Advancing UXO surveys through new multi-sensor ROTV Solution

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As offshore development continues to expand into increasingly complex seabed environments, the detection and characterization of buried unexploded ordnance (UXO) remain key challenges for survey operations. To meet these challenges, EIVA has developed a new multi-sensor frame designed for the ScanFish Katria remotely operated towed vehicle, named Sub-bottom Imaging Frame.

The Sub-bottom Imaging Frame integrates the EdgeTech eBOSS system for wide-swath, 3D sub-bottom imaging with a penetration range of 3–10 metres, alongside built-in magnetometers for detecting ferrous anomalies. These are complemented by high-end navigation sensors – including the Sonardyne SPRINT-NavU, INS/DVL, and USBL.

By merging multiple complementary datasets – sub-bottom imaging, magnetic data, and positional information – into one coherent acquisition workflow, the Sub-bottom Imaging Frame supports a more comprehensive understanding of both the surface, but also in particular the subsurface. The result is reduced survey duration, improved positional correlation between datasets, and greater confidence in target interpretation.

The presentation will share insights from recent tests and early project deployments, focusing on data quality, and practical considerations for survey planning. Examples will highlight how integrated sub-bottom imaging and magnetometer data can improve buried object detection, reduce false positives, and streamline post processing efforts.

Within the broader context of UXO survey innovation, this work demonstrates how modular sensor integration via NaviSuite software can enhance both operational efficiency and data reliability. The session will conclude by discussing lessons learned and future opportunities for multi-sensor systems in
marine UXO detection such as the Sub Bottom Imaging Frame.