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AMSI

Advanced Multispectral Imager

The Advanced Multispectral Imager (AMSI) system is a cutting-edge development effort aimed to updating the proven AN/DVS-1 COBRA system. AMSI incorporates an advanced passive multispectral sensor paired with a real-time processing unit, facilitating unmanned aerial tactical reconnaissance in the littoral battlespace. This capability is especially critical for identifying and localizing minefields and obstacles in the surf zone before amphibious assaults, making it a key asset for military operations.

The AMSI system upgrades the COBRA M11 gimbal with a new Advanced Multispectral Imager, along with enhanced interface and onboard real-time computer units essential for the fast-moving nature of tactical reconnaissance. AMSI is integrated into Arete's Maritime Expeditionary Recon Concept and will be demonstrated aboard a Schiebel S-100 Camcopter, operating in a swarm configuration alongside Arete's Pushbroom LiDAR system (PILLS). The combination of AMSI and PILLS ensures a comprehensive approach to maritime reconnaissance. AMSI is slotted to be at TRL 7 by Summer of 2026.

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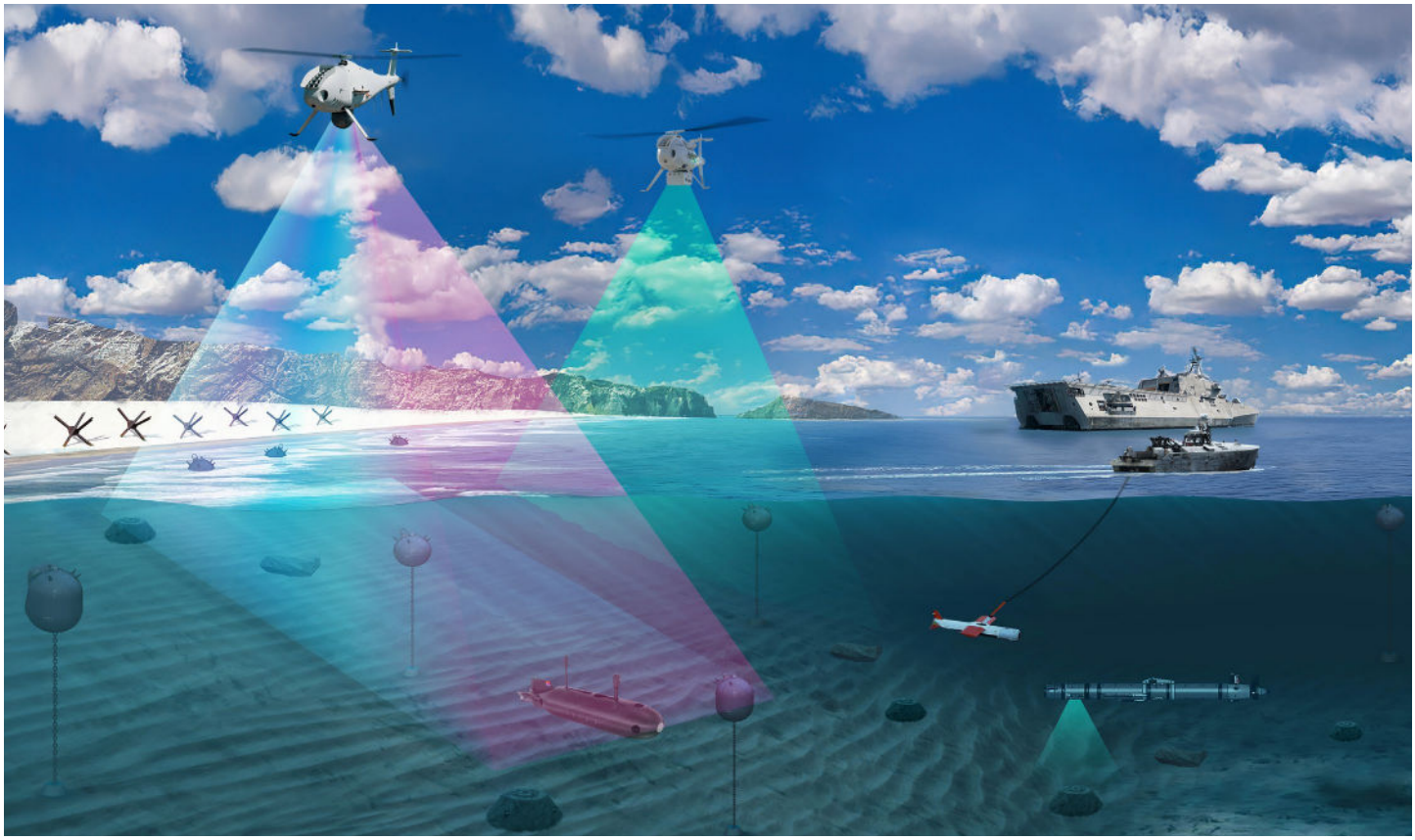
Specifications

	AMSI	
Imager Configuration	RGB	Custom Wavebands
Size w/IMU	412x284x283 mm	
Weight	43.5 kg	
Power Draw	680 W	
Waveband Imaging	400-800 nm	400-900 nm
Pixel Pitch	3.2 um	Effectively 12.8 um
Imaging Resolution	>100 MP	6.4 MP
Sampling Rate	Up to 6 FPS	
Processing Capability	137 TFLOPS in the Real Time Processor	
Swath	220 m	58 m
Operational Altitude	640 m	160 m
Horizontal Sampling	61x61 mm	60x60 mm
FOV	24° x 20°	
Platform	UAS (S-100)	
Platform Speed	10–45 knots	
Area Search Rate	18.3 km^2/hr	4.8 km^2/hr
Environmental (Operational)	-30° to +45° C	



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