

SOLUTIONS BRIEF

MESA[®] Radar for Defense Applications



Information leads to advantage. The better the information, the greater the advantage.

Battlespace data sourced from distributed, attritable sensor platforms leads to information advantages that change outcomes. Low SWaP, high performance sensor packages protect expeditionary forces in austere and remote locations. Comprehensive airspace situational awareness requires data precise enough to target kinetic effectors and reliably remove drone intruders.

Complicating all scenarios are drones, or uncrewed aircraft systems (UAS). Fast, nimble UAS with payloads ranging from ISR to fire control to munitions delivery operate in a new dimension that is simultaneously high ground and low airspace. Control of the airspace has a new definition and contemporary events have prompted a new sense of urgency. Airspace supremacy and ground

domain domination have new requirements for next generation sensors that detect, track, identify, and target all ground and air threats – especially those from drone intruders.

Radar is the data foundation in sensor arrays, weapons platforms, and funded programs because it generates actionable situational awareness data in any weather or lighting condition at very long ranges for maximum reaction windows. Radar, like every sensor in the array, is a means of data acquisition. Today's threats require data precision that improves sensors, effectors, and solutions and maintains a capital symmetry with inexpensive aircraft threats, like drones. Data fidelity provides a decisive advantage.

Why are Echodyne radars the choice for more and more missions?

The MESA advantage. A true breakthrough in antenna design radically reduces SWaP-C and unlocks data-rich ESA radar for more applications, more situations, and more users.

Data fidelity. Radar is a means to acquire data, gain information, and achieve superior situational awareness. Echodyne radars generate the most accurate data in their class. More accurate data, better fusion, smarter systems.

Systems integration. Built for data fusion in advanced solutions, Echodyne radars utilize industry-standard TCP/IP over Gigabit Ethernet with multiple rich-data options that can be individually or simultaneously ingested.

Low SWaP-C, high reliability. Whether with expeditionary forces, securing a base, or on a remote weapons station, Echodyne radars' solid-state design delivers radical reductions in size, weight, power, cost, and equipment failures.

Counter-UAS

Radar is the only sensor that detects and tracks all objects in the airspace. Drones represent a challenge for existing radars which had never been tasked with detecting and tracking tiny, agile, low flying aircraft. Counter-UAS capabilities are quickly becoming integral to existing programs and influencing design considerations on new ones. With on-the-move (OTM) capabilities, multiple waveforms, and variable beam schedules, EchoShield is the next generation radar that meets requirements for RWS and mobile short-range air defense (M-SHORAD) programs. Achieving both cost and performance attributes symmetrical with the drone threat, Echodyne has reinvented the ESA radar to achieve superior performance at commercial prices.

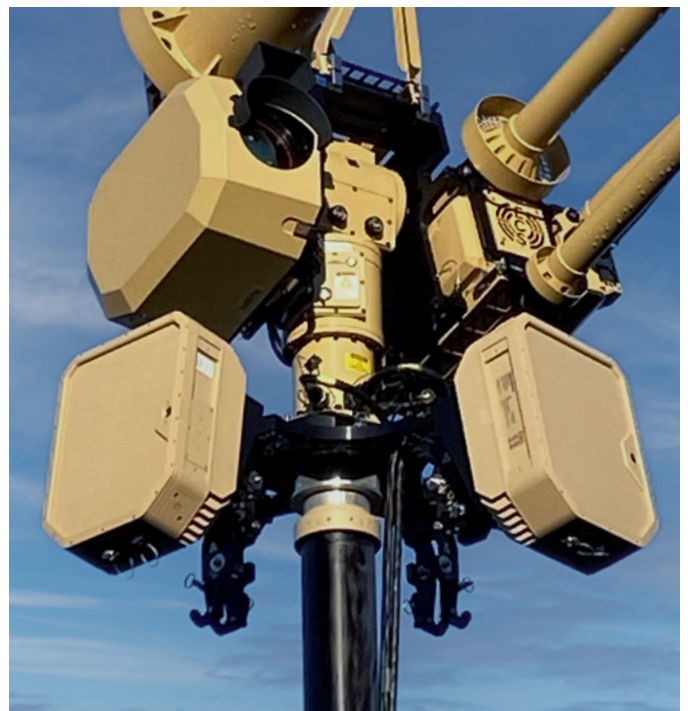


Portable ISR

Information is an advantage for remote missions and force protection in austere locations. At distance, every pixel matters for reconnaissance, surveillance, target acquisition (RSTA) operations. Optical sensors perform better when slewed to precise coordinates. Compact, lightweight, low power Echodyne radars unlock new capabilities for expeditionary forces conducting discrete intelligence, surveillance, and reconnaissance operations.

Force Protection

Included in the U.S. Army's Security Surveillance System (SSS) program, radar is the primary sensor that rapidly detects and accurately tracks objects of interest in 3D space, locking optical sensors for visual threat identification, and precisely guiding effectors or reaction forces. Portable and easily configured via an intuitive interface, Echodyne offers low-SWaP radar solutions for fixed, temporary, on-the-halt, and on-the-move requirements that provide the information advantage in force protection.



Custom Designs

Echodyne's MESA advantages can be tailored for bespoke radars and applications.