FTCN Replay: Thor's Hammer Exercises Strengthen NATO's EW Readiness

NATO's Subgroup One has evolved from a focused counter-IED initiative into a comprehensive organization tackling emerging ground-based electromagnetic warfare threats, with recent expansion reflecting the urgent security challenges facing alliance members.

Mike Alperi, the Deputy Program Manager of PMS 408 Expeditionary Missions Program Office at the Naval Sea Systems Command and Chair of NATO Subgroup One, recently discussed the group's evolution and mission with host Ken Miller for a recent episode of **From the Crows' Nest**. The conversation revealed how international collaboration and trust-building have become essential to developing effective countermeasures against rapidly evolving threats.

From Counter-IED to Counter-UAS

Subgroup One originated in 2012 as a team of experts focused on counter-IED operations during deployments in CENTCOM. The group's mission has since expanded significantly to address new challenges, particularly counter-unmanned aerial systems (UAS).

"Our Subgroup One is ground-based, so we mainly use backpack systems, systems mounted on vehicles, or fixed site systems to protect areas against these IEDs or these, you know, flying drones," Alperi explained. The evolution reflects changing battlefield realities where commercial drones have become significant tactical threats.

The group's flexibility stems from its technology foundation. "Our systems are very flexible because we have software

defined radios that are programmable. And when the counter-UAS, the unmanned drone threat evolved, we were able to program our existing system to counter that threat," Alperi noted.

Thor's Hammer: The Proving Ground

Central to Subgroup One's success is Thor's Hammer, a biennial exercise that began in 2015 in Norway. The exercise has grown from five participating nations to 15 countries expected at the 2026 event, also hosted by Norway.

The most recent **Thor's Hammer exercise in 2024**, hosted by the United States at facilities near Naval Surface Warfare Center in Crane, Indiana, marked a significant evolution. For the first time, testing occurred in an urban environment at Muscatatuck Training Center, providing more realistic operational conditions compared to the flat ranges used previously.

"This is where you have buildings and structures and different landscapes. That's more realistic if you were a warfighter roaming around in different areas so that we could actually see now how actual effective we are in a more challenging environment," Alperi said.

These exercises run approximately four weeks with more than 100 participants from multiple countries working together daily. The extended collaboration has proven invaluable for building relationships and sharing technical knowledge.

Trust as a Force Multiplier

The importance of in-person collaboration and trust-building emerged as a key theme. Alperi emphasized how engineers from different nations have developed strong working relationships through repeated interactions at Thor's Hammer events and semi-annual meetings.

"The engineers now, you know, really trust each other. And so

the group has really opened up in communicating best practices across all of our engineers," he said. This trust has led to remarkable on-the-spot innovations, including one instance where informal suggestions from fellow engineers helped a country develop counter-UAS capabilities they hadn't previously envisioned.

The collaborative environment allows for rapid iteration. Countries update their software-defined radio systems with new programming during exercises, responding quickly to emerging threats in ways that mirror the rapid technological evolution seen in current conflicts.

Expanding Scope and Authority

In recognition of its growing mission, the group recently transitioned from a team of experts to Subgroup One, providing broader authority to address emerging threats. The updated terms of reference now encompass countering small radio frequency threats beyond just counter-IED and counter-UAS missions.

The group has also developed several technical working groups, including one focused on operations that Alperi established to ensure collected data translates into actionable guidance. The goal is creating "operational vignettes of if NATO was called to support something like, you know, the Russo-Ukrainian War going on now, how would we deploy our systems? Which ones are the most effective, which ones are compatible, which ones are the most flexible that NATO would want to deploy," he explained.

Renewed Investment and Future Outlook

The current global security environment has energized participation. Alperi noted unprecedented levels of volunteering from member nations at recent meetings, driven by increased defense investments across NATO countries.

Looking ahead, Subgroup One is developing an overarching memorandum of understanding to facilitate more frequent, shorter-duration tests between Thor’s Hammer events. This flexibility is crucial given how rapidly threats evolve. The group is also exploring potential joint testing with Subgroup Two, which focuses on airborne countermeasures, to address integrated operational scenarios.

As Alperi concluded, the group’s success reflects both technical innovation and human collaboration working in concert to protect allied forces against emerging electronic warfare threats.