

Next-Generation Radar for Maritime Superiority

ADAPT. SCALE. ENDURE.



THE OPERATIONAL ENVIRONMENT

Unmanned systems increasingly operate across contested maritime environments. They are low-signature, fast-moving, and deployable at scale—compressing detection and response times.

Forces need persistent, reliable awareness to act within limited reaction windows.

Echodyne's low-SWaP, MESA® radar systems deliver a decisive advantage, using advanced electronically scanned array technology to provide high-fidelity detection, tracking and classification of airborne and surface threats across open ocean, coastal and littoral zones.



MISSION APPLICATIONS

Maritime Domain Awareness (MDA)

Persistent, accurate radar surveillance enables early detection and classification of low-altitude unmanned aircraft systems (UAS) and unmanned surface vehicles (USVs), supporting sea control and denial operations. Multi-target classification cuts through clutter, reduces operator burden, and strengthens operational decision-making.

Robotics and Autonomous Systems (RAS)

Low-SWaP radar supports RAS operating across distributed and expeditionary environments. Designed for rapid deployment on ships, USVs, small craft and shore-based positions, it extends sensing to the tactical edge and enables quick adaption to evolving mission demands. Its highly portable design and on-radar software seamlessly integrate with a range of weapon, sensor, and C2 systems.

C-UAS + C-USV Force Protection

High-fidelity, rapid classification, and precise targeting data powers accurate slew-to-cue of sensors and effectors. High angular accuracy and range resolution support simultaneous search, tracking, and targeting.

Intelligence, Surveillance, Reconnaissance, Targeting (ISRT)

Continuous, all-weather surveillance and reconnaissance of swarm, hovering and low-signature threats delivers actionable intelligence and precise targeting data. High-fidelity tracking expands decision space and accelerates sensor-to-shooter timelines.

MESA RADAR ADVANTAGES

Software-Defined

Adaptive, software-defined radar optimizes against clutter and interference by leveraging dynamic beamforming and waveform management. On radar software supports rapid mission tailoring, seamless integration, and continuous capability upgrades without hardware changes.

Accuracy

High-integrity radar data delivers precise target localization and tracking, reducing false positives, improving sensor cueing, and enabling rapid, informed action.

Classification

AI/ML-driven classification distinguishes threats in real time, compressing detection-to-action timelines and focuses resources on true targets, not clutter.

Mobility

Low-SWaP design enables deployment across fixed, portable, and on-the-move maritime operations, extending persistent awareness from distributed assets to dynamic, expeditionary environments.

Cognitive

MESA radars operate with built-in intelligence. They learn from the environment, autonomously adjust sensing strategies, and coordinate across systems to maintain continuous tracking and seamless awareness.



Trusted by defense and maritime security forces worldwide.