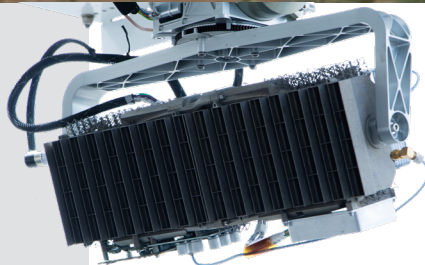
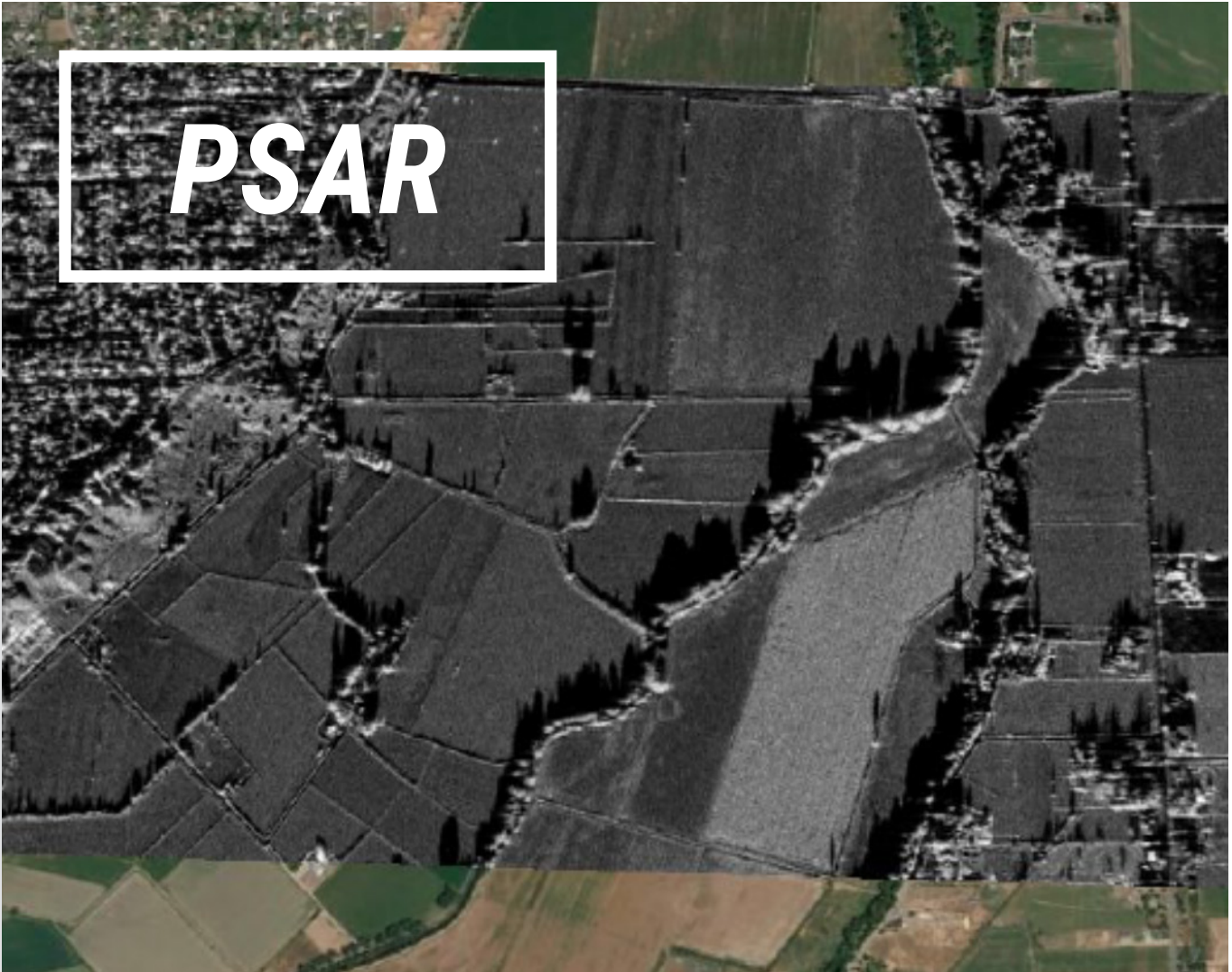


**PSAR**

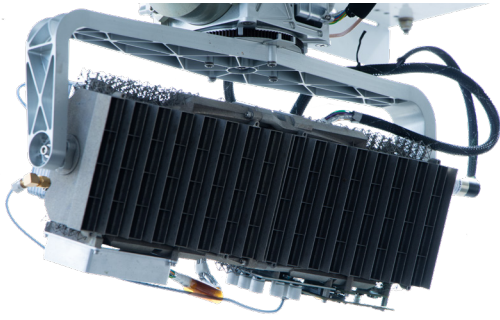


## **STRATOSPHERIC MULTIMODE SAR RADAR**

A low-SWaP radar system capable of performing Synthetic Aperture Radar (SAR) imaging from a stratospheric Uncrewed Airborne System (UAS) or balloon platform.



