BALTOPS 23: A Testbed for New Technology

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PUTLOS, Germany – As in previous years, U.S. Sixth Fleet is partnering with the U.S. Naval research enterprise to bring the latest advancements in emerging unmanned technologies to conduct mine countermeasures (MCM) operations. To forward these efforts, Sailors and Marines are experimenting and integrating with Unmanned Underwater Vehicles (UUVs), Unmanned Aerial Vehicles (UAVs), and Unmanned Surface Vehicles (USVs).

As an ideal setting for experimenting and testing new capabilities and technologies in a cooperative maritime environment, exercise Baltic Operations (BALTOPS) 23 showcases growing U.S. Sixth Fleet unmanned systems capabilities.

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“The BALTOPS exercise series is a great opportunity to experiment,” said Anthony Constable, an Office of Naval Research science advisor to U.S. Sixth Fleet. “BALTOPS is

well-supported by Allies and partners, and because the exercise has such a strong history, it gives us ample opportunity to collect operator feedback on how they can best utilize the systems. Additionally, it allows us to showcase new technology to our NATO partners for future collaboration."

Unmanned systems provide additional warfighting capability at sea and become a force multiplier to traditional manpower. Also, unmanned systems allow navies to take on greater operational risk by removing or distancing warfighters from high threat areas while maintaining a tactical and strategic advantage.

For this year's BALTOPS, planners primarily focused experimentation on four capabilities:

- In-Stride Detect to Engage Sequence. UUVs with automatic target recognition technology and advanced communications capabilities conducted real-time mission analysis and sent a sonar image of a potential underwater mine to Explosive Ordnance Disposal (EOD) technicians within minutes of traveling over the item. This capability significantly reduces MCM operational timelines from hours to minutes.
- Launching UUVs using a USV. UUVs, which scan the ocean floor for potential mines, are currently delivered to contested areas by operators using rigid hull inflatable boats (RHIB) or other manned small vessels. Using USVs to deliver UUVs reduces the risk of fatalities or injury by ordnance and allows operators to stay safe while the UUV scans the area.

- Very Shallow Water and Surf Zone Operations. Shallow water areas represent some of the most hazardous areas to operate for marines and sailors. In this scenario,

members of the experimentation task unit facilitated an autonomous collaboration test using a UAV and USV to map an underwater area, allowing boats and personnel to approach a beach site safely.

- Joint Personnel Recovery. The JPR scenario involves sending the USV out to a distressed pilot, recovering the personnel, and bringing them back to a safe location – all unmanned, and remotely controlled from a nearby vessel.

Joe Klein, the Joint Personnel Recovery Program Manager for BALTOPS 23, emphasized the unique aspects of implementing a USV in a JPR scenario.

"I thought this was a great opportunity," Klein said, referencing the USV. "This is the first time that we've done (JPR) with a USV, and it's a relatively simple scenario, but we're interested in the communications aspect, like 'How do you vector the USV into positions,' and 'how do we strap the recovery target into the vehicle, as an unmanned system?' So we're working through those dilemmas, while also testing it as a solution to some of our problems… You can assume more risk with a USV – it has a pretty low profile, it's not easy to spot compared to our usual, larger recovery force… it adds resources to recovering in high-threat areas."

U.S. Sixth Fleet (SIXTHFLT) and STRIKFORNATO-led BALTOPS 23 is the premier annual maritime-focused exercise uniting 19 NATO Allies and one NATO to provide complex training designed to strengthen the combined response capability critical to preserving the freedom of navigation and security in the Baltic Sea. U.S. European Command and U.S. Naval Forces Europe-Africa (NAVEUR-NAVAF) have promoted the traditional U.S.-led or bi-lateral exercises as opportunities for NATO to improve interoperability as a collective force, using NATO command and control systems as a foundation for the exercise design.

For over 80 years, NAVEUR-NAVAF forged strategic relationships with our Allies and Partners, leveraging a foundation of shared values to preserve security and stability.

Headquartered in Naples, Italy, NAVEUR-NAVAF operates U.S. naval forces in the U.S. European Command (USEUCOM) and U.S. Africa Command (USAFRICOM) areas of responsibility. SIXTHFLT is permanently assigned to NAVEUR-NAVAF and employs maritime forces through the full spectrum of joint and naval operations.

STRIKFORNATO, headquartered at Oeiras, Portugal, is a rapidly deployable and scalable headquarters, under the operational command of SACEUR, capable of planning and executing full spectrum joint maritime operations including maritime ballistic missile defense, primarily through integration of U.S. and other nation’s carrier and amphibious forces into NATO operations to provide assurance, deterrence, and collective defense for the Alliance.