Bridging NATO's Capability-Capacity Gap Through Commercial Effects

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Aircraft at March Air Reserve Base, California, a practical example of how commercial aviation can augment NATO Air Power capacity.

Introduction

Modern air forces face an operational dilemma. The demand for mission-critical effects, ranging from persistent Intelligence, Surveillance, and Reconnaissance (ISR) to Air-to-Air Refueling (AAR) and high-fidelity training, is expanding at a rate that outpaces the ability to generate, field, sustain, and modernise traditional organic assets. As acquisition cycles stretch into decades and unit costs rise, the ability of NATO nations to field sufficient capacity to meet dynamic capability demand has degraded. These capability and capacity shortfalls often stem not from technological stagnation, but from procurement and budgetary frameworks that struggle to match the pace of the modern threat environment.

To mitigate these shortfalls many NATO Allies are turning to the delivery of capabilities via an 'as-a-Service' (aaS) model. While commercially owned, commercially operated (COCO) contracted services have been used by allied militaries for decades, the aaS model offered by some industry partners has advantages over the traditional procurement or contracting model. Rather than the traditional focus on platform ownership, where the military buys and maintains the assets and trains the crew, delivering capabilities as-a-Service allows defence organisations to procure specific operational outcomes on a subscription or on demand basis. Under this model, the 'effect' is the deliverable.

By shifting responsibility to certified commercial providers, NATO gains the flexibility to generate surge capacity through COCO services and scale its force structure in response to military needs, without sacrificing safety, security, and interoperability.

This article therefore argues that aaS should no longer be viewed merely as a stopgap for capability shortfalls, but as a deliberate strategic pillar of NATO force design to ensure resilience in high-intensity conflict.

US Navy F/A-18 refuelling over the Pacific Ocean, Summer 2022.

The Strategic Logic of as-a-Service

The current strategic environment has exposed a 'capability-capacity' gap in Alliance force structure. NATO must now simultaneously pursue high end capability gains while achieving numerically sufficient mass. To achieve these objectives within budget and time constraints, a new logic is required that shifts the focus from platform acquisition to effect delivery. The aaS model addresses three critical requirements for contemporary air power:

- **Operational Agility:** The model provides rapid access to specialised capabilities, bypassing the multi-year lead times of traditional procurement. It allows the immediate injection of surge capacity or the bridging of gaps while awaiting delivery of new sovereign platforms.
- **Resource Optimisation:** A subscription-based model transfers the burden of ownership, long term sustainment, and life cycle management to the commercial sector, allowing defence budgets to remain focused on high end frontline capabilities that do not currently fit within the aaS model, such as fighters or nuclear deterrence.
- **Mission Prioritisation:** By outsourcing enabling functions and infrastructure support to industry partners, military commanders can concentrate their organic personnel and assets on core mission sets. This alleviates force design dilemmas where desired effects are constrained by military personnel quotas or limitations.

Air-to-Air Refuelling as-a-Service

Despite sustained modernisation efforts across European NATO tanker fleets, capacity shortfalls remain a persistent challenge. This is exacerbated by the increasing multi-role employment of modern tankers. When a platform like the A330 Multinational Multi-Role Tanker Transport (MRTT) is tasked with transport or medical evacuation, it is unavailable for its primary AAR mission. The resulting 'boom and hose' deficit impacts pilot currency, training readiness, and overall operational reach, a gap recognised within the NATO Defence Planning Process (NDPP).

The aaS model for AAR reduces operational burden on the end user, offering a flexible capacity in which commercial entities operate former military tanker aircraft. This model was successfully demonstrated during the Pacific Skies exercise in 2024, where commercial tankers successfully supported German Air Force Eurofighters on a 10-hour transit from Japan to Hawaii. This exercise validated the ability of non-organic assets to integrate into complex, long-range

AISR training flight over Continental United States (CONUS), Spring 2025.

deployments and adhere to the rigorous safety procedures required for transoceanic fighter drags.

Currently, most commercial AAR support is facilitated via bilateral Foreign Military Sales (FMS) cases or specific national contracts. However, to mature the COCO model within Europe, alternative frameworks are required. Establishing a multinational Support Partnership Agreement (SPA) through the NATO Support and Procurement Agency (NSPA) would allow coordinated tasking and a Direct Commercial Sale (DCS) arrangement. Such a construct provides the demand signal and contractual stability necessary for industry to invest in fleet availability, ensuring that commercial 'white tails' are ready whenever the military customer calls.

Airborne Intelligence, Surveillance, and Reconnaissance (AISR) as-a-Service

The demand for persistent, multi-domain situational awareness consistently outstrips national force structures. As Allied forces manage simultaneous requirements across multiple theatres globally, organic ISR fleets face high operational tempos and rising obsolescence. A significant inefficiency in current ISR employment is the use of military platforms for routine or enduring missions. This accelerates platform fatigue and reduces availability for crisis response.

Introducing complementary, non-organic AISR capacity acts as a force multiplier. By integrating commercially operated solutions into existing Command and Control (C2) architecture, the Alliance can:

- Mitigate near-term capability gaps while waiting for future sovereign programs.
- Increase the modularity of force packages, swapping payloads electro optical/infrared (EO/IR) to synthetic-aperture radar (SAR) based on daily mission needs.
- Preserve high-end assets for contested environments where their survivability features are strictly necessary.

Commercial platforms, supported by expeditionary sustainment models, offer the sensor flexibility required to tailor effects to specific operational needs without the long-term overhead of a permanent fleet.

Expanding the Portfolio: Aerial Firefighting (AFF) as-a-Service

The increasing frequency and severity of wildfires globally have exposed the limitations of legacy aerial firefighting fleets. Many current platforms lack the speed, reach, and integrated technology required for modern wildfire suppression.

In Southern Europe, where seasonal pressures are most acute, authorities are increasingly evaluating COCO and government-owned, contractor-operated (GOCO) models as a means of enhancing climate resilience while relieving militaries of the burden of this task.

A 'FireSwift' AFF aircraft inbound to Fairford AFB to participate in RIAT 2025.

Modern commercial AFF solutions represent a generational leap beyond simple water drops. They integrate ISR sensors and Beyond-Line-of-Sight (BLOS) communications to provide real-time data to ground commanders, acting as a node within the emergency response network. These next-generation assets complement existing amphibious fleets, providing the short take-off and landing (STOL) performance required to operate from a wider range of airfields, thereby reducing response times during initial crisis phases. Additionally, the 'dual use' nature of these platforms creates interesting opportunities for a new aaS contract model. The same asset used for firefighting in the summer might be re-tasked for logistics or surveillance missions in the winter, maximising aircraft flexibility.

Space-as-a-Service: The High Ground of Commercial Integration

Nowhere is the velocity of commercial innovation more apparent than in the Space Domain. In February 2025, Allied Defence Ministers endorsed the first NATO Commercial Space Strategy, formalising the integration of commercial space capabilities into the Alliance's defence posture. This strategy recognises that the commercial sector is now the primary driver of innovation in orbit, particularly in relation to launch cadence and satellite proliferation.

The conflict in Ukraine demonstrated the decisive impact of commercial satellite communication (SATCOM) in maintaining C2 when traditional infrastructure is degraded. NATO's strategy seeks to institutionalise this resilience through a 'disaggregated' architecture. By utilising multi-orbit constellations from commercial providers, the Alliance can create a network that is resilient against jamming and kinetic targeting.

Furthermore, commercial earth observation companies now provide 'unclassified but distinct' intelligence with high revisit rates. This allows NATO to monitor troop buildups and infrastructure changes without revealing sensitive national technical means (NTM). The ability to share this unclassified commercial data rapidly with non-NATO partners and the public is a crucial capability for countering disinformation in the 'grey zone' of pre-conflict competition.

Challenges and Frameworks: The 'Sovereignty Gap'

While the benefits of aaS are clear, reliance on commercial actors introduces new variables which must be addressed. aaS contracts need to include robust 'assured access' clauses and clear definitions of government direction during conflict. The NSPA play a critical role here. By aggregating demand across multiple nations – as seen in the Multinational MRTT Fleet (MMF) and Strategic Airlift International Solution (SALIS) programs) – NSPA creates the 'market mass' necessary to incentivise commercial providers to accept these rigorous terms.

Furthermore, legal harmonisation is required regarding the status of commercial providers in armed conflict. NATO must advocate for clear doctrines on indemnification and status protections to ensure that commercial partners can deploy forward with legal certainty. The shift must be from a transactional vendor relationship to a fully integrated partnership where the commercial provider is a stakeholder in the mission's success.

Conclusion

Delivering more military capabilities through the aaS model is a strategy for augmentation, not replacement. It provides a flexible mechanism to increase capacity to support training and operations from peacetime through to crises. By utilising a subscription-based or pay-per-use model, responsibility for technological refreshment and operational currency shifts to the commercial provider, ensuring the Alliance benefits from the speed of commercial innovation.

As strategic competition intensifies, the ability to rapidly integrate commercial effects, spanning from AAR to Space, will be essential for maintaining a resilient and adaptable air power posture. The future force will not be measured solely by the assets it owns, but by the effects it can command. ●

ABOUT THE AUTHORS

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Laurent Donnet was appointed in July 2020 to develop Metrea's market activities, with a focus on the European region. Prior to this, Laurent spent eight years at the European Defence Agency in Brussels as Programme Manager for Airlift and Air-to-Air Refuelling. One of his major achievements in this role was the initiation of the Multinational MRTT Fleet project in 2011. Laurent has 31 years of service with the Belgian Air Force, where he served from 1991 to 2007 as an F-16 fighter pilot, accumulating more than 2,100 flight hours on type. A Colonel (OF-5) in the Belgian Air Force Reserve, he maintains a strong professional network within the active components of numerous European Air Forces.

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