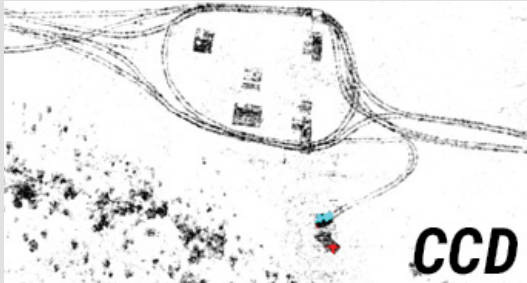
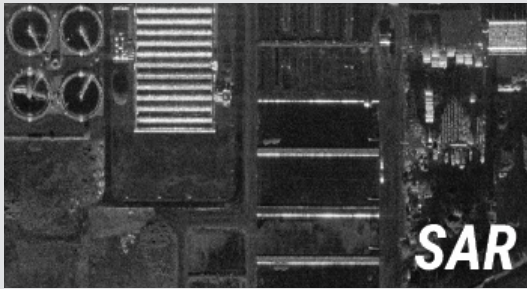
# PSAR



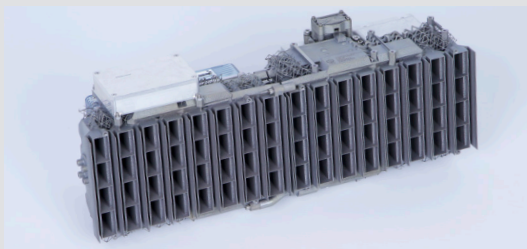
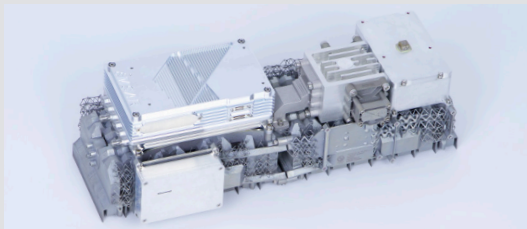
The Pseudo-satellite Synthetic Aperture Radar (PSAR) system was designed as a high-altitude radar system, capable of operating within the stringent Size, Weight, and Power (SWaP) requirements of High-Altitude, Long Endurance (HALE) platforms. IMSAR combined our military-proven NanoSAR technology with a lightweight, additive manufactured array.

The reduced SWaP is achieved by using the low-loss, additive manufactured, aluminum, single-array antenna as a structural and thermal component of the system, in addition to its role in transmitting and receiving the radar signals. The innovative design sufficiently reduces the space and weight required for the radar system to allow the radar to integrate into HALE platforms that were previously unable to carry radar sensors, including both Uncrewed Aircraft System (UAS) and balloon platforms.

## CAPABILITIES



The PSAR system is designed to operate continuously in stratospheric environments.



## SYSTEM SPECIFICATIONS

SIZE	<b>LENGTH: 5.2 IN (13.2 CM)</b> <b>WIDTH: 9.3 IN (23.6 CM)</b> <b>HEIGHT: 16.2 IN (41.4 CM)</b>
WEIGHT	<b>7.7 LBS (3.49 KG)</b>
POWER	<b>COLLECTION: 69.5 W, 28 VDC</b> <b>IDLE: 42 W, 28 VDC</b>
FREQUENCY	<b>X-BAND</b>
TARGET PLATFORMS	<b>STRATOSPHERIC UNCREWED PLATFORMS, BALLOON PLATFORMS</b>
SENSOR CUEING	<b>CURSOR ON TARGET</b>
COMMUNICATION	<b>ETHERNET</b>
SERVER	<b>GROUND PROCESSING SERVER REQUIRED</b> <b>(SIZE AND WEIGHT NOT INCLUDED IN SPECIFICATIONS ABOVE)</b>
COMMAND & CONTROL	<b>LISA 3D™ AND RADAR CONTROL API</b>
IMAGE EXPLOITATION	<b>LISA 3D™ OR EXISTING PED EQUIPMENT</b>
STANDARD DATA PRODUCTS	<b>KML, COMPLEX NITF, JPG, PNG, BMP</b>
COOLING	<b>FORCED AIR, CONDUCTION</b>
CHANNELS	<b>1</b>
PEAK AVERAGE TRANSMIT POWER	<b>10 W PEAK</b>
TRL	<b>6/7</b>

## PERFORMANCE DATA

SAR IMAGING	RESOLUTION	<b>0.3 M</b>	<b>1 M</b>	<b>3 M</b>	<b>10 M</b>
	MAX RANGE	<b>35 KM</b>	<b>53 KM</b>	<b>72 KM</b>	<b>100 KM</b>

## CAPABILITY VARIANTS

	<b>PSAR(S)</b>	<b>PSAR(X)</b>
IMAGING	<b>SAR</b>	<b>SAR</b>
OPERATING MODES	<b>STRIPMAP, SPOTLIGHT, WIDE AREA</b>	<b>STRIPMAP, SPOTLIGHT, WIDE AREA</b>
CHANGE DETECTION	<b>NON -COHERENT (MCD)</b>	<b>NON -COHERENT (MCD)</b>
	<b>---</b>	<b>COHERENT (CCD)</b>
RESOLUTION (METERS)	<b>0.3, 1, 2, 5, 10</b>	<b>0.3, 1, 2, 5, 10</b>

## APPLICATIONS

- Specialized ISR Missions
- Wildland Fire Monitoring
- Coastal Mapping
- Counter-Narcotics
- Sea Ice Detection & Monitoring
- Search & Rescue
- And More!



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