



Validating the Digital Backbone of Allied Logistics

AM Village 2026

March 16-20, Albacete-Los Llanos Air Base



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Introduction:

AM Village is a unique, highly specialized multinational capability workshop organized by the European Defence Agency (EDA) and the member nations of the EDA Category B Project "AM for Logistic Support." Now in its third iteration—following successful foundational exercises in 2023 and 2024—the 2026 workshop, took place March 16-20, hosted by the Spanish Air Force at the Albacete-Los Llanos Air Base.

In addition to demonstrating the scaling maturity of European military AM capabilities, AM Village 2026 signified a deepening operational synergy between the European Union and NATO, proving that collaborative frameworks are essential to securing the modern digital supply chain. Driven by the mandates of the 2023 EU-NATO Joint Declaration, this year's exercise marked a significant milestone: NATO was formally invited to participate in the EU's flagship additive manufacturing workshop, translating high-level policy into direct, theater-level defense interoperability.

A primary breakthrough of the exercise was the collaborative engagement between the EDA and the NATO Support and Procurement Agency (NSPA). Both bodies actively explored shared interests in the RAPID-e repository, uncovering vast potential for a unified, secure digital backbone across allied nations.

To translate this high-level geopolitical alignment into proven technical reality, the exercise relied on the contributions and expertise of European military AM experts, researchers, academics, and companies from defense and AM industries. 3YOURMIND is proud to have been selected as one of the 160+ private industry companies invited to attend the five-day event. 3YOURMIND's objective was to demonstrate its solution as an indispensable digital backbone for allied forces. Specifically, it addressed concerns to replace vulnerable supply chains with rapid, decentralized, and secure digital production exactly at the point of need.



The EDA and Spanish Air Force hosted 800 participants at Albacete-Los Llanos Air Base at AM Village 2026.



Mission: Validate the Digital Backbone of Allied Logistics

This report summarizes the outcomes of three technical exercises conducted by 3YOURMIND during AM Village 2026:

- 1) The ability to seamlessly synchronize local, offline production data back to the central inventory the moment connectivity is restored.
- 2) Securely share TDP data between NATO countries via an integration with RAPiD-e.
- 3) Demonstrate Push-to-Print functionality to centralize and secure part recipes to ensure repeatable quality for military units.

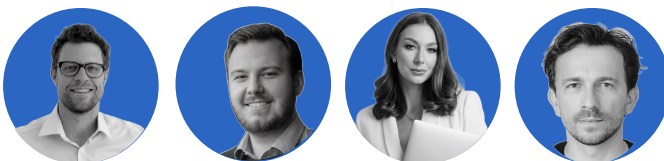
Throughout the event, 3YOURMIND deployed 1 local server, 2 workstations, 1 monitor, 2 routers with eSIM cards, 2 network switches, and various power/network cables. In addition, 3YOURMIND connected to 9 printers during the event, including EOS, Ultimaker, and Cosmyx machines, distributed across 3 locations at the Albacete Military Air Base. 3YOURMIND interfaced with 3 Allied nations to directly enable multi-nation workflows between the Netherlands, Finland, and Sweden. Furthermore, 3YOURMIND facilitated the first-ever cross-national exchange and localized printing of a real OEM part, without requiring USBs or e-mail – highlighting a significant security milestone.

Partners & Participants



3YOURMIND Team

On-Site Operations



Remote Command



3YOURMIND Team

L to R: Dominik Lindenberger, Sr. Product Mgr; Lars de Jongh, CuSu Lead; Dominika Bucholc, Head of Strategy; Aleksander Ciszek, CEO; Dennis Hezel, Software Dev.; Simone Dal Poz, VP Backend Eng.; Serhii Zavadskyi, Lead Backend Eng.

Technical Objective #1

Offline Sync for Deployed Units

Overview

The Challenge

In high-threat environments, working completely air-gapped creates dangerous data silos. Deployed vessels become isolated, unable to share newly qualified parts or update localized digital inventories across the wider fleet.

The Strategic Payoff

Break data silos by seamlessly synchronizing local, offline production data back to the central inventory the moment connectivity is restored.

The Core Scenario

Participants observed a simulated environment where an engineer retrieved a validated file from a local offline server to trigger production. The goal was to validate the end-to-end workflow, while proving that once reconnected, the software automatically syncs data fleet-wide so all missions benefit from shared, peer-approved assets.

Technical Execution

To prove the software's interoperability in a 'live' environment, the team deployed

- 1 local server
- 2 workstations & 1 monitor
- 2 routers with eSIM cards
- 2 network switches
- Connection with 9 printers (EOS, Ultimaker, Cosmyx) across 3 locations.

Operational Impact

3YOURMIND ensures fleet wide asset availability while strictly regulating user permissions, part visibility, and intellectual property tracking via seamless machine connectivity.

Fig 1. Even in an offline environment, personnel can use 3YOURMIND to produce parts.



Scenario: High-threat environment. All satellite communications out. A critical part fails

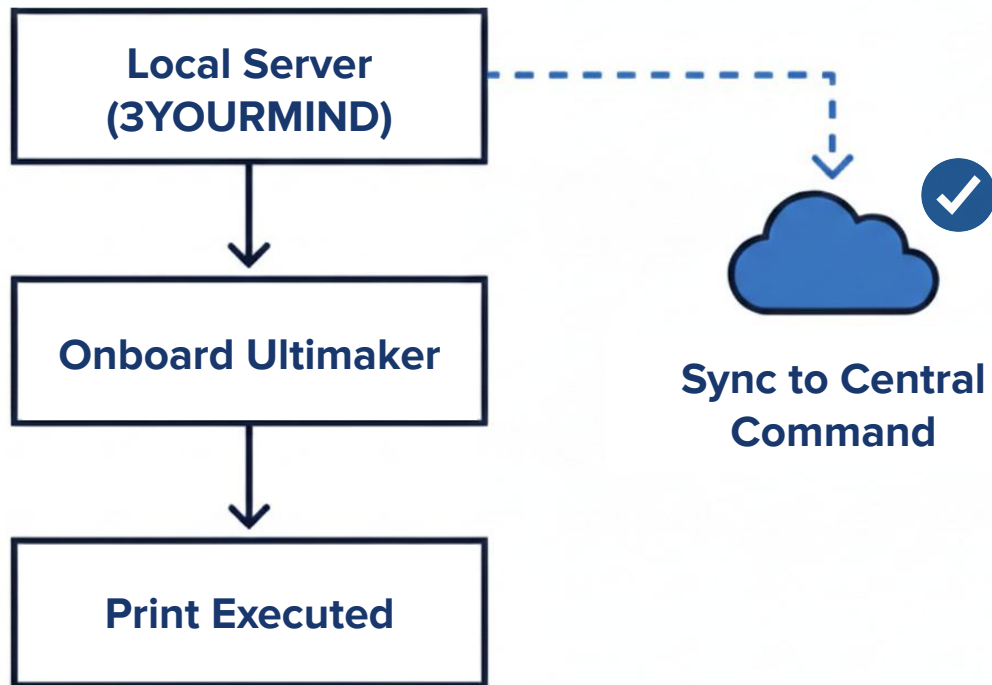


Fig 2. The software syncs to central command when communication is re-established.

Summary

Led by 3YOURMIND with collaboration from Ultimaker and Fraunhofer IAPT and participation from the Royal Dutch Navy*, the session demonstrated how naval vessels and remote units maintain 3D printing capabilities and operational readiness when satellite links are severed or intentionally silenced (Fig 1).

This activity was designed for naval commands, maintenance engineers, and any unit operating in disconnected environments where 3YOURMIND, acting as a resilient offline digital inventory for MODs, was essential. Participants observed a simulated scenario where an engineer retrieved a validated file from a local offline server to trigger production on an onboard Ultimaker printer.

The objective was to validate the end-to-end workflow for scanning and qualifying new assets, and to demonstrate secure synchronization of new TDPs and production data once connectivity was restored.

This demonstration highlighted how a distributed network keeps local and central inventories in sync, ensuring data integrity and logistics self-sufficiency regardless of location.

Impact

In a precarious scenario where satellite communication is unavailable, offline sync enables military personnel to continue producing parts from digital inventories using only a local, on-premises server. When communication is re-established, the local server syncs to central command to receive the latest updates, such as new TDPs, updated part iterations, and part quality reports (Fig 2).

By addressing the severe operational risks of data isolation in contested environments, this capability directly fulfills the European Defence Agency's directive to enhance tactical self-sufficiency and logistics resilience for EU Member States.

Technical Objective #2

NATO RAPiD-e Interoperability

Overview

The Challenge

While knowledge sharing is fundamental to NATO's success, a single shared repository cannot address each nation's unique equipment sustainment needs or protect localized OEM intellectual property.

The Strategic Payoff

Empower allied forces to maintain operational availability by securely sharing technical data packages (TDPs) and driving remote part certification rather than shipping physical spare parts.

The Core Scenario

The Dutch MOD requested a validated TDP for a cable clip assembly from the Finnish Defence Forces via RAPiD-e. Finnish OEM, Patria, approved the request, routing the file through 3YOURMIND to print locally in a Dutch micro-factory completely offline.

Allied Participants

This exercise directly enabled multi-nation workflows between:

- The Netherlands
- Finland
- Sweden

Hardware Utilized:

- Ultimaker S8 Printer
- CPE+ Material

Operational Impact

This marked the first-ever cross-national exchange and localized printing of a real OEM part without requiring USBs or e-mail.

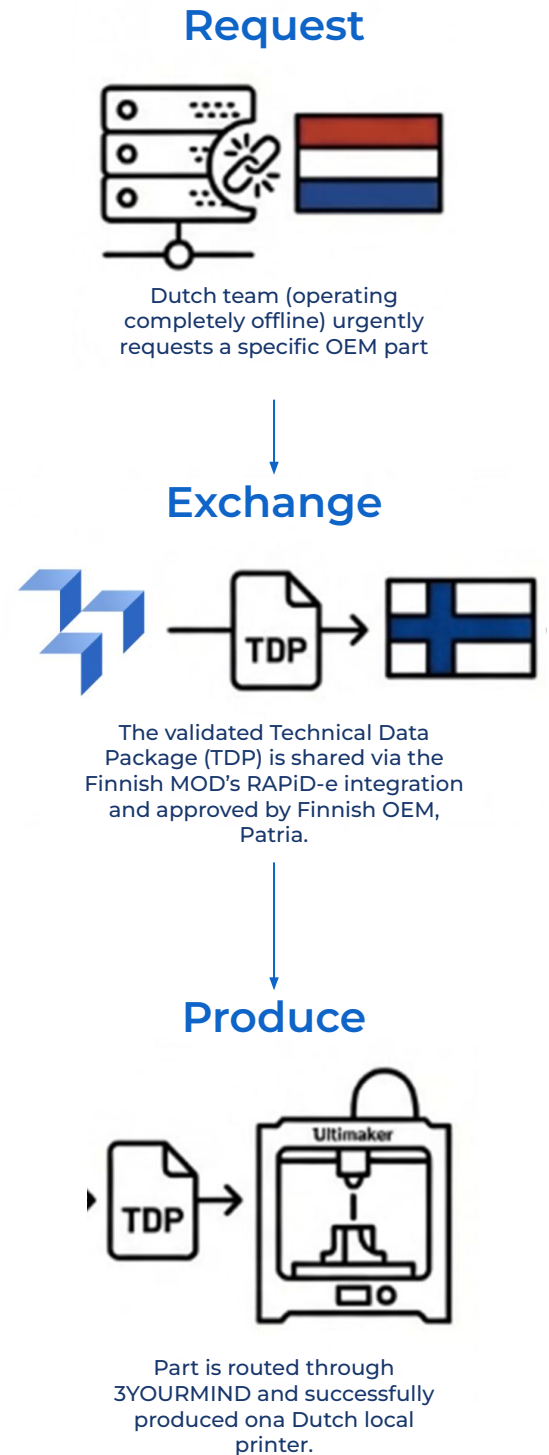


Fig. 3: Agencies can request parts via RAPiD-E and produce them remotely using their 3YOURMIND workflow

Summary

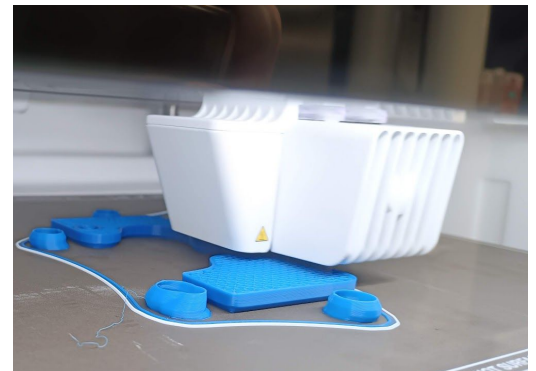
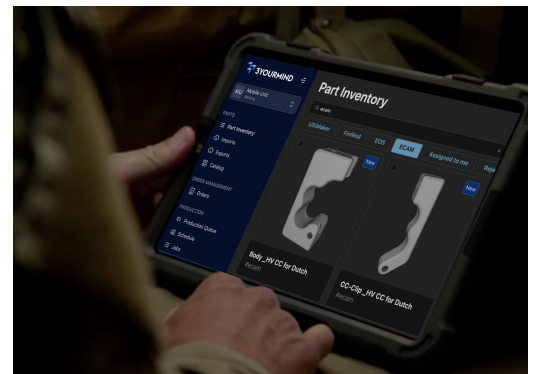
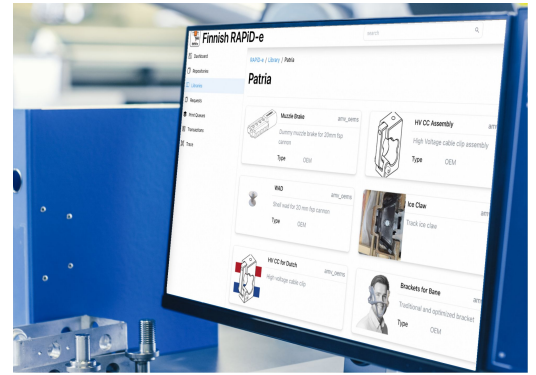
Led by 3YOURMIND with participation from the Dutch Armed Forces, Finnish Armed Forces, and Patria, this Improved Readiness session demonstrated how Allied Forces maintain operational availability by sharing Technical Data Packages (TDPs) rather than physical spare parts.

Designed for NATO defense agencies, Logistics Commands, Maintenance Units, and Digital Transformation Officers, the session demonstrated a seamless workflow from initial part digitization to international exchange using RAPID-e and 3YOURMIND.

Attendees saw the Dutch MOD request a validated TDP from the Finnish Defence Forces, who autonomously triggered production at a Dutch micro-factory and received a closed-loop quality report in return. This proved that shared digital assets can successfully replace physical logistics chains to ensure rapid, localized manufacturing in-theater.

Impact

RAPID-e is a NATO-aligned repository of parts contributed by participating nations. While vital for knowledge sharing, a single repository cannot address each nation's unique equipment sustainment needs, leaving nationally operated repositories in high demand. To this end, 3YOURMIND empowers nations to build private part repositories while seamlessly pushing and pulling assets through the shared RAPID-e ecosystem. By bridging these platforms at an EDA event, this integration advances a critical policy milestone: translating the strategic mandates of the 2023 EU-NATO Joint Declaration into practical, theater-level execution. This interoperability directly strengthens operational cooperation between EU and NATO Allies, enhancing collaborative defense readiness while fully respecting individual national sovereignty and security requirements.



Photos top to bottom:

The cable clip assembly was requested via RAPID-e and pushed to the 3YOURMIND solution and printed on an Ulimaker S8 using CPE+ material.

Technical Objective #3

Execute Push-to-Print Live Demos

Overview

The Challenge

Most forward units suffer from a major disconnect between software and hardware. Critical 3D printing recipes are trapped on local computers or transferred via insecure USB drives. This causes massive engineering redundancies, part quality variations, and deters OEMs from sharing their high-value digital assets due to zero traceability.

The Strategic Payoff

Unlock IP-controlled production by centralizing and securing part recipes, ensuring repeatable quality for military units and complete data traceability for OEMs.

The Core Scenario

A secure software connection locked qualified production recipes centrally and the exact parameters were pushed directly to remote hardware—enabling non-expert operators to safely execute error-free prints..

Technical Execution

Ecosystem testing included:

- EOS Machines (Powder)
- Ultimaker Machines
- Cosmyx (FDM printers)

A live, on-site software integration with a Cosmyx FDM machine was successfully completed within hours at the event.

Operational Impact

Enables a centralized Center of Excellence (CoE) to securely support remote depots. Pushing parameters over-the-air slashes local engineering time, removes physical media vulnerabilities, and builds the tracking trust needed for OEM to share assets.



Click the image to watch a Push-to-Print live demo.

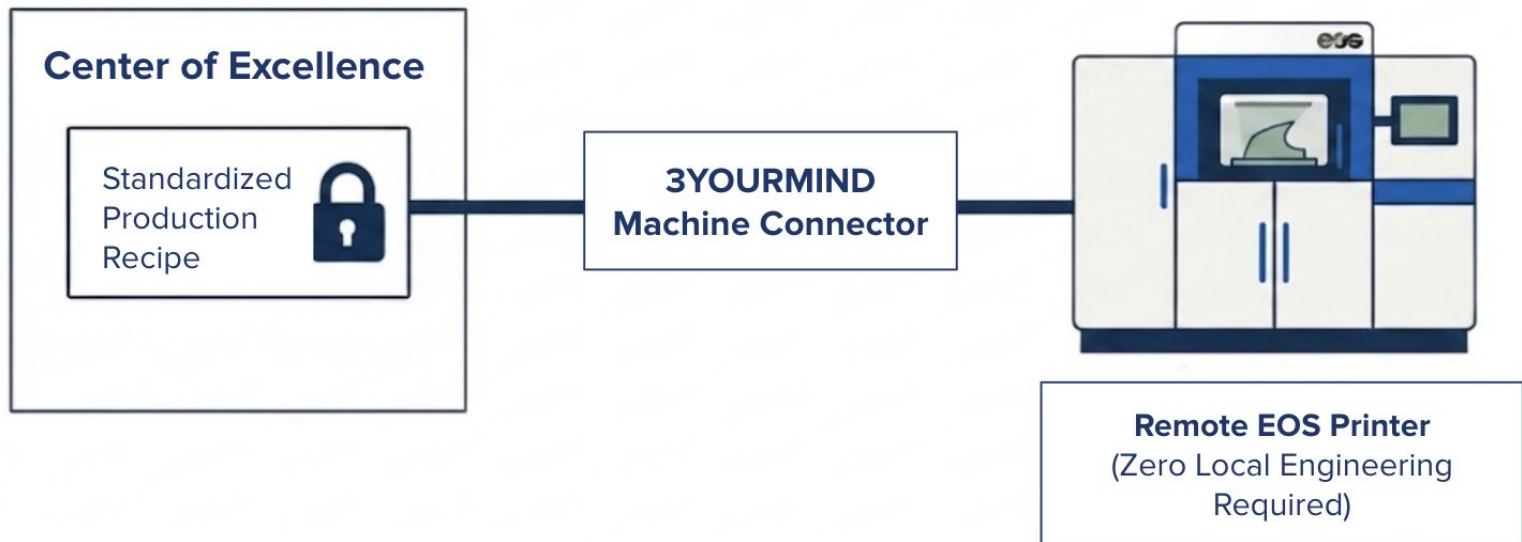


Fig 4. Parts are sent directly to the printer, reducing manual steps and minimizing security vulnerabilities.

Summary

Led by 3YOURMIND in collaboration with EOS and the Armed Forces of a NATO-aligned non-member nation, the Push-to-Print session saw how regional support hubs and depots can execute industrial 3D according to specific print parameters which can be traced and verified by the OEM. This activity was designed for maintenance and logistics commands managing distributed production facilities as well as AM program managers focused on quality standardization.

The objective was to demonstrate a live software connection between EOS hardware and 3YOURMIND, the digital inventory containing qualified MOD part data and production recipes (Fig. 4). By locking the build files and parameters in a centralized space, the workflow demonstrated that a fully qualified recipe can be transmitted to the machine with the push of a button, allowing local operators to focus entirely on machine preparation.

This demonstration highlighted how a central center of excellence can support multiple remote locations, ensuring zero-error production and consistent part quality across the entire supply chain.

Impact

Push-to-Print acts as both an efficiency and security multiplier. There's no need to download build files, save them to external drives, or send them via e-mail, thereby eliminating IP exposure and minimizing security vulnerabilities. Because the part is sent directly to the printer without requiring intervention from expert personnel, individuals are empowered to print their own parts with fewer manual steps.

On a strategic level, this secure, direct-to-machine workflow directly operationalizes the core tenets of the 2023 EU-NATO Joint Declaration. By establishing a standardized, tamper-proof mechanism to distribute manufacturing recipes across allied lines, Push-to-Print demonstrates how collective defense policy can be leveraged to safeguard industrial intellectual property and harden distributed military supply chains against modern cyber-physical threats. Ultimately, this provides the exact technical and secure blueprint required to extend a synchronized Center of Excellence framework across both EU and NATO coalition partners, paving the way for truly unified, plug-and-play manufacturing capabilities in any joint theater of operations.

Looking Forward:

Operational Efficiencies to Be Realized

In response to the collaborative milestones achieved at AM Village 2026, three key strategic and operational roadmaps have been identified to further refine joint workflows and strengthen allied readiness. The first is the expansion of the Push-to-Print ecosystem. Following successful deployments with EOS and Ultimaker, a rapid on-site integration with Cosmyx proved 3YOURMIND's plug-and-play compatibility across various machine manufacturers. To meet direct user demand, 3YOURMIND will continue expanding this functionality to include widely utilized defense hardware like Prusa machines, eliminating local engineering barriers across field-deployed assets.

The second opportunity centers on establishing closed-loop remote part certification. While current RAPID-e interoperability allows nations to seamlessly push and pull digital assets between repositories, an automated feedback loop will soon enable part owners to receive remote production reports to verify quality compliance. By validating whether a part meets strict operational requirements on-site, this connected loop enables true remote certification and secure, sovereign manufacturing capabilities.

Finally, to fully capitalize on this operational momentum, the roadmap for allied logistics must evolve beyond single exercises. Actively establishing formal EDA participation at future NATO-driven AM exercises will be essential to foster deeper institutional cooperation. This reciprocal approach will ensure that European defense initiatives seamlessly mesh with broader NATO sustainment strategies, harmonizing data-sharing standards across any joint theater of operations.

“We’ve talked about this case for two or three years, and now we have realized the first part in this manner. This is historic.”

Innovation Manager at the Dutch Armed Forces, in reference to interoperability with RAPID-e.



Additional Exercises in 2026

NATO Coalition Warrior Interoperability eXploration (CWIX)

As part of an exercise focused on interoperability and information exchange, 3YOURMIND will conduct additional tests of its integration with RAPID-e. Specifically, it will demonstrate both how to push parts from RAPID-e to national digital inventories supported by 3YOURMIND (i.e., request parts) and how to pull parts from individual 3YOURMIND digital inventories and publish them on RAPID-e (i.e., share parts with all NATO collaborators).

On the Road to RIMPAC 2026

In preparation for the 30th edition of the Rim of the Pacific (RIMPAC) exercise, held biannually in Hawaii, 3YOURMIND will conduct testing at several U.S. military exercises. 3YOURMIND will attend JIFX on May 11-14 in Camp Roberts, California, as well as Valiant Shield on June 22-26 in Okinawa, Japan. These exercises will focus on expanding on the offline sync and push-to-print functionalities demonstrated at AM Village, with an emphasis on distributed manufacturing across dozens of production sites.



3YOURMIND's William Cuervo presenting to Marines at Camp Pendleton in California, USA.





3YOURMIND is a solution provider with a mission to strengthen sustainment readiness by turning technical data into controlled, reusable digital assets. We do this by standardizing how parts are identified, qualified, published, and fulfilled across distributed production environments. We focus on secure governance, qualification discipline, and traceable execution so organizations can respond faster to part needs without sacrificing control or accountability.

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