignment

Plans and policy can be either the ultimate enabler or the ultimate bottleneck. For CFSpCC to be effective, space effects must be hard-wired into the Deterrence and Defence of the Euro-Atlantic Area (DDA) family of plans, including through the Subordinate Space Plan



*Two operators at the NSpOC analyse recent launches and assess any implications to Allied operations.*

(SSP). Ultimately, the NATO Defence Planning Process (NDPP) is only as good as the operational DDA plans that it resources. Therefore, CFSpCC and SHAPE are partnered to deliver phased campaign-focused plans, starting with the JFC plans, and then harmonising cross-JOA with a campaign-focused SSP. We are confident that these plans will form the basis of a real and actionable CJSOR and corresponding SHAPE Operational Requirements Statement that will unleash the NDPP to fully resource space at NATO.

---

***‘Though embedded in AIRCOM, SACEUR has delegated to COM CFSpCC the same component level responsibilities as major NATO TCCs to deliver operational effects, not merely situational awareness.’***

---

Planning effectiveness also depends on the speed and scope of information sharing. Modernising classification and releasability pathways remains essential to delivering space effects at operational tempo. The companion to classifications and releasability is the establishment of classified, special access facilities at AIRCOM and SHAPE, where the nations with the most sensitive capabilities can collaborate with NATO planners. We are developing mutually beneficial partnerships with USSPACECOM and the US Space Force as they fulfil their national guidance

to strengthen partnerships for collective space security, along with many other space-capable nations.<sup>6</sup> Now we need the physical space to collaborate.

Finally, accelerated standardisation of space data and procurement, including a common-funded commercial SDA core picture, offers a practical means to reduce duplication while preserving national prerogatives. Together, these policy enablers determine whether NATO can translate space intent into sustained operational effect.

## Conclusion

The establishment and maturation of the CFSpCC is the practical expression of NATO’s decision to treat space as a decisive theatre of operations. It is no longer a background service; it is the foundational layer upon which all modern MDO are built. By establishing space C2, bolstering operational support to MDO, and delivering robust awareness of the space domain, the CFSpCC underwrites the Alliance’s ability to fight and win in a contested environment.

This journey from coordination to command is sustained by the rigorous discipline of the METL and the strategic roadmap of campaign-focused plans. These tools ensure that our progress is measurable and our requirements are clear. However, the mission is not

yet complete. To fully operationalise the domain, the Alliance must continue to prioritise agile commercial integration, develop permanent force structures, and advance policy frameworks that allow information to flow at the speed of relevance.

Credible deterrence means that the Alliance must fight through the contested Space Domain and deliver joint effects at scale.<sup>7</sup> The NATO space enterprise is steadily turning strategic aspiration into operational reality. The high ground may be contested, but through the CFSpCC, the Alliance has signalled its clear intent: it will be neither neglected nor ceded. ●

1. Erdoğan, A. (6 December 2018). Russian A2AD strategy and its implications for NATO. Beyond the Horizon ISSG. <https://behorizon.org/russian-a2ad-strategy-and-its-implications-for-nato/>.
2. North Atlantic Treaty Organization. (27 June 2019). NATO's overarching space policy. <https://www.nato.int/en/about-us/official-texts-and-resources/official-texts/2019/06/27/natos-overarching-space-policy>.
3. Stringer, A. M. (2025). Deputy Commander of NATO Allied Air Command. (B. Head, Interviewer).
4. Space Development Agency. (n.d.). Home. U.S. Space Development Agency. <https://www.sda.mil/>.
5. Ibid, 3.
6. White House. (18 December 2025). Ensuring American Space Superiority. Presidential Actions. <https://www.whitehouse.gov/presidential-actions/2025/12/ensuring-american-space-superiority/>.
7. NATO Allied Command Operations. (15 May 2025). The future of air dominance discussed at the Aerospace Power Conference, hosted by the Italian Air Force. Allied Command Operations. <https://ac.nato.int/archive/2025-2/the-future-of-air-dominance-discussed-at-the-aerospace-power-conference--hosted-by-the-italian-air-force>.



## ABOUT THE AUTHORS

### Colonel Jonathan Whitaker Chief of Staff, NATO CFSpCC

Colonel Jonathan L. Whitaker is the North Atlantic Treaty Organization (NATO) Combined Force Space Component Command (CFSpCC) Chief of Staff, and Director, NATO Space Operations Centre (NSpOC), Ramstein Base, Germany. A career Space Officer, he is the principal space adviser to the Commander CFSpCC. Colonel Whitaker leads a globally distributed Space Component Staff responsible for the command and control of NATO-assigned space forces. As NSpOC Director, he oversees the Space

Domain Awareness and Space Security mission for NATO. Colonel Whitaker entered the Air Force in 2002 as a graduate of Air Force Reserve Officer Training Corps, Mississippi State University. He has served in various space operations and intelligence assignments as an operator, staff officer, operations officer, and commander. He is a fully qualified Joint Service Officer, and prior to assuming his current position, Colonel Whitaker served as the Director of Space Forces for United States Southern Command.

### Major Luke Stensberg US Space Force, JAPCC

Major Luke Stensberg is a space and cyber subject matter expert in the JAPCC's C5ISR & Space Branch, where he advances the Alliance's understanding of both domains through concept development, exercises, wargames, doctrine, and training. He commissioned as a Cyberspace Operations Officer in 2016 from the United States Air Force Academy. Previously, he served as a program manager in the United States Space Force's Enterprise Talent

Management Office and before that as a Cyber Operations Planner at Headquarters 16<sup>th</sup> Air Force, where he aligned strategies with US Cyber Command and the newly established US Space Command. He also served as Flight Commander of Tactical Communications for the 485<sup>th</sup> Intelligence Squadron and provided integrated project management support to the 694<sup>th</sup> ISR Group at Osan Air Base, Republic of Korea